ALK Asphalt Safety Data Sheets (SDS)

January 2023

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BlueDEF Diesel Exhaust Fluid

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 10/01/2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : BlueDEF Diesel Exhaust Fluid

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Solution for NOx reduction in SCR systems

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
3100 Sanders Road
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : 800 424 9300 (United States); 00 1 703 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

Signal word (GHS-US) : None

Hazard statements (GHS-US) : None

Precautionary statements (GHS-US) : None

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	% by wt	GHS-US classification
water	(CAS-No.) 7732-18-5	67.5	Not classified
urea	(CAS-No.) 57-13-6	32.5	Not classified

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : The EPA has no established reportable quantity for spills for this material, secondary containment is not specified.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. For minor spillages wash down with excess of water. Mop up small spills.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources. Keep container closed when not in use.

Incompatible materials : Strong acids. Strong bases.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

urea (57-13-6)
Not applicable

water (7732-18-5)
Not applicable

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective goggles.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless
Odor	:	characteristic ammonia odor
Odor threshold	:	No data available
pH	:	9 - 10
Relative evaporation rate (butylacetate=1)	:	< 1
Freezing point	:	-11 °C (12 °F)
Boiling point	:	> 100 °C (212 °F)
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	Not Applicable
Relative vapor density at 20 °C	:	0.6 H2O, >1
Specific Gravity	:	1.09
Solubility	:	Soluble in water. Water: 100 %
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Not established.

10.5. Incompatible materials

Strong acids. Strong bases. oxidizing agents (peroxides, chromates, dichromates).

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Fume.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

urea (57-13-6)	
LD50 oral rat	14300 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value)
ATE US (oral)	14300 mg/kg bodyweight

Skin corrosion/irritation : Not classified
pH: 9 - 10

Serious eye damage/irritation : Not classified
pH: 9 - 10

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

SECTION 12: Ecological information

12.1. Toxicity

urea (57-13-6)	
LC50 fish 1	> 6,810.00 mg/l (96 h, Leuciscus idus, Experimental value, Nominal concentration)
EC50 Daphnia 1	> 10,000.00 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

urea (57-13-6)	
Persistence and degradability	Readily biodegradable in water.
ThOD	0.27 g O_2/g substance

12.3. Bioaccumulative potential

urea (57-13-6)	
BCF fish 1	1.00 (72 h, Brachydanio rerio, Fresh water, Literature study)
Log Pow	< -1.73 (Experimental value, EU Method A.8: Partition Coefficient)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

urea (57-13-6)	
Mobility in soil	Not applicable
Log Koc	-1.43 - -1.19 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Effect on the ozone layer : No additional information available

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : As a non-hazardous liquid waste, it should be solidified with stabilizing agents such as sand, fly ash, or clay absorbent, so that no free liquid remains before disposal to an industrial waste landfill.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transportation of Dangerous Goods

Refer to current TDG Canada for further Canadian regulations

ADR

Not regulated

Transport by sea

In accordance with IMDG / IMO

Not regulated

Air transport

In accordance with IATA / ICAO

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

BlueDEF Diesel Exhaust Fluid	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
CERCLA RQ	None. This material is not classified as hazardous under U.S. EPA regulations.
SARA Section 302 Threshold Planning Quantity (TPQ)	No extremely hazardous substances are in this product.
SARA Section 311/312 Hazard Classes	Urea. No hazards resulting from the material as supplied.

urea (57-13-6)	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed

water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

BlueDEF Diesel Exhaust Fluid	
WHMIS Classification	This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

15.3. US State regulations

California Proposition 65 - This product does not contain any substance(s) known to the state of California to cause cancer, developmental toxicity and/or reproductive toxicity

SECTION 16: Other information

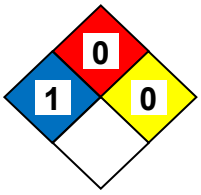
Revision date : 10/01/2019

Full text of H-statements:

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Safety Data Sheet

Aggregate Product

Section 1. Identification

Product identifier: Aggregate Product

Other means of identification:

Aggregate	Quick Lime
Aglime	Tripolite
Granite	Opaline Silica
Crushed Stone	Limestone
Calcium Sulfate Dihydrate	Dolomite
Gypsum Stone	Granite
Hydrated Lime	Basalt
Caustic Lime	Sand
Aggregate Base Crushed with Lime	Gravel
Hydrated Calium Sulfate	Chalk
Mineral White	

Relevant Uses: Basic component in Building Materials and Construction Applications

Manufacturers Name: CEMEX

Address: 929 Gessner Road, Suite 1900
Houston TX, 77024
T Customer Care 1-800-99-CEMEX

Emergency telephone number: CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

As packaged, this material does not present significant health hazards. The hazards below apply to the product if aerosols or dusts are generated from cutting, grinding, or pulverizing.

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Category Classification(s): CARCINOGENICITY/INHALATION - Category 1

GHS label elements:

Hazard pictograms:

GHS08

Signal word: Danger

Hazard statements: May cause cancer (Inhalation, Dermal).

Precautionary Statements:	Obtain special instructions before use Do not handle until all safety precautions have been read and understood Wear eye protection, protective clothing, protective gloves If exposed or concerned: Get medical advice/attention Dispose of contents/container to comply with local/regional/national regulations
Other Hazards:	Not applicable

Section 3. Composition / Information on Ingredients

Substance/mixture: Aggregate Product

Ingredient Name	% Content	CAS number
Component of all aggregate products: Crystalline Silica (Quartz) (**Note:** Aggregate products are naturally occurring materials of variable composition which may contain greater than 0.1% crystalline silica. For example, limestone typically contains less than 1% crystalline silica, granite and gravel up to 40% and sand, up to 100%)	0 - 100	14808-60-7
Component of limestone only: Limestone (calcium carbonate, $CaCO_3$)	45 - 100	1317-65-3

Any concentration shown as a range is to protect confidentiality or is due to process variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

As packaged, this material does not present significant health hazards. The hazards below apply to the product if aerosols or dusts are generated from cutting, grinding, or pulverizing.

Description of necessary first aid measures:

General:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Eye contact:	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes.
Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Aggregate Products requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Quickly and gently blot or brush away excess product. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for irritation, dermatitis and prolonged unprotected exposures. Get medical attention if irritation persists.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	May cause eye irritation.
Inhalation:	May cause respiratory irritation.
Skin contact:	May cause mechanical skin irritation.
Ingestion:	Not expected to be a significant route of entry. May cause gastrointestinal discomfort.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical treatment and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe dust. Provide adequate ventilation.

Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Conditions for safe storage:	Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m^3 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m^3 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable

	TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls:	Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Aggregate Products with a pH neutral soap and clean, uncontaminated water. Rem Remove protective equipment and dusty clothing before entering eating areas.

PPE

Eye/face protection:	In case of dust production: protective goggles. Wearing contact lenses when working with cement is not recommended.
Hand protection:	Wear gloves to prevent mechanical irritation. Recommended material: Nitrile®
Body protection:	Under dusty conditions or when excessive skin contact is likely, wear coveralls or other suitable work clothing.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.
Respiratory protection:	Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator.

Section 9. Physical and Chemical Properties

Physical State:	Powder/Solid	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray, white, various shades	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	2.25 to 2.8
pH (in water):	4.0 to 10.0	Solubility:	Not applicable..
Melting point:	Not available.	Solubility In water:	Not applicable.
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity: Not reactive under normal conditions of storage and use.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity: Aggregate ProductsLD50/LC50 = Not available

Irritation/Corrosion: Skin: May cause skin irritation.
Eyes: May cause eye irritation.
Respiratory: May cause respiratory tract irritation.

Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure): Product not classified

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation

Specific target organ toxicity (repeated exposure): Product not classified

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:	**Eye contact**: May cause eye irritation. **Inhalation**: May cause respiratory irritation. **Skin contact**: May cause irritation. **Ingestion**: Not an anticipated route of entry. May cause gastrointestinal discomfort.
Symptoms related to the physical, chemical and toxicological characteristics:	**Eye contact**: Adverse symptoms may include the following: pain, watering, redness **Inhalation**: Adverse symptoms may include the following: respiratory tract irritation, coughing **Skin contact**: Adverse symptoms may include the following: pain or irritation, redness, **Ingestion:** Adverse symptoms may include the following: stomach pains
Delayed and immediate effects and also chronic effects from short and long term exposure:	**Short term exposure** Potential immediate effects: No known significant effects or critical hazards. Potential delayed effects: No known significant effects or critical hazards. **Long term exposure** Potential immediate effects: No known significant effects or critical hazards. Potential delayed effects: No known significant effects or critical hazards.
Potential chronic health effects:	**General**: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels. **Carcinogenicity**: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease. **Mutagenicity**: No known significant effects or critical hazards. **Teratogenicity**: No known significant effects or critical hazards. **Developmental effects**: No known significant effects or critical hazards. **Fertility effects**: No known significant effects or critical hazards.
Numerical measures of toxicity:	There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability:	There are no data available.
Bioaccumulation potential:	There are no data available.
Mobility in soil:	Soil/water partition coefficient (Koc): Not available.
Other adverse effects:	No known significant effects or critical hazards.
Ecotoxicity:	No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods:	Salvage spilled sand and gravel where possible. Uncontaminated sand and gravel may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Safety Data Sheet

Section 14. Transport Information

Special precautions for user: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code: Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:
Quartz (crystalline silica) (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Limestone (1317-65-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

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Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revision:	Jun 2015 - Revised Section(s) per HCS-GHS
Revision:	October 2021 – Section 3 – added Chalk

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Aggregate Products as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Aggregates to produce Aggregate products. Users should review other relevant material safety data sheets.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Aggregates to produce Aggregate products. Users should review other relevant safety data sheets.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation
GHS – Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Safety Data Sheet

Asphalt

Section 1. Identification

Product identifier:	Asphalt
Other means of identification:	Asphalt Asphaltum Bitumen Petroleum Petroleum Bitumen Road Asphalt Roofing Asphalt Blacktop Patch
Relevant Uses:	Basic component in Commercial Asphalt Paving and Construction.
Manufacturers Name:	CEMEX
Address	10100 Katy Freeway, Suite 300 Houston, TX 77043 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION - Category 1 EYE DAMAGE - Category 1 MUTAGENICITY - Category 1B CARCINOGENICITY/INHALATION - Category 1 REPRODUCTIVE TOXICITY - Category 2 SINGLE TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements:

Hazard pictograms:

GHS05 GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage Causes serious eye damage May cause genetic defects (Inhalation) May cause cancer (Inhalation) Suspected of damaging fertility or the unborn child (Inhalation)
Precautionary Statements:	Obtain special instructions before use Do not handle until all safety precautions have been read and understood

Do not breathe dust, fume, mist
Wash clothing, hands, forearms and face thoroughly after handling
Wear eye protection, protective clothing, protective gloves
If swallowed: rinse mouth. Do NOT induce vomiting
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
If inhaled: Remove person to fresh air and keep comfortable for breathing
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If exposed or concerned: Get medical advice/attention
Get medical advice/attention if you feel unwell a n d i mmediately call a POISON CENTER
Specific treatment (see Section 4 on this label)
Take off contaminated clothing and wash it before reuse
Dispose of contents/container to comply with local/regional/national/international regulations

Other Hazards: Not applicable.

Section 3. Composition / Information on Ingredients

Substance/mixture: Asphalt/Aggregate Product

Ingredient Name	% Content	CAS number
Aggregate	93	308075-07-2
Petroleum Asphalt	2 - 3	8052-42-4
Kerosene	1	8008-20-6
Naphtha, Coal Tar	1	8030-30-6
Quartz (crystalline silica)	> 0.1	14808-60-7

Any concentration shown as a range is to protect confidentiality or is due to process variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

Description of necessary first aid measures:

General: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Eye contact: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes.

Inhalation: Seek medical help if coughing or other symptoms persist. Seek medical attention and immediately and contact a poison center. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth- to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Skin contact: Quickly and gently blot or brush away excess product. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for burns, irritation, dermatitis and prolonged unprotected exposures. Get medical attention if irritation persists.

Ingestion: Seek medical attention and immediately contact a poison center. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of

water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness.
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing. Prolonged breathing of vapors can be a central nervous system depressant.
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical treatment and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard as packaged.
Hazardous thermal decomposition	Decomposition products may include the following materials: carbon monoxide, sulfur oxides (hydrogen sulfide), products: paraffins, naphthenes, aromatics and olefins. Hydrogen sulfide is an extremely flammable gas.
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe vapor, mist or dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe vapor, mist or dust. Provide adequate ventilation.
Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Solid Form: Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Liquid Form: Eliminate all ignition sources in the vicinity of the spill. Hydrocarbons such as kerosene or mineral oil can be used to dissolve any remaining material. In turn, these hydrocarbons or oils can be absorbed with clay or diatomaceous earth. Place the material in disposable containers. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor, mist or dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. At elevated temperatures, this product will cause thermal burns and may release toxic hydrogen sulfide. Hydrogen sulfide is a fatal and highly flammable gas. Explosion can occur if hydrogen sulfide is allowed to accumulate in the headspace of closed systems in the presence of an ignition source
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Conditions for safe storage:	Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable

	OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Asphalt Fumes	ACGIH TLV (United States, 3/2013). TWA: NIOSH REL (United States, 6/2009). TWA: Ceiling 5 mg/m^3 [15-minute] See Appendix A, Appendix C OSHA PEL (United States, 6/2010). TWA: None
Kerosene (as total hydrocarbon vapor)	ACGIH TLV (United States, 3/2012). TWA: 200 mg/m^3 NIOSH REL (United States, 6/2009). TWA: 100 mg/m^3 OSHA PEL (United States, 6/2010). TWA: none
Naphtha, Coal Tar	NIOSH REL (United States, 6/2009). TWA: 100 ppm (400 mg/m^3) OSHA PEL (United States, 6/2010). TWA: 100 ppm (400 mg/m^3)
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls:	Use only with adequate ventilation. If user operations generate vapor/dusts, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Asphalt with a pH neutral soap and clean, uncontaminated water. Remove protective equipment and dusty clothing before entering eating areas.

PPE

Eye/face protection:	In case of vapor, mist or dust production: protective goggles. Wearing contact lenses when working with asphalt is not recommended.
Hand protection:	Wear gloves to prevent contact. Recommended material: Thermally insulated, Rubber (when handling hot asphalt).
Body protection:	Under dusty conditions or when excessive skin contact is likely, wear coveralls or other suitable work clothing.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.

Respiratory protection:	Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator.

Section 9. Physical and Chemical Properties

Physical State:	Liquid to Solid [granular]	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Black.	Vapor pressure:	Not applicable.
Odor:	Oily.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	0.95 to 1.1
pH (in water):	12 to 13.	Solubility:	Not applicable.
Melting point:	Not available.	Solubility In water:	0.16
Boiling point:	<243°C (<470°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	>204°C (>400ºF)	Auto-ignition temperature:	485ºC (905ºF)
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity:	Not reactive under normal conditions of storage and use.
Chemical stability:	The product is stable.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	Heat sources.
Incompatible materials:	Reactive or incompatible with the following materials: strong oxidizing agents. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Combustion may produce carbon monoxide and sulfur oxides. paraffins, napthenes, aromatics, and olefins. At elevated temperatures, this product may release toxic hydrogen sulfide, an extremely flammable gas.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity:	Asphalt /LC50 = Not available
Irritation/Corrosion:	Skin: May cause skin irritation. Eyes: May cause eye irritation. Respiratory: May cause respiratory tract irritation.

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Sensitization: Not classified

Mutagenicity: May cause genetic defects.

Ingredient	Category	Route of Exposure
Naphtha	Category 1B	Inhalation

Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Ingredient	Category	Route of Exposure
Naphtha	Category 2	Inhalation

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification: The NIOSH "Hazard Review: Health Effects of Occupational Exposure to Asphalt" concludes that the collective data currently available from studies on paving asphalt provide insufficient evidence for an association between lung cancer and exposure to asphalt during paving; however, the collective health and exposure data provide sufficient evidence for NIOSH to conclude that roofing asphalt fumes are a potential occupational carcinogen.

Ingredient	OSHA	IARC	ACGIH	NTP
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.
Naphtha, Coal Tar	--	2B (road paving), 2A (roofing)	A2	Nominated; Status: Review Deferred

Specific target organ toxicity (single exposure): Product not classified

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation
Kerosene	Category 3	Inhalation	Eyes, skin, respiratory system, central nervous system

Specific target organ toxicity (repeated exposure): Product not classified

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:

Eye contact: Causes serious eye damage.
Inhalation: May cause respiratory irritation.
Skin contact: Causes severe burns.
Ingestion: May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Adverse symptoms may include the following: pain, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, skin burns, ulcerations and necrosis may occur
Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
Potential immediate effects: No known significant effects or critical hazards.

Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of vapor, mist or dust may lead to chronic respiratory irritation and central nervous system depression.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: Exposed road workers and roofers exhibited DNA damage in the peripheral lymphocytes, which were assessed as an indication of the potential genotoxicity of bitumen-borne substances.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: May cause a disturbance in ovarian function and menstrual cycle.

Numerical measures of toxicity: There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability: There are no data available.

Bioaccumulation potential: There are no data available.

Mobility in soil: Soil/water partition coefficient (Koc): Not available.

Other adverse effects: No known significant effects or critical hazards.

Ecotoxicity: Not classified.

Ingredient	Category	LC50 Fish	LC50 Daphnia	EC50 Algae
Naphtha, Coal Tar	Acute Category 2 Chronic Category 2	9 mg/l	3.7 mg/l	--
Kerosene	Acute Category 2 Chronic Category 2	1 - 10 mg/l	1 - 10 mg/l	1 - 10 mg/l

Section 13. Disposal Considerations

Disposal methods: Salvage spilled asphalt where possible. Uncontaminated asphalt may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: spillage. Ensure that persons transporting the product know what to do in the event of an accident or

Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code: Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:
Kerosene (8008-20-6)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Quartz (crystalline silica) (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Section 16. Other Information

Approval or Revision History

Revision: Jun 2015 - Revised Section(s) per HCS-GHS
Revision: April 2017 – company address change

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Asphalt as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this

sheet do not address hazards that may be posed by other materials mixed with Asphalt. Users should review other relevant material safety data sheets before working with Asphalt.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Asphalt. Users should review other relevant safety data sheets before working with Asphalt.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation
GHS – Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Safety Data Sheet

Blended Cement

Section 1. Identification

Product identifier:	Blended Cement
Other means of identification:	Type IL Cement Portland Limestone Cement Block Cement General Use (GU) Cement Special Purpose (SP) Cement Manufactured Concrete Product (MCP) Cement
Chemical name:	Calcium compounds, calcium silicate compounds, and other calcium compounds containing iron and aluminum make up the majority of this product.
Relevant Uses:	Building materials, construction application, a basic ingredient in concrete.
Manufacturers Name:	CEMEX
Address	10100 Katy Freeway, Suite 300 Houston, TX 77043 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1 SINGLE TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements:

Hazard pictograms:

GHS05 GHS07 GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage May cause cancer (Inhalation, Dermal). May cause damage to organs (eye, lung/respiratory system, Skin) through prolonged or repeated exposure (Dermal, Inhalation)

Precautionary Statements:	Obtain special instructions before use Do not handle until all safety precautions have been read and understood Do not breathe dust Wash clothing, hands, forearms and face thoroughly after handling Contaminated work clothing must not be allowed out of the workplace Wear eye protection, protective clothing, protective gloves If swallowed: rinse mouth. Do NOT induce vomiting P302 + P352 - If on skin: Wash with plenty of soap and water If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water If inhaled: Remove person to fresh air and keep comfortable for breathing If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If exposed or concerned: Get medical advice/attention Immediately call a doctor or POISON CENTER Get medical advice/attention if you feel unwell Specific treatment (see Setion 4 on this label) If skin irritation or rash occurs: Get medical advice/attention Take off contaminated clothing and wash it before reuse Wash contaminated clothing before reuse Dispose of contents/container to comply with local/regional/national regulations
Other Hazards:	Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture:	Blended Cement - mixture
Chemical name:	Calcium compounds; calcium silicates and calcium oxides make up the majority of this product – calcium compounds can contain small amounts or iron and aluminum.

Ingredient Name	% Content	CAS number
Portland Cement Clinker	73 - 90	65997-15-1
Gypsum	4 - 9	7778-18-9
Limestone	6 - 18	1317-65-3
Kiln Bag House Dust	0 - 10	68475-76-3
Quartz (crystalline silica)	0 - 1.8	14808-60-7
Hexavalent chromium*	*	18450-29-9

Any concentration shown as a range is to protect confidentiality or is due to process variation.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

Description of necessary first aid measures:

General:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Eye contact:	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.

Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Blended Cement requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Get medical attention immediately. Heavy exposure to Blended Cement dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Blended Cement. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical treatment and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe dust. Provide adequate ventilation.
Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

Conditions for safe storage: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Portland Cement Clinker	ACGIH TLV (United States, 3/2012). TWA: 1 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m3 10 hours. Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m^3 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m^3 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust
Gypsum	ACGIH TLV (United States, 3/2012) TWA: 10 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 10 mg/m^3 8 hours. Form: Total OSHA PEL Z-1 (United States, 2/2006) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 15 mg/m^3 8 hours. Form: Total
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls:	Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Blended Cement with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Blended Cement, garments should be removed and replaced with clean, dry clothing. Remove protective equipment and saturated clothing before entering eating areas.

PPE

Eye/face protection:	To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet cement. Wearing contact lenses when working with cement is not recommended.
Hand protection:	Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Blended Cement inside gloves. Recommended material: Nitrile®
Body protection:	Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Blended Cement. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Blended Cement from getting inside them. Do not get Blended Cement inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with cement and immediately wash exposed areas of the body.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.
Respiratory protection:	Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator.

Section 9. Physical and Chemical Properties

Physical State:	Solid. [Powder.]	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	2.7 to 3.15
pH (in water):	12 - 13	Solubility:	Slightly soluble in water.
Melting point:	Not available.	Solubility in water:	0.1 to 1%
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.

Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity: Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Blended Cement is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity: Blended Cement LD50/LC50 = Not available

Irritation/Corrosion: Skin: May cause serious burns in the presence of moisture.
Eyes: Causes serious eye damage. May cause burns in the presence of moisture.
Respiratory: May cause respiratory tract irritation.

Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Portland Cement Clinker	–	–	A4	–
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation

Specific target organ toxicity (repeated exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:

Eye contact: Causes serious eye damage.
Inhalation: May cause respiratory irritation.
Skin contact: Causes severe burns. May cause an allergic skin reaction.
Ingestion: May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Adverse symptoms may include the following: pain, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, skin burns, ulcerations and necrosis may occur
Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity: There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability: There are no data available.

Bioaccumulation potential: There are no data available.

Mobility in soil: Soil/water partition coefficient (Koc): Not available.

Other adverse effects: No known significant effects or critical hazards.

Ecotoxicity: No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods: Salvage spilled cement material where possible. Uncontaminated cement material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: spillage. Ensure that persons transporting the product know what to do in the event of an accident or

Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code: Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
The product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This cement product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:
Portland Cement Clinker (65997-15-1)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Quartz (crystalline silica) (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Gypsum (7778-18-9)
U.S. - New Jersey - Right to Know Hazardous Substance List

Limestone (1317-65-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revision:	May 2015 - Revised Section(s) per HCS-GHS
Revision:	April 2017 – related to address
Revision:	November 20, 2020 – Changed title to Blended Cement and added additional product identifiers: Type IL Cement, Portland Limestone Cement, Block Cement. Substance/mixture was changed from Block Cement to Blended Cement – mixture. Block Cement was replaced with Blended Cement throughout document.

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Portland Cement as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland Cement Clinker to produce Blended Cement products. Users should review other relevant material safety data sheets before working with this Blended Cement or working on Blended Cement products, for example, Blended Cement concrete.

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Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation

Safety Data Sheet

GHS – Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Safety Data Sheet

Concrete - ready mix

Section 1. Identification

Product identifier:	Concrete - ready mix
Other means of identification:	Concrete (premixed), wet unhardened concrete, grout (fine – coarse)
Chemical name:	Calcium compounds, calcium silicate compounds, and other calcium compounds containing iron and aluminum make up the majority of this product.
Relevant Uses:	Building materials, a structural component in construction.
Manufacturers Name:	CEMEX
Address:	10100 Katy Freeway, Suite 300 Houston, TX 77043 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1 SINGLE TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3 SINGLE TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements:

Hazard pictograms:

GHS05 GHS07 GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage May cause respiratory irritation May cause cancer (Dermal, Inhalation) May cause damage to organs (eye, lung/respiratory system, Skin) through prolonged or repeated exposure (Dermal, Inhalation)
Precautionary Statements:	Obtain special instructions before use Do not handle until all safety precautions have been read and understood

Do not breathe dust, spray, mist, fume
Avoid breathing dust, spray, mist, fume
Wash clothing, hands, forearms and face thoroughly after handling
Use only outdoors or in a well-ventilated area
Contaminated work clothing must not be allowed out of the workplace
Wear eye protection, protective clothing, protective gloves
If swallowed: rinse mouth. Do NOT induce vomiting
If on skin: Wash with plenty of soap and water
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
If inhaled: Remove person to fresh air and keep comfortable for breathing
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If exposed or concerned: Get medical advice/attention
Immediately call a POISON CENTER
Call a poison center if you feel unwell
Get medical advice/attention if you feel unwell
Specific treatment (see Section 4 on this label)
If skin irritation or rash occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
Wash contaminated clothing before reuse
Store in a well-ventilated place. Keep container tightly closed
Store locked up
Dispose of contents/container to comply with local/regional/national regulations

Other Hazards: Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture: Concrete - ready mix - mixture

Chemical name: Calcium compounds; calcium silicates and calcium oxides make up the majority of this product – calcium compounds can contain small amounts or iron and aluminum.

Ingredient Name	% Content	CAS number
Portland Cement	1 - 30	65997-15-1
Aggregates (Limestone/Quartz/Granite/Gravel/Basalts)	0 - 80	NA
Calcium Oxide	<=20.85	1305-78-8
Amorphous Silica	<=6.55	61790-53-2
Quartz (crystalline silica)	0 - 1.8	14808-60-7
Hexavalent chromium*	*	18450-29-9

Fly Ash, containing the hazardous ingredients Calcium Oxide and Amorphous Silica listed above, is present as 0 - 35% of the product.

Slag, containing hazardous ingredients Calcium Oxide, Amorphous Silica, and Quartz (crystalline silica) listed above, is present at 0 - 50% of the product.

Any concentration shown as a range is to protect confidentiality or is due to batch variation. Chemical admixtures may be present in ranges of less than 1%. Individual composition of hazardous constituents may vary between types/different mixed designs of ready mix concrete.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

Description of necessary first aid measures:

General:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Eye contact:	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Concrete - ready mix requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Get medical attention immediately. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet Concrete - ready mix, Concrete - ready mix mixtures or liquids from wet Concrete - ready mix. Burns should be treated as caustic burns. Heavy exposure to dried Concrete - ready mix dust caused by cutting and grinding, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Concrete - ready mix.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical attention and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Personnel involved with the handling of wet unhardened concrete should take steps to avoid contact with the eyes and skin, through the use of gloves and suitable clothing as described in Section 8. Silica-containing respirable dust particles may be generated by crushing, cutting, grinding, or drilling hardened concrete or concrete products, and should always be avoided. Follow protective controls defined in Section 8 when handling these products. When cutting, grinding, crushing or drilling hardened concrete, use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.
For emergency responders:	For personal protective clothing and equipment requirements, please see Section 8.
Environmental precautions:	Wet unhardened concrete should be Salvaged or allowed to harden and disposed. Do not wash concrete down sewage and drainage systems or into bodies of water (e.g. lakes, streams, wetlands, etc.).

Methods and materials for containment and cleaning up

Small and large spills:	Place spilled material into a contained area and allow wet unhardened concrete to harden and dispose in a landfill as common solid waste. Follow applicable Federal, State, and local regulations for disposal. Uncontaminated ready mixed concrete is neither a listed nor a characteristic hazardous waste under designations by the USEPA or USDOT. USDOT Class: Uncontaminated ready mixed

concrete does not meet any hazardous material class definition found in Title 49 Code of Federal Regulations Part 173.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Conditions for safe storage:	Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Portland Cement Clinker	ACGIH TLV (United States, 3/2012). TWA: 1 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m3 10 hours. Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m^3 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m^3 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust
Gypsum	ACGIH TLV (United States, 3/2012) TWA: 10 mg/m^3 8 hours. Form: Respirable

	NIOSH REL (United States, 6/2009) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 10 mg/m^3 8 hours. Form: Total OSHA PEL Z-1 (United States, 2/2006) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 15 mg/m^3 8 hours. Form: Total
Calcium Oxide	ACGIH TLV (United States, 3/2012) TWA: 2 mg/m^3 8 hours. NIOSH REL (United States, 6/2009) TWA 2 mg/m^3 8 hours. OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable
Amorphous Silica	ACGIH TLV (United States, 3/2012) Not Established NIOSH REL (United States, 6/2009) 6 mg/m3 TWA; Appendix C - Supplementary Exposure Limits (Mineral Dusts). OSHA PEL Z-1 (United States, 2/2006) 20 mppcf, 80 mg/m3/%SiO2 TWA (PEL listed under Silica, Amorphous, including natural diatomaceous earth) (3) See Table Z-3.
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls:	Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Concrete - ready mix with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Concrete - ready mix, garments should be removed and replaced with clean, dry clothing. Remove protective equipment and saturated clothing before entering eating areas.

PPE

Eye/face protection:	To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet Concrete - ready mix. Wearing contact lenses when working with Concrete - ready mix is not recommended.
Hand protection:	Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Concrete - ready mix inside gloves. Recommended material: Nitrile®
Body protection:	Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Concrete - ready mix. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent

Concrete - ready mix from getting inside them. Do not get Concrete - ready mix inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with Concrete - ready mix and immediately wash exposed areas of the body.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. (See OSHA Respiratory Protection Standard 29 CFR 1910.134)

Section 9. Physical and Chemical Properties

Physical State:	Suspended Solid [paste].	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	2.2 to 2.6
pH (in water):	12 - 13	Solubility:	Not applicable.
Melting point:	Not available.	Solubility in water:	Not applicable.
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity: Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Portland Concrete - ready mix is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity:	Ready Mix Concrete - ready mix LD50/LC50 = Not available
Irritation/Corrosion:	Skin: May cause serious burns in the presence of moisture. Eyes: Causes serious eye damage. May cause burns in the presence of moisture. Respiratory: May cause respiratory tract irritation.
Sensitization:	May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.
Mutagenicity:	Not classified.
Reproductive toxicity:	Not classified.
Teratogenicity:	Not classified.
Aspiration hazard:	Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Portland Cement Clinker	–	–	A4	–
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation
Calcium Oxide	Category 3	Inhalation and skin contact	Eyes, skin, respiratory system
Amorphous Silica	Category 3	Inhalation	Respiratory tract and kidneys

Specific target organ toxicity (repeated exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys
Amorphous Silica	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:	**Eye contact**: Causes serious eye damage. **Inhalation**: May cause respiratory irritation. **Skin contact**: Causes severe burns. May cause an allergic skin reaction. **Ingestion**: May cause burns to mouth, throat and stomach.
Symptoms related to the physical, chemical and toxicological characteristics:	**Eye contact**: Adverse symptoms may include the following: pain, watering, redness **Inhalation**: Adverse symptoms may include the following: respiratory tract irritation, coughing **Skin contact**: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, skin burns, ulcerations and necrosis may occur **Ingestion:** Adverse symptoms may include the following: stomach pains
Delayed and immediate effects and also chronic	**Short term exposure** Potential immediate effects: No known significant effects or critical hazards.

effects from short and long term exposure:	Potential delayed effects: No known significant effects or critical hazards. **Long term exposure** Potential immediate effects: No known significant effects or critical hazards. Potential delayed effects: No known significant effects or critical hazards.
Potential chronic health effects:	**General**: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels. **Carcinogenicity**: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease. **Mutagenicity**: No known significant effects or critical hazards. **Teratogenicity**: No known significant effects or critical hazards. **Developmental effects**: No known significant effects or critical hazards. **Fertility effects**: No known significant effects or critical hazards.
Numerical measures of toxicity:	There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability:	There are no data available.
Bioaccumulation potential:	There are no data available.
Mobility in soil:	Soil/water partition coefficient (Koc): Not available.
Other adverse effects:	No known significant effects or critical hazards.
Ecotoxicity:	No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods:	Salvage spilled Concrete - ready mix material where possible. Uncontaminated Concrete - ready mix material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: spillage.	Ensure that persons transporting the product know what to do in the event of an accident or
Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code:	Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated

UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:
Portland Cement (65997-15-1)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Quartz (crystalline silica) (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Gypsum (7778-18-9)
U.S. - New Jersey - Right to Know Hazardous Substance List

Limestone (1317-65-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revision:	May 2015 - Revised Section(s) per HCS-GHS
Revision:	April 2017 – related to address

Safety Data Sheet

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Portland Concrete - ready mix as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland Concrete - ready mix to produce Portland Concrete - ready mix products. Users should review other relevant material safety data sheets before working with this Concrete - ready mix or working on Concrete - ready mix products, for example, Concrete - ready mix concrete.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Concrete - ready mix to produce Concrete - ready mix products. Users should review other relevant safety data sheets before working with Concrete - ready mix or working on Concrete - ready mix products, for example, Concrete - ready mix concrete.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation
GHS – Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Safety Data Sheet

Hardened Concrete (dry)

Section 1. Identification

Product identifier:	Hardened Concrete (dry)
Other means of identification:	Dried Concrete
Chemical name:	Calcium compounds, calcium silicate compounds, and other calcium compounds containing iron and aluminum make up the majority of this product.
Relevant Uses:	Building materials, a basic structural component in construction.
Manufacturers Name:	CEMEX
Address:	10100 Katy Freeway, Suite 300 Houston, TX 77043 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

As packaged, this material does not present significant health hazards. The hazards below apply to the product if aerosols or dusts are generated from cutting, grinding, or pulverizing.

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1 SINGLE TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3 SINGLE TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements:

Hazard pictograms:

GHS05 GHS07 GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage May cause respiratory irritation May cause cancer (Dermal, Inhalation) May cause damage to organs (eye, lung/respiratory system, Skin) through prolonged or repeated exposure (Dermal, Inhalation)

Precautionary Statements:	Obtain special instructions before use Do not handle until all safety precautions have been read and understood Do not breathe dust, spray, mist, fume Avoid breathing dust, spray, mist, fume Wash clothing, hands, forearms and face thoroughly after handling Use only outdoors or in a well-ventilated area Contaminated work clothing must not be allowed out of the workplace Wear eye protection, protective clothing, protective gloves If swallowed: rinse mouth. Do NOT induce vomiting If on skin: Wash with plenty of soap and water If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower If inhaled: Remove person to fresh air and keep comfortable for breathing If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If exposed or concerned: Get medical advice/attention Immediately call a POISON CENTER Call a poison center if you feel unwell Get medical advice/attention if you feel unwell Specific treatment (see Section 4 on this label) If skin irritation or rash occurs: Get medical advice/attention Take off contaminated clothing and wash it before reuse Wash contaminated clothing before reuse Store in a well-ventilated place. Keep container tightly closed Dispose of contents/container to comply with local/regional/national regulations
Other Hazards:	Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture:	Hardened Concrete (dry) - mixture
Chemical name:	Calcium compounds; calcium silicates and calcium oxides make up the majority of this product – calcium compounds can contain small amounts or iron and aluminum.

Ingredient Name	% Content	CAS number
Portland Cement	10 - 30	65997-15-1
Limestone	25 - 65	1317-65-3
Calcium Oxide	<=20.85	1305-78-8
Amorphous Silica	<=6.55	61790-53-2
Quartz (crystalline silica)	0 - 1.8	14808-60-7
Hexavalent chromium*	*	18450-29-9

Any concentration shown as a range is to protect confidentiality or is due to process variation.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

As packaged, this material does not present significant health hazards. The hazards below apply to the product if aerosols or dusts are generated from cutting, grinding, or pulverizing.

Description of necessary first aid measures:

General:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Eye contact:	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Hardened Concrete (dry) dust requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Get medical attention immediately. Heavy exposure to Hardened Concrete (dry) dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Hardened Concrete (dry) dust. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical attention and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.

Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe dust. Provide adequate ventilation.
Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

As packaged, this material does not present significant health hazards. The hazards below apply to the product if aerosols or dusts are generated from cutting, grinding, or pulverizing.

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Conditions for safe storage:	Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Portland Cement	ACGIH TLV (United States, 3/2012). TWA: 1 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m3 10 hours. Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m^3 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m^3 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust
Calcium Oxide	ACGIH TLV (United States, 3/2012) TWA: 2 mg/m^3 8 hours. NIOSH REL (United States, 6/2009) TWA 2 mg/m^3 8 hours. OSHA PEL Z-1 (United States, 2/2006) TWA 5 mg/m^3 8 hours.
Amorphous Silica	ACGIH TLV (United States, 3/2012) Not Established NIOSH REL (United States, 6/2009) 6 mg/m3 TWA; Appendix C - Supplementary Exposure Limits (Mineral Dusts). OSHA PEL Z-1 (United States, 2/2006) 20 mppcf, 80 mg/m3/%SiO2 TWA (PEL listed under Silica, Amorphous, including natural

	diatomaceous earth) (3) See Table Z-3.
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls:	Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Hardened Concrete (dry) with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Hardened Concrete (dry), garments should be removed and replaced with clean, dry clothing. Remove protective equipment and saturated clothing before entering eating areas.

PPE

Eye/face protection:	To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet Hardened Concrete (dry). Wearing contact lenses when working with Hardened Concrete (dry) is not recommended.
Hand protection:	If dust is generated: Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Hardened Concrete (dry) inside gloves. Recommended material: Nitrile®
Body protection:	If dust is generated: Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Hardened Concrete (dry). To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Hardened Concrete (dry) from getting inside them. Do not get Hardened Concrete (dry) inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with Hardened Concrete (dry) and immediately wash exposed areas of the body.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.
Respiratory protection:	If dust is generated: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. (See OSHA Respiratory Protection Standard 29 CFR 1910.134)

Section 9. Physical and Chemical Properties

Physical State:	Solid.	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	Unknown.
pH (in water):	12 - 13	Solubility:	Not applicable.
Melting point:	Not available.	Solubility in water:	Not applicable.
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity:	Not reactive under normal conditions of storage and use.
Chemical stability:	The product is stable.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	No specific data.
Incompatible materials:	Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Hardened Concrete (dry) is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity:	Hardened Concrete (dry) LD50/LC50 = Not available
Irritation/Corrosion:	Skin: Dust may cause skin irritation. Eyes: Dust may cause eye irritation. Respiratory: Dust may cause respiratory tract irritation when cutting or grinding.
Sensitization:	Dust may cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Portland Cement	–	–	A4	–
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation and skin contact	Respiratory tract irritation; skin irritation
Calcium Oxide	Category 3	Inhalation and skin contact	Eyes, skin, respiratory system
Amorphous Silica	Category 3	Inhalation	Respiratory tract and kidneys

Specific target organ toxicity (repeated exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys
Amorphous Silica	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:

Eye contact: Dust may cause eye irritation.
Inhalation: Dust may cause respiratory irritation.
Skin contact: Dust may cause skin irritation. May cause an allergic skin reaction.
Ingestion: Dust may cause irritation.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Adverse symptoms may include the following: pain, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness,
Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity: There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability:	There are no data available.
Bioaccumulation potential:	There are no data available.
Mobility in soil:	Soil/water partition coefficient (Koc): Not available.
Other adverse effects:	No known significant effects or critical hazards.
Ecotoxicity:	No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods:	Salvage spilled Hardened Concrete (dry) material where possible. Uncontaminated Hardened Concrete (dry) material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: spillage.	Ensure that persons transporting the product know what to do in the event of an accident or
Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code:	Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:
Portland Cement (65997-15-1)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Quartz (crystalline silica) (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Limestone (1317-65-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Calcium Oxide (1305-78-8)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Amorphous Silica (61790-53-2)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revision:	May 2015 - Revised Section(s) per HCS-GHS
Revision:	April 2017 – related to address

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Portland Hardened Concrete (dry) as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland Hardened Concrete (dry) to produce Portland Hardened Concrete (dry) products. Users should review other relevant material safety data

sheets before working with this Portland Hardened Concrete (dry) or working on Portland Hardened Concrete (dry) products, for example, Portland Hardened Concrete (dry) concrete.

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Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation
GHS – Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Safety Data Sheet

Cement Kiln Dust

Section 1. Identification

Product identifier:	Cement Kiln Dust
Other means of identification:	Cement Kiln Dust (CKD) Kiln Feed Bag House Dust
Chemical family:	Blend of Calcium Carbonate, Alumina oxide, Iron Oxide, Silica Oxide, Calcium Oxide, Calcium and Magnesium Sulfates.
Relevant Uses:	Basic ingredient for building materials; concrete, cement.
Manufacturers Name:	CEMEX
Address:	10100 Katy Freeway, Suite 300 Houston, TX 77043 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1 SINGLE TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements:

Hazard pictograms:

GHS05 GHS07 GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage May cause cancer (Inhalation, Dermal). May cause damage to organs (eye, lung/respiratory system, Skin) through prolonged or repeated exposure (Dermal, Inhalation)
Precautionary Statements:	Obtain special instructions before use Do not handle until all safety precautions have been read and understood

Do not breathe dust
Wash clothing, hands, forearms and face thoroughly after handling
Contaminated work clothing must not be allowed out of the workplace
Wear eye protection, protective clothing, protective gloves
If swallowed: rinse mouth. Do NOT induce vomiting
If on skin: Wash with plenty of soap and water
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water
If inhaled: Remove person to fresh air and keep comfortable for breathing
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If exposed or concerned: Get medical advice/attention
Immediately call a doctor or POISON CENTER
Get medical advice/attention if you feel unwell
Specific treatment (see Setion 4 on this label)
If skin irritation or rash occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
Wash contaminated clothing before reuse
Dispose of contents/container to comply with local/regional/national regulations

Other Hazards: Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture: Cement Kiln Dust - mixture

Chemical name: Blend of Calcium Carbonate, Alumina oxide, Iron Oxide, Silica Oxide, Calcium Oxide, Calcium and Magnesium Sulfates.

Ingredient Name	% Content	CAS number
Limestone	80 - 95	1317-65-3
Clay	0 - 20	1332-58-7
Quartz (crystalline silica)	5 - 9	14808-60-7
Hexavalent chromium*	*	18450-29-9

Any concentration shown as a range is to protect confidentiality or is due to process variation.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

Description of necessary first aid measures:

General: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Eye contact: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.

Inhalation: Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Cement Kiln Dust requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Skin contact:	Get medical attention immediately. Heavy exposure to Cement Kiln Dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Cement Kiln Dust. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical treatment and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.

Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe dust. Provide adequate ventilation.
Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
Conditions for safe storage:	Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m^3 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m^3 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls:	Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Cement Kiln Dust with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Cement Kiln Dust, garments should be removed and replaced with clean, dry clothing. Remove protective equipment and saturated clothing before entering eating areas.

PPE

Eye/face protection:	To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet cement. Wearing contact lenses when working with cement is not recommended.
Hand protection:	Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Cement Kiln Dust inside gloves. Recommended material: Nitrile®
Body protection:	Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Cement Kiln Dust. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Cement Kiln Dust from getting inside them. Do not get Cement Kiln Dust inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with cement and immediately wash exposed areas of the body.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.

Respiratory protection:	Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator.

Section 9. Physical and Chemical Properties

Physical State:	Solid. [Powder.]	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	2.7 to 3.15
pH (in water):	12 - 13	Solubility:	Slightly soluble in water.
Melting point:	Not available.	Solubility in water:	0.1 to 1%
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity:	Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete.
Chemical stability:	The product is stable.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	No specific data.
Incompatible materials:	Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Cement Kiln Dust is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity:	Cement Kiln Dust LD50/LC50 = Not available
Irritation/Corrosion:	Skin: May cause serious burns in the presence of moisture. Eyes: Causes serious eye damage. May cause burns in the presence of moisture.

Respiratory: May cause respiratory tract irritation.

Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation

Specific target organ toxicity (repeated exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:

Eye contact: Causes serious eye damage.
Inhalation: May cause respiratory irritation.
Skin contact: Causes severe burns. May cause an allergic skin reaction.
Ingestion: May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Adverse symptoms may include the following: pain, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, skin burns, ulcerations and necrosis may occur
Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity: There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability: There are no data available.

Bioaccumulation potential: There are no data available.

Mobility in soil: Soil/water partition coefficient (Koc): Not available.

Other adverse effects: No known significant effects or critical hazards.

Ecotoxicity: No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods: Salvage spilled cement material where possible. Uncontaminated cement material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: spillage. Ensure that persons transporting the product know what to do in the event of an accident or

Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code: Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This cement product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:

Quartz (crystalline silica) (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Limestone (1317-65-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revision:	May 2015 - Revised Section(s) per HCS-GHS
Revision:	April 2017 – related to address

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Cement Kiln Dust as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Cement Kiln Dust to produce Cement Kiln Dust products. Users should review other relevant material safety data sheets before working with this Cement Kiln Dust or working on Cement Kiln Dust products, for example, Cement Kiln Dust concrete.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Cement Kiln Dust to produce Cement Kiln Dust products. Users should review other relevant safety data sheets before working with Cement Kiln Dust or working on Cement Kiln Dust products, for example, Cement Kiln Dust concrete.

Safety Data Sheet

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation
GHS – Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Safety Data Sheet

Masonry Cement

Section 1. Identification

Product identifier:	Masonry Cement
Other means of identification:	Masonry N Masonry S Masonry M Stucco (Plastic) S Stucco (Plastic) M Mortar S Mortar N PCL S PCL N White Masonry Colored Masonry
Chemical name:	Calcium compounds, calcium silicate compounds, and other calcium compounds containing iron and aluminum make up the majority of this product.
Relevant Uses:	Building materials, construction application, a basic ingredient in concrete.
Manufacturers Name:	CEMEX
Address:	10100 Katy Freeway, Suite 300 Houston, TX 77043 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1 SINGLE TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements:

Hazard pictograms:

GHS05 GHS07 GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage

May cause cancer (Inhalation, Dermal).
May cause damage to organs (eye, lung/respiratory system, Skin) through prolonged or repeated exposure (Dermal, Inhalation)

Precautionary Statements:

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Do not breathe dust
Wash clothing, hands, forearms and face thoroughly after handling
Contaminated work clothing must not be allowed out of the workplace
Wear eye protection, protective clothing, protective gloves
If swallowed: rinse mouth. Do NOT induce vomiting
If on skin: Wash with plenty of soap and water
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water
If inhaled: Remove person to fresh air and keep comfortable for breathing
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If exposed or concerned: Get medical advice/attention
Immediately call a doctor or POISON CENTER
Get medical advice/attention if you feel unwell
Specific treatment (see Section 4 this label)
If skin irritation or rash occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
Wash contaminated clothing before reuse
Dispose of contents/container to comply with local/regional/national regulations

Other Hazards:

Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture: Masonry Cement - mixture

Chemical name: Calcium compounds; calcium silicates and calcium oxides make up the majority of this product – calcium compounds can contain small amounts or iron and aluminum.

Ingredient Name	% Content	CAS number
Portland Cement Clinker	40 - 80	65997-15-1
Gypsum	4 - 9	7778-18-9
Limestone	25 - 45	1317-65-3
Lime	0 – 15	1305-78-8
Quartz (crystalline silica)	0 - 4.5	14808-60-7
Hexavalent chromium*	*	18450-29-9

Any concentration shown as a range is to protect confidentiality or is due to process variation.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

Description of necessary first aid measures:

General: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Eye contact: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove

	any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Masonry Cement requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Get medical attention immediately. Heavy exposure to Masonry Cement dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Masonry Cement. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical treatment and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe dust. Provide adequate ventilation.
Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

Conditions for safe storage: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Portland Cement Clinker	ACGIH TLV (United States, 3/2012). TWA: 1 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m3 10 hours. Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m^3 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m^3 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust
Gypsum	ACGIH TLV (United States, 3/2012) TWA: 10 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 10 mg/m^3 8 hours. Form: Total OSHA PEL Z-1 (United States, 2/2006) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 15 mg/m^3 8 hours. Form: Total
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls:	Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Masonry Cement with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Masonry Cement, garments should be removed and replaced with clean, dry clothing. Remove protective equipment and saturated clothing before entering eating areas.

PPE

Eye/face protection:	To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet cement. Wearing contact lenses when working with cement is not recommended.
Hand protection:	Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Masonry Cement inside gloves. Recommended material: Nitrile®
Body protection:	Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Masonry Cement. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Masonry Cement from getting inside them. Do not get Masonry Cement inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with cement and immediately wash exposed areas of the body.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.
Respiratory protection:	Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator.

Section 9. Physical and Chemical Properties

Physical State:	Solid. [Powder.]	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	2.7 to 3.15
pH (in water):	12 - 13	Solubility:	Slightly soluble in water.
Melting point:	Not available.	Solubility in water:	0.1 to 1%
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.

Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity: Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Masonry Cement is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity: Masonry Cement LD50/LC50 = Not available

Irritation/Corrosion: Skin: May cause serious burns in the presence of moisture.
Eyes: Causes serious eye damage. May cause burns in the presence of moisture.
Respiratory: May cause respiratory tract irritation.

Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Portland Cement Clinker	–	–	A4	–
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation
Lime	Category 3	Inhalation and skin contact	Respiratory tract irritation; skin irritation

Specific target organ toxicity (repeated exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:

Eye contact: Causes serious eye damage.
Inhalation: May cause respiratory irritation.
Skin contact: Causes severe burns. May cause an allergic skin reaction.
Ingestion: May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Adverse symptoms may include the following: pain, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, skin burns, ulcerations and necrosis may occur
Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity: There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability: There are no data available.

Bioaccumulation potential: There are no data available.

Mobility in soil: Soil/water partition coefficient (Koc): Not available.

Other adverse effects: No known significant effects or critical hazards.

Ecotoxicity: No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods: Salvage spilled cement material where possible. Uncontaminated cement material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: spillage. Ensure that persons transporting the product know what to do in the event of an accident or

Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code: Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This cement product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:
Portland Cement Clinker (65997-15-1)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Quartz (crystalline silica) (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Gypsum (7778-18-9)
U.S. - New Jersey - Right to Know Hazardous Substance List

Limestone (1317-65-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Lime (1305-78-8)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revision:	May 2015 - Revised Section(s) per HCS-GHS
Revision:	April 2017 – related to address

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Masonry Cement as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Masonry Cement to produce Masonry Cement products. Users should review other relevant material safety data sheets before working with this Masonry Cement or working on Masonry Cement products, for example, Masonry Cement concrete.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Masonry Cement to produce Masonry Cement products. Users should review other relevant safety data sheets before working with Masonry Cement or working on Masonry Cement products, for example, Masonry Cement concrete.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation

Safety Data Sheet

GHS – Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Safety Data Sheet

Plastic Cement

Section 1. Identification

Product identifier:	Plastic Cement
Other means of identification:	Masonry N Masonry S Masonry M Plastic (Stucco) S Plastic (Stucco) M Mortar S Mortar N PCL S PCL N White Masonry Colored Masonry
Chemical name:	Calcium compounds, calcium silicate compounds, and other calcium compounds containing iron and aluminum make up the majority of this product.
Relevant Uses:	Building materials, construction application, a basic ingredient in concrete.
Manufacturers Name:	CEMEX
Address:	10100 Katy Freeway, Suite 300 Houston, TX 77043 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1 SINGLE TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements:

Hazard pictograms:

GHS05 GHS07 GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage

May cause cancer (Inhalation, Dermal).
May cause damage to organs (eye, lung/respiratory system, Skin) through prolonged or repeated exposure (Dermal, Inhalation)

Precautionary Statements:

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Do not breathe dust
Wash clothing, hands, forearms and face thoroughly after handling
Contaminated work clothing must not be allowed out of the workplace
Wear eye protection, protective clothing, protective gloves
If swallowed: rinse mouth. Do NOT induce vomiting
If on skin: Wash with plenty of soap and water
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water
If inhaled: Remove person to fresh air and keep comfortable for breathing
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If exposed or concerned: Get medical advice/attention
Immediately call a doctor or POISON CENTER
Get medical advice/attention if you feel unwell
Specific treatment (see Section 4 this label)
If skin irritation or rash occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
Wash contaminated clothing before reuse
Dispose of contents/container to comply with local/regional/national regulations

Other Hazards:

Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture: Masonry Cement - mixture

Chemical name: Calcium compounds; calcium silicates and calcium oxides make up the majority of this product – calcium compounds can contain small amounts or iron and aluminum.

Ingredient Name	% Content	CAS number
Portland Cement Clinker	40 - 80	65997-15-1
Gypsum	4 - 9	7778-18-9
Limestone	25 - 45	1317-65-3
Lime	0 – 15	1305-78-8
Quartz (crystalline silica)	0 - 4.5	14808-60-7
Hexavalent chromium*	*	18450-29-9

Any concentration shown as a range is to protect confidentiality or is due to process variation.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

Description of necessary first aid measures:

General: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Eye contact: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove

	any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Masonry Cement requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Get medical attention immediately. Heavy exposure to Masonry Cement dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Masonry Cement. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical treatment and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe dust. Provide adequate ventilation.
Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general occupational hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

Conditions for safe storage: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Portland Cement Clinker	ACGIH TLV (United States, 3/2012). TWA: 1 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m3 10 hours. Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m^3 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m^3 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust
Gypsum	ACGIH TLV (United States, 3/2012) TWA: 10 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 10 mg/m^3 8 hours. Form: Total OSHA PEL Z-1 (United States, 2/2006) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 15 mg/m^3 8 hours. Form: Total
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls:	Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Masonry Cement with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Masonry Cement, garments should be removed and replaced with clean, dry clothing. Remove protective equipment and saturated clothing before entering eating areas.

PPE

Eye/face protection:	To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet cement. Wearing contact lenses when working with cement is not recommended.
Hand protection:	Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Masonry Cement inside gloves. Recommended material: Nitrile®
Body protection:	Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Masonry Cement. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Masonry Cement from getting inside them. Do not get Masonry Cement inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with cement and immediately wash exposed areas of the body.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.
Respiratory protection:	Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator.

Section 9. Physical and Chemical Properties

Physical State:	Solid. [Powder.]	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	2.7 to 3.15
pH (in water):	12 - 13	Solubility:	Slightly soluble in water.
Melting point:	Not available.	Solubility in water:	0.1 to 1%
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.

Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity: Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Masonry Cement is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity: Masonry Cement LD50/LC50 = Not available

Irritation/Corrosion: Skin: May cause serious burns in the presence of moisture.
Eyes: Causes serious eye damage. May cause burns in the presence of moisture.
Respiratory: May cause respiratory tract irritation.

Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Portland Cement Clinker	–	–	A4	–
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation
Lime	Category 3	Inhalation and skin contact	Respiratory tract irritation; skin irritation

Specific target organ toxicity (repeated exposure):

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:

Eye contact: Causes serious eye damage.
Inhalation: May cause respiratory irritation.
Skin contact: Causes severe burns. May cause an allergic skin reaction.
Ingestion: May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Adverse symptoms may include the following: pain, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, skin burns, ulcerations and necrosis may occur
Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity: There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability: There are no data available.

Bioaccumulation potential: There are no data available.

Mobility in soil: Soil/water partition coefficient (Koc): Not available.

Other adverse effects: No known significant effects or critical hazards.

Ecotoxicity: No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods: Salvage spilled cement material where possible. Uncontaminated cement material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: spillage. Ensure that persons transporting the product know what to do in the event of an accident or

Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code: Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This cement product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:
Portland Cement Clinker (65997-15-1)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Quartz (crystalline silica) (14808-60-7)
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U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Gypsum (7778-18-9)
U.S. - New Jersey - Right to Know Hazardous Substance List

Limestone (1317-65-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Lime (1305-78-8)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy): April 2017

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Masonry Cement as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Masonry Cement to produce Masonry Cement products. Users should review other relevant material safety data sheets before working with this Masonry Cement or working on Masonry Cement products, for example, Masonry Cement concrete.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Masonry Cement to produce Masonry Cement products. Users should review other relevant safety data sheets before working with Masonry Cement or working on Masonry Cement products, for example, Masonry Cement concrete.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
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Safety Data Sheet

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SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Safety Data Sheet

Portland Cement

Section 1. Identification

Product identifier:	Portland Cement
Other means of identification:	Cement, hydraulic cement CEMEX Type I CEMEX Type II CEMEX Type I/II CEMEX Type III CEMEX Type II/V CEMEX Type V CEMEX Type IA CEMEX Type I/II Low Alkali CEMEX Type II Low Alkali CEMEX Type III Low Alkali CEMEX Type V Low Alkali CEMEX Type II/V Low Alkali CEMEX Class A CEMEX Class C CEMEX Class H White Cement
Chemical name:	Calcium compounds, calcium silicate compounds, and other calcium compounds containing iron and aluminum make up the majority of this product.
Relevant Uses:	Building materials, construction application, a basic ingredient in concrete.
Manufacturers Name:	CEMEX
Address:	10100 Katy Freeway, Suite 300 Houston, TX 77043 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1

GHS label elements:

Hazard pictograms:

GHS05 GHS07 GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage May cause cancer (Inhalation, Dermal).

Precautionary Statements:	Obtain special instructions before use Do not handle until all safety precautions have been read and understood Do not breathe dust Wash clothing, face, hands thoroughly after handling Contaminated work clothing must not be allowed out of the workplace Wear eye protection, protective clothing, protective gloves If swallowed: rinse mouth. Do NOT induce vomiting If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower If inhaled: Remove person to fresh air and keep comfortable for breathing If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If exposed or concerned: Get medical advice/attention Immediately call a doctor Specific treatment (see Section 4 on this label) If skin irritation or rash occurs: Get medical advice/attention Take off contaminated clothing and wash it before reuse Wash contaminated clothing before reuse Dispose of contents/container to comply with local/regional/national regulations
Other Hazards:	Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture:	Portland Cement - mixture
Chemical name:	Calcium compounds; calcium silicates and calcium oxides make up the majority of this product – calcium compounds can contain small amounts or iron and aluminum.

Ingredient Name	% Content	CAS number
Portland Cement Clinker	81 - 96	65997-15-1
Gypsum	4 - 9	7778-18-9
Limestone	0 - 5	1317-65-3
Granulated Blast Furnace Slag	0 - 5	65996-69-2
Kiln Bag House Dust	0 – 5	69012-63-1
Lime Kiln Dust	0 – 2	1305-78-8
Quartz (crystalline silica)	0 - 0.1	14808-60-7
Hexavalent chromium*	*	18450-29-9

Any concentration shown as a range is to protect confidentiality or is due to process variation.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

Description of necessary first aid measures:

General:	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Eye contact:	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove

	any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Portland Cement requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Get medical attention immediately. Heavy exposure to Portland Cement dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Portland Cement. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical treatment and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate NIOSH Approved respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe dust. Provide adequate ventilation.
Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate NIOSH Approved respirator when ventilation is inadequate.
Advice on general	Eating, drinking and smoking should be prohibited in areas where this material is handled,

occupational hygiene: stored and processed. Workers should wash hands and face before eating, drinking and smoking.

Conditions for safe storage: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Portland Cement Clinker	ACGIH TLV (United States, 3/2012). TWA: 1 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m3 10 hours. Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m^3 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m^3 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust
Gypsum	ACGIH TLV (United States, 3/2012) TWA: 10 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 10 mg/m^3 8 hours. Form: Total OSHA PEL Z-1 (United States, 2/2006) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 15 mg/m^3 8 hours. Form: Total
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls: Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Portland Cement with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Portland Cement, garments should be removed and replaced with clean, dry clothing. Remove protective equipment and saturated clothing before entering eating areas.

PPE

Eye/face protection:	To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet cement. Wearing contact lenses when working with cement is not recommended.
Hand protection:	Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Portland Cement inside gloves. Recommended material: Nitrile®
Body protection:	Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Portland Cement. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Portland Cement from getting inside them. Do not get Portland Cement inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with cement and immediately wash exposed areas of the body.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.
Respiratory protection:	Use a properly fitted, particulate filtering NIOSH Approved respirator if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator.

Section 9. Physical and Chemical Properties

Physical State:	Solid. [Powder.]	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	2.7 to 3.15
pH (in water):	12 - 13	Solubility:	Slightly soluble in water.
Melting point:	Not available.	Solubility in water:	0.1 to 1%
Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.

Flammability (solid, gas): Not applicable.

Section 10. Stability and Reactivity

Reactivity: Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Portland Cement is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity: Portland Cement LD50/LC50 = Not available

Irritation/Corrosion: Skin: May cause serious burns in the presence of moisture.
Eyes: Causes serious eye damage. May cause burns in the presence of moisture.
Respiratory: May cause respiratory tract irritation.

Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Portland Cement Clinker	–	–	A4	–
Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure): Product Not Classified

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation

Specific target organ toxicity (repeated exposure): Product Not Classified

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:

Eye contact: Causes serious eye damage.
Inhalation: May cause respiratory irritation.
Skin contact: Causes severe burns. May cause an allergic skin reaction.
Ingestion: May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Adverse symptoms may include the following: pain, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, skin burns, ulcerations and necrosis may occur
Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity: There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability: There are no data available.

Bioaccumulation potential: There are no data available.

Mobility in soil: Soil/water partition coefficient (Koc): Not available.

Other adverse effects: No known significant effects or critical hazards.

Ecotoxicity: No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods: Salvage spilled cement material where possible. Uncontaminated cement material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/ 78 and the IBC Code: Not Regulated.

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This cement product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:
Portland Cement Clinker (65997-15-1)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Quartz (crystalline silica) (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Gypsum (7778-18-9)
U.S. - New Jersey - Right to Know Hazardous Substance List

Limestone (1317-65-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revision:	May 2015 - Revised Section(s) per HCS-GHS
Revision:	April 2017 – related to address
Revision:	August 2019 – related to verbiage to reflect NIOSH Approved respirator(s)

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Portland Cement as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland Cement to produce Portland Cement products. Users should review other relevant material safety data sheets before working with this Portland Cement or working on Portland Cement products, for example, Portland Cement concrete.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland Cement to produce Portland Cement products. Users should review other relevant safety data sheets before working with Portland Cement or working on Portland Cement products, for example, Portland Cement concrete.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation
GHS – Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act

Safety Data Sheet

SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Slag Cement

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 08/15/2017 Revision date: 4/4/2018 HDR

SECTION 1: Identification

1.1. Identification

Product form : Mixtures

Product name : Slag Cement, Slag, Ground Granulated Blast Furnace Slag (GGBFS)

1.2. Recommended use and restrictions on use

Recommended use : Building materials, construction, a basic ingredient in concrete

1.3. Supplier

CEMEX
10100 Katy Freeway, Suite 300
Houston TX, 77043
T Customer Care 1-800-99-CEMEX
www.CEMEXUSA.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion/irritation Category 2	H315
Serious eye damage/eye irritation Category 1	H318
Carcinogenicity Category 2	H351
Specific target organ toxicity (single exposure) Category 3	H335

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS05 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer (Inhalation, oral)

Precautionary statements (GHS-US) :
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, protective gloves, face protection.
P302+P352 - If on skin: wash with plenty of foam.
P304+P340 - If inhaled: remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: get medical advice/attention.
P310 - Immediately call a POISON CENTER
P312 - Call a POISON CENTER if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS)
P332+P313 - If skin irritation occurs: get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up
P501 - Dispose of contents/container to in accordance with local/regional/international regulations.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : During handling, silica containing dusts may be formed. When the product is mixed with water, calcium hydroxide is produced in an alkaline reaction (PH 9-11).
Slag Cement-avoid exposure to acids in low pH environments. Product exposed directly to acids in a low pH environment (pH<5) may release hydrogen sulfide. Hydrogen sulfide is a hazardous, toxic and poisonous gas. Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Ground granulater blast furnace slag	(CAS No) 65996-69-2	95 - 100	Not classified
CALCIUM OXIDE	(CAS No) 1305-78-8	35 - 42	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
QUARTZ	(CAS No) 14808-60-7	0 - 5	Eye Irrit. 2A, H319 Carc. 1A, H350 STOT SE 3, H335 STOT RE 2, H373

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: get medical advice/attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Serious damage to eyes.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : FIRE :

Small Fire • Dry chemical, CO_2 or water spray.

Large Fire • Dry chemical, CO_2 , alcohol-resistant foam or water spray.

5.2. Specific hazards arising from the chemical

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Calcium Oxide (1305-78-8)		
ACGIH	ACGIH TWA (mg/m³)	2 mg/m³
ACGIH	Remark (ACGIH)	URT irr
OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
NIOSH	NIOSH IDLH (mg/m³)	25 mg/m³

Magnesium Oxide (1309-48-4)		
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³
NIOSH	NIOSH IDLH (mg/m³)	750 mg/m³
NIOSH	Remark (NIOSH)	Appendix D - Substances With No Established RELs

Quartz (14808-60-7)		
ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³ A2
ACGIH	Remark (ACGIH)	Lung Cancer; Silicosis
OSHA	OSHA PEL (TWA) (mg/m³)	50 µg/m³
OSHA	Remark (OSHA)	(3) See Table Z-3.
NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³ Ca
NIOSH	Remark (NIOSH)	See Appendix A

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves.
Do not get Cement Slag inside gloves. Recommended material: Nitrile®

Eye protection:

To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet cement. Wearing contact lenses when working with cement is not recommended.

Skin and body protection:

Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Cement Slag. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Blended Cement Slag from getting inside them. Do not get Cement Slag inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with cement and immediately wash exposed areas of the body. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory protection:

Use a NIOSH approved respirator if a risk assessment indicates the use of one is required. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator. When using a respirator, comply with governing regulatory agencies (OSHA, MSHA, etc,) as required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Fine powder
Color	:	Dark grey to white
Odor	:	Odorless.
Odor threshold	:	No data available
pH	:	10 Approximately
Melting point	:	1350 °C
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	Not applicable
Specific gravity / density	:	0.8 - 1.15 g/m³ Bulk
Solubility	:	No data available
Log Pow	:	No data available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	700 °C 1.5% on
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosion limits	:	Not applicable
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Alkaline materials for storage.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Causes skin irritation.
pH: 10 Approximately

Serious eye damage/irritation : Causes serious eye damage.
pH: 10 Approximately

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Suspected of causing cancer (Inhalation, oral).

Quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

TDG

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Calcium Oxide (1305-78-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Magnesium Oxide (1309-48-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Ground granulater blast furnace slag (65996-69-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Calcium Oxide (1305-78-8)
Listed on the Canadian DSL (Domestic Substances List)

Magnesium Oxide (1309-48-4)
Listed on the Canadian DSL (Domestic Substances List)

Ground granulater blast furnace slag (65996-69-2)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

15.3. US State regulations

Calcium Oxide (1305-78-8)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Magnesium Oxide (1309-48-4)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

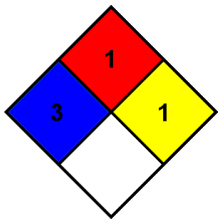
SECTION 16: Other information

Revision date	:	1/15/2018
Data sources	:	Environmental Health & Toxicology - National Library of Medicine [http://sis.nlm.nih.gov/enviro.html]. ECHA - http://apps.echa.europa.eu/registered/data/dossiers/DISS-9d9b1369-7454-687c-e044-00144f67d249/DISS-9d9b1369-7454-687c-e044-00144f67d249_DISS-9d9b1369-7454-687c-e044-00144f67d249.html; GESTIS - http://gestis-en.itrust.de/nxt/gateway.dll/gestis_en/000000.xml?f=templates$fn=default.htm$3.0; ChemIDPlus - http://chem.sis.nlm.nih.gov/chemidplus/rn/100-51-6; Sciencelab.com, Inc. MSDS dated May 21, 2013. GESTIS DNEL Database [http://dnel-en.itrust.de/nxt/gateway.dll/dnel_en/000000.xml?f=templates$fn=default.htm$vid=dneleng:ddbeng$3.0/].

Full text of H-phrases:

H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H401	Toxic to aquatic life

NFPA health hazard	:	3 - Materials that, under emergency conditions, can cause serious or permanent injury.
NFPA fire hazard	:	1 - Materials that must be preheated before ignition can occur.
NFPA reactivity	:	1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



HMIS III Rating

Health	:	3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability	:	0 Minimal Hazard - Materials that will not burn
Physical	:	1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

SDS US (GHS HazCom 2012)

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Cement Slag as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Cement Slag to produce Cement Slag products. Users should review other relevant material safety data sheets before working with this Cement Slag or working on Cement Slag products, for example, Cement Slag concrete. SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Cement Slag to produce Cement Slag products. Users should review other relevant safety data sheets before working with Cement Slag or working on Cement Slag products, for example, Cement Slag.

SECTION I: PRODUCT IDENTIFICATION

SPEC MIX, LLC
1230 Eagan Industrial Rd. Ste 160
Eagan, MN 55121

Emergency Telephone Number INFOTRAC (800) 535-5053
Information Telephone Number (888) 773-2649

Revised: May-18
SDS SM2

Product Name	Item #(s)
Core Fill Masonry Grout – Coarse	(CF-02)
Core Fill Masonry Grout – Fine	(CF-03)
Self Consolidating Grout – Fine	(SC-02)
Self Consolidating Grout – Coarse	(SC-03)

Product Use: Portland cement-based, masonry grouts for filling the cores of concrete masonry units or for backfilling voids

SECTION II - HAZARD IDENTIFICATION

Hazard-determining components of labeling: Silica, Portland cement
2.1 Classification of the substance or mixture
Carcinogen – Category 1A
Skin Corrosion – Category 1B
Skin Sensitization – Category 1B
Specific Target Organ Toxicity Repeat Exposure – Category 1
Specific Target Organ Toxicity: Single Exposure – Category 3

2.2a Signal word DANGER!

2.2b Hazard Statements
May cause cancer through chronic inhalation
Causes severe skin burns and serious eye damage
May cause an allergic skin reaction
Causes damage to lungs through prolonged or repeated inhalation
May cause respiratory irritation
Harmful if swallowed

2.2c Pictograms

2.2d Precautionary statements
Do not handle until all safety precautions have been read and understood.
Wear impervious gloves, such as nitrile. Wear eye protection and protective clothing.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Use in a well-ventilated area. Wear a NIOSH approved respirator (mask) such as N95 in poorly ventilated areas, when used for extended times, when use is frequent, or when permissible exposure limits may be exceeded.

Do not breathe dust.

If swallowed: Rinse mouth. Do NOT induce vomiting.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on skin (or hair): Remove immediately all contaminated clothing and wash before re-use. Rinse skin or hair with water.
If significant skin irritation or rash occurs: get medical advice or attention.
Immediately seek medical advice or attention if symptoms are significant or persist.

Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/containers in accordance with all regulations.

2.3 The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns.

Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr (VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

2.3a HNOC – Hazards not otherwise classified: Not applicable

2.3b Unknown Acute Toxicity: None

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	% by Weight
Sand, Silica, Quartz	14808-60-7	40-70*
Portland Cement	65997 15 1	10-30*
Fly Ash	68131-74-8	5-10*

***The concentrations ranges are provided due to batch-to-batch variability.**
None of the constituents of this material are of unknown toxicity.

SECTION IV – FIRST AID MEASURES

4.1 Description of the first-aid measures
General information:
After inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. In case of unconsciousness, place patient stably in side position for transportation.
After skin contact: Wash skin with cool water and pH-neutral soap or a mild detergent. If significant skin irritation or rash occurs: get medical advice or attention.
After eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed
Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Skin burns and irritation may be caused from brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 Indication of immediate medical attention and special treatment needed:
Immediately seek medical advice or attention if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

5.1 Flammability of the Product: Non-flammable and non-combustible
5.2 Suitable extinguishing agents: Treat for surrounding material
5.3 Special hazards arising from the substance or mixture: None
5.3a Products of Combustion: None
5.3b Explosion Hazards in Presence of Various Substances: Non-explosive in presence of shocks

SECTION VI – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See section VIII). Keep unprotected persons away.

6.2 Methods and material for containment and cleaning up:
Do not allow to enter sewers/ surface or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

7.1 Handling
Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8).Do

not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

7.2 Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep out of the reach of children. Keep container tightly closed and prevent exposure to humidity. Do not allow water to contact the product until time of use to preserve product utility.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

8.1 Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS No.	PEL (OSHA) mg/M^3	TLV (ACGIH) mg/M^3
Silica Sand, crystalline	14808-60-7	0.1	0.025 (resp)
Portland Cement	65997-15-1	5 (resp) 15 (total)	10 (resp)
Fly Ash	68131-74-8	N/A	N/A

8.2 Exposure Controls
Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 General protective and hygienic measures
Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

8.3a Personal protective equipment

Protection of hands:
Wear gloves of adequate length to offer appropriate skin protection from splashes. Nitrile, Butyl and PVC gloves have been found to offer adequate protection for incidental contact. Precautions must be observed because burns occur with little warning -- little heat is sensed.

Eye protection:
Wear approved eye protection (properly fitted dust- or splash-proof chemical safety glasses.

Respiratory protection:
A NIOSH-approved dust mask or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional, following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

General Information	
Appearance	**Form: Granular Solid**
	Color: Gray to gray-brown colored
	Odor: None
pH-value at 20°C (68 °F):	**13 (10%)**
Boiling point/Boiling range:	**Not applicable**
Flash point:	**Not applicable**
Auto igniting:	**Product is not self-igniting**
Vapor pressure at 21°C (70°F)	**Not available**
Density at 25°C (77 °F):	**2.6 to 3.15**
Solubility in / Miscibility with Water:	**Insoluble**
VOC content:	**0 g/L VOC**

SECTION X – STABILITY AND REACTIVITY

10.1 Reactivity
No dangerous reaction known under conditions of normal use.
10.2 Chemical stability
Stable under normal storage conditions. Keep in dry storage.
10.3 Possibility of hazardous reaction
No dangerous reaction known under conditions of normal use.
10.4 Thermal decomposition / conditions to be avoided
No decomposition if used according to specifications.
10.5 Incompatible materials
Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires
10.6 Hazardous Decomposition or By-products
Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

SECTION XI – TOXICOLOGICAL INFORMATION

11.1 Exposure Routes: Skin contact, skin adsorption, eye contact, inhalation, or ingestion.

11.2 Symptoms related to physical/chemical/toxicological characteristics:

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes severe skin burns. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause sensitization by skin contact. Product becomes

extremely alkaline when exposed to moisture, and can cause alkali burns and affect the mucous membranes.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: Harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

11.3 Delayed, immediate and chronic effects of short-term and long-term exposure
Short Term

Skin Corrosion/Irritation: Causes severe skin burns.
Serious Eye Damage/Irritation: Causes severe eye damage.
Respiratory Sensitization: Not available
Skin Sensitization: May cause an allergic skin reaction.
Specific Target Organ Toxicity-Single Exposure: (Category 3) May cause respiratory irritation.
Aspiration Hazard: Not available

Long Term

Carcinogenicity: May cause cancer through chronic inhalation.
Germ Cell Mutagenicity: Not available
Reproductive Toxicity: Not available
Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure
Synergistic/Antagonistic Effects: Not available.

SECTION XII – ECOLOGICAL INFORMATION

12.1 Ecotoxicity
May cause long-term adverse effects to the aquatic environment. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or un-neutralized

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential:
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

12.5 Other Adverse Effects

No further relevant information available.

SECTION XIII – DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Method
The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state and federal regulations.

13.2 Other disposal considerations
Uncleaned packaging
Recommendation: Disposal must be made in accordance with local, state and federal regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

14.1 Environmental hazards:
Not Available

14.2 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code
Not available

14.3 Special precautions for user
Do not handle until all safety precautions have been read and understood.

SECTION XV – OTHER REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical

Canada
WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS).

This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

15.2 US Federal Information

SARA 302/311/312/313 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.
RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.
CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.
Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.
FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).
NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.
OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.3 State Right to Know Laws

California Prop. 65 Components

WARNING: This product can expose you to chemicals including crystalline silica which is known to the State of California to cause cancer and hexavalent chromium compounds which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.
Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

15.4 Global Inventories

DSL All components of this product are on the Canadian DSL list.
TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.

SECTION XVI – OTHER INFORMATION

Last Updated: May 21, 2018

SPEC MIX, LLC 1230 Eagan Industrial Rd. Suite 160, Eagan, MN 55121 T 888.773.2649 F 651.454.5315

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by

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PRODUCT DATA SHEET

POLYFLEX TYPE 3

PART NO. 34521

OCTOBER 2021

READ BEFORE USING THIS PRODUCT

GENERAL

Crafco PolyFlex Type 3 sealant is a hot-applied, asphalt-based product used to fill cracks and joints in asphalt and Portland cement concrete pavements in warm to very hot climates. PolyFlex Type 3 is supplied in solid form which when melted and properly applied forms a highly adhesive and flexible compound that resists cracking in the winter and resists flow and pick-up at summer temperatures. PolyFlex Type 3 is used in highway, street, airfield, and parking lot pavements and is applied to pavement cracks using either pressure feed Melter applicators or pour pots. At application temperature, PolyFlex Type 3 is a medium viscosity product which flows and penetrates cracks. PolyFlex Type 3 is formulated as an economical yet effective pavement maintenance crack filler product. Compared to products based on reclaimed rubber, PolyFlex Type 3 offers lower viscosity for easier application, improved summer temperature pick-up resistance, quicker set-up times and improved low temperature flexibility. PolyFlex Type 3 has been a quality Crafco product for over 25 years. Several states have adopted specifications based on the performance of PolyFlex Type 3. VOC = 0 g/l.

SPECIFICATION CONFORMANCE

The Crafco recommended specification limits for PolyFlex Type 3 when heated in accordance with ASTM D5078 to the maximum heating temperature are as follows:

Test	Recommended Specification
Cone Penetration (ASTM D5329)	20-40
Resilience (ASTM D5329)	30% min.
Softening Point (ASTM D36)	210 °F (99 °C) min.
Ductility, 77 °F (25 °C) (ASTM D113)	30 cm min.
Flexibility, 1/8" (3.2 mm) specimen, 90° bend, 10 sec., 1" (25 mm) mandrel (ASTM D3111 Modified)	Pass at 30 °F (-1 °C)
Flow 140 °F (60 °C), 5 h (ASTM D5329)	3 mm max
Viscosity, 400 °F (204 °C) (ASTM D2669)	100 Poise max.
Asphalt Compatibility (ASTM D5329)	Pass
Bitumen Content (ASTM D4)	60% min
Tensile Adhesion, 1" (25.4 mm) thickness (ASTM D5329)	400% min.
Maximum Heating Temperature	400 °F (204 °C)
Minimum Application Temperature	380 °F (193 °C)

INSTALLATION

The unit weight of Crafco PolyFlex Type 3 is 10.5 lbs. per gallon (1.26 kg/L) at 60 °F (15.5 °C). Prior to use, the user must read and follow Installation Instructions for Hot-Applied RoadSaver, PolyFlex, Parking Lot and Asphalt Rubber Products to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each pallet of product.

PACKAGING

Product is supplied in either cardboard boxes, or in meltable boxless packaging. Both package types are labeled in accordance with OSHA, GHS, and specification requirements; are sold by net weight; are interlock stacked on 48 x 40 in. (122 x 102 cm) 4-way pallets; can be stored outside; and are covered with a weather resistant pallet cover and 2 layers of UV protected stretch wrap.

- **BOX** packaging consists of cardboard boxes containing 30 lbs. (13.6 kg) of product with 75 boxes per pallet, weighing approximately 2250 lbs. (1020 kg). Boxes contain a quick melting release film for easy removal and are taped closed, without any staples.
- **Meltable** packaging consists of approximately 30 lbs. (13.6 kg) completely meltable packages that are interlock stacked on pallets. To use, the pallet wrap is removed, and individual blocks are placed in the Melter. There are no individual cardboard boxes to open, empty, handle, or dispose of. Meltable packaging quickly melts into the product without affecting specification conformance. Meltable packaged sealant products are sold by the pallet only and individual packages are not indented for sale. For more details on meltable packaging go to https://crafco.com/materials-documentation/

WARRANTY

CRAFCO, Inc. warrants that CRAFCO products meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing or filling are beyond our control as are the use and application of the products; therefore, Crafco shall not be responsible for improperly applied or misused products. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be no other warranties expressed or implied. **For optimum performance, follow Crafco recommendations for product installation**

1. IDENTIFICATION

Product Identifier	Diesel Fuel
Synonyms:	Diesel Fuel, Motor Vehicle Diesel Fuel, Dyed Diesel, * DieselOne®, * DieselOne® w/Platinum Plus DFX, Low Sulfur Diesel (LSD), Ultra Low Sulfur Diesel (ULSD)
Intended use of the product:	Fuel
Contact:	Global Companies LLC Water Mill Center 800 South St. Waltham, MA 02454-9161 www.globalp.com
Contact Information:	EMERGENCY TELEPHONE NUMBER (24 hrs): CHEMTREC (800) 424-9300 COMPANY CONTACT (business hours): 800-542-0778

2. HAZARD IDENTIFICATION

According to OSHA 29 CFR 1910.1200 HCS

Classification of the Substance or Mixture

Classification (GHS-US):

Flam. Liquid	Category 3	H226
Skin Corrosion/Irritation	Category 2	H315
Aspiration Hazard	Category 1	H304
STOT SE	Category 3	H336
Carcinogenicity	Category 2	H350
Aquatic Chronic	Category 2	H411
Serious Eye Damage/ Irritation	Category 2B	H319

Labeling Elements

Signal Word (GHS-US):	**Danger**
Hazard Statements (GHS-US):	H226 – Flammable liquid and vapor. H315 – Causes Skin irritation. H304 – May be fatal if swallowed and enters airways. H336 – May cause drowsiness or dizziness. H350 – May cause cancer. H411 – Toxic to aquatic life with long lasting effects. H319 – May cause eye damage/irritation.
Precautionary Statements (GHS-US):	P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P233 - Keep container tightly closed. P240 – Ground/bond container and receiving equipment.

P241 – Use explosion-proof electrical/ventilating/lighting equipment pursuant to applicable electrical code.
P242 – Use only non-sparking tools.
P243 – Take precautionary measures against static discharge.
P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 – Wash skin thoroughly after handling.
P271 – Use only outdoors or in a well-ventilated area.
P273 – Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+361+353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse with water/shower.
P308+311 - If exposed or concerned: Get medical advice/attention.
P301+310 - If swallowed: Immediately call a poison center/doctor/…
P331 - Do NOT induce vomiting.
P370+P378 – In case of fire use firefighting foam or other appropriate media for Class B fires to extinguish.
P403+235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 – Dispose of contents/container in accordance with local/regional/national/international regulation.

Other information:

NFPA 704
Health: 1
Fire: 2
Reactivity: 0

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Composition Information
Mixture

Name	Product Identifier (CAS#)	% (w/w)	Classification
Diesel Fuel	68476-34-6	100	Flam Liq. 3, H226; Skin Irrit. 2, H315; Aspiration 1, H304; STOT SE 3, H336; Carc.2. H350; Aquatic chronic 2, H411
Naphthalene	91-20-3	<0.1	Carc. 2, H351; Acute Tox. 4, H302; Aquatic Acute 1, H400; Aquatic Chronic 1, H410

Additional Formulation Information:
Diesel Fuel consists of C9+ hydrocarbons resulting from distillation of crude oil.

Low Sulfur Diesel Fuel typically contains less than 500 ppm of sulfur

Ultra Low Sulfur Diesel Fuel typically contains less than 15 ppm of sulfur

4. FIRST AID MEASURES

Route	Measures
Inhalation	Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

Route	Measures
Ingestion	Aspiration Hazard: DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Ingestion may cause gastrointestinal disturbances including irritation, nausea, vomiting, and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory failure, and death.
Eye Contact	In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention. In case of contact lenses, remove immediately.
Skin Contact	Remove contaminated clothing and shoes. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and of the area of the body burned.

Most Important Symptoms
Contact with eyes and face may cause irritation. Long-term exposure may cause dermatitis (itching, irritation, pain and swelling).

Inhalation may cause irritation and significant or long term exposure could cause respiratory insufficiency and pulmonary edema.

Ingestion may cause aspiration, gastrointestinal disturbance, and CNS effects.

Immediate Medical Attention and Special Treatment
For contact with skin or eyes, immediately wash or flush contaminated eyes with gently flowing water. If possible, irrigate each eye continuously with 0.9% saline (NS). If ingested, rinse mouth. Do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs).

If inhaled, administer oxygen or establish a patent airway if breathing is labored. Suction if necessary. Monitor closely, anticipate seizures. Consider orotracheal or nostracheal intubation of airway control if patient is unconscious or is in severe respiratory distress.

Discard any clothing or shoes contaminated as they may be flammable.

5. FIRE-FIGHTING MEASURES

Extinguishing Media
Foam, carbon dioxide, dry chemical are most suitable

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, C02, water spray, firefighting foam, or Halon. Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other firefighting equipment.

LARGE FIRES: Foam, carbon dioxide, dry chemical. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Specific Hazards / Products of Combustion
Moderate fire hazard when exposed to heat or flame with a very low flash point. Product is flammable and easily ignited when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Combustion may produce smoke, carbon monoxide and other products of incomplete combustion.

Special Precautions and Protective Equipment for Firefighters
Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied firefighting foam.

Fighting Equipment/Instructions
Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH- approved pressure-demand self-contained breathing apparatus with full face piece and protective clothing.

Refer to Section 9 for fire properties of this chemical including flash point, auto ignition temperature, and explosive limits.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY SPCC, SPILL CONTINGENCY or EMERGENCY PLAN.

Personal Precautions
Due to high vapor density, flammable / toxic vapors may be present in low lying areas, dikes, pits, drains, or trenches. Vapors may accumulate in low lying areas and reach ignitable concentrations. Ventilate the area. Use of non-sparking tools and intrinsically safe equipment is recommended. Potential for flammable atmosphere should be monitored using a combustible gas indicator positioned downwind of the spill area. Refer to Sections 2 and 7 for further hazard warnings and handling instructions.

Use appropriate personal protective equipment to prevent eye/skin contact and absorption. Use NIOSH approved respiratory protection, if warranted, to prevent exposures above permissible limits. Refer to Section 8. Contaminated clothing should not be near sources of ignition.

Emergency Measures
As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Consider wind direction. Secure all ignition sources (flame, spark, hot work, hot metal, etc.) from area. Evaluate the direction of product travel, diking sewers, etc. to confirm spill areas. Do not touch or walk-through spilled material. For large spills, isolate initial action distance downwind 1,000 ft. (300 m).

Environmental Precautions
Stop the spill to prevent environmental release if it can be done safely. Product is toxic to aquatic life. Take action to isolate environmental receptors including drains, storm sewers and natural water bodies. Keep on impervious surface if at all possible. Use water sparingly to prevent product from spreading. Foam and absorbents may be used to reduce / prevent airborne release.

Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Follow federal, state or local requirements for reporting environmental release where necessary. Refer to Section 15 for further information.

Containment and Clean-Up Methods
Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of firefighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with dry earth, sand or other non-combustible, inert oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container with clean, non-sparking tools for reclamation or disposal. Response and cleanup crews must be properly trained and must utilize proper protective equipment. Refer to Section 8 for appropriate protective equipment.

7. HANDLING AND STORAGE

USE ONLY AS A FUEL.
DO NOT SIPHON BY MOUTH.

Handling Precautions
Handle as a flammable liquid. Keep away from heat, sparks, and open flame. No smoking. Electrical equipment should be approved for classified area. Bond and ground containers during product transfer pursuant to NFPA 70 and API RP 2003 to reduce the possibility of static-initiated fire or explosion. Follow precautions to prevent static initiated fire.

Use good personal hygiene practices. Use only with protective equipment specified in Section 8. Avoid repeated and/or prolonged skin exposure. Use only outdoors or in well ventilated areas. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this

product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves. Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API RP 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

Storage

Large quantities of diesel fuel are stored in tanks or portable containers at an ambient storage temperature. Separate from incompatible chemicals (Refer to Section 10) by distance or secondary containment. Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers that are clearly labeled. Label all secondary containers that this material is transferred into with the chemical name and associated hazard(s). Empty product containers or vessels may contain flammable vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Storage tanks should have a venting system. If stored in small containers, the area should be well ventilated, away from ignition sources and protected from potential damage or vehicular traffic. Post “No Smoking” signs in product storage areas. This storage area should comply with NFPA 30 “Flammable and Combustible Liquid Code” or applicable building code. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 “Cleaning Mobile Tanks in Flammable and Combustible Liquid Service” and API RP 2015 “Safe Entry and Cleaning of Petroleum Storage Tanks”.

Incompatibles

Keep away from strong oxidizers, ignition sources and heat.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits

Component	CAS #	List	Value
Diesel Fuel	68476-34-6	ACGIH TLV-TWA	100 mg/m3*
Naphthalene	91-20-3	ACGIH TLV-TWA OSHA PEL ACGIH STEL	10 ppm 10 ppm 15 ppm

*Critical effects; Skin; A3; CNS impairment.

Engineering Controls

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Intrinsically safe equipment and non-sparking tools shall be used in circumstances where concentrations may exceed lower flammable limits. Grounding and bonding shall be used to prevent accumulation and discharge of static electricity. Emergency shower and eyewash should be provided in proximity to handling areas in the event of exposure to decontaminate.

Personal Protective Equipment

Exposure	Equipment
Eye / Face	Wear appropriate chemical protective glasses or goggles or face shields to prevent skin and eye contact especially caused from splashing.
Skin	Wear appropriate personal protective clothing to prevent skin contact. Gloves constructed of nitrile, neoprene or PVC are recommended when handling this material. Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure.

Exposure	Equipment
Respiratory	A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection and limitations. Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.
Thermal	Product is stored at ambient temperature. No thermal protection is required except for emergency operations involving actual or potential for fire. Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value	
Appearance	Clear or straw-colored liquid. May be dyed red for distribution.	
Odor	Mild characteristic petroleum distillate odor.	
Odor Threshold	<1 ppm	
pH	Not available	
Melting Point	-22 to -0.4 ˚F (-30 to -18 ˚C)	
Boiling Point Range	320 to 690 ˚F (160 to 366 ˚C)	
Flash Point	> 125.6 ˚F (52 ˚C) PMCC	
Evaporation Rate	Slow, varies with conditions	
Flammability	Flammable liquid (OSHA defined)	
Flammable Limits	0.6 % - 6.5%	
Vapor Pressure	0.009 psia @ 70 ˚F	
Vapor Density	> 1	(air=1)
Specific Gravity	0.83-0.86 @ 60 ˚F (16 ˚C)	(water=1)
Solubility	Insoluble in water; miscible with other petroleum solvents.	
Partition Coefficient (N-octanol/water)	Log Kow range of 3.3 to >.6.0	
Autoignition Temperature	494 ˚F (257 ˚C)	
Decomposition Temperature	When heated it emits acrid smoke and irritating vapors.	
Viscosity	<3 cSt	
Percent Volatiles	100	

10. STABILITY AND REACTIVITY

Stability
This is a stable material that is flammable liquid (OSHA/GHS hazard category 3). Stable during transport.

Reactivity
Material is not self-reacting. Flammable concentrations may be present in air. Compound can react with oxidizing materials.

Possibility of Hazardous Reactions
Hazardous polymerization will not occur.

Incompatibility
Keep away from strong oxidizers such as nitric and sulfuric acids.

Conditions to Avoid
Avoid high temperatures, open flames, sparks, static electricity, welding, smoking and other ignition sources.

Hazardous Decomposition Products
Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:
Acute Toxicity (Inhalation LC50)
Diesel Fuel (68476-34-6)
LC50 Inhalation Rat >6 mg/l/4h

Acute Toxicity (Dermal LD50)
Diesel Fuel (68476-34-6)
LD50 Dermal Rabbit >5000 mg/kg

Acute Toxicity (Oral LD50)
Diesel Fuel (68476-34-6)
LD50 Oral Rabbit >5000 mg/kg

Skin Corrosion/Irritation: Prolonged and repeated contact may cause skin irritation leading to dermatitis. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are exposed repeatedly.

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: OSHA: NO, IARC: Group 3, NTP: NO, ACGIH: NOIC:A3, NIOSH: NO

IARC: Group 3 – Not classifiable as to their carcinogenicity to humans ACGIH: A3 – Confirmed animal carcinogen with unknown relevance to humans

Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

IARC classifies whole diesel fuel exhaust particulates (byproduct of combustion of this material) carcinogenic to humans (Group 1) and NIOSH regards diesel fuel exhaust particulate as a potential occupational carcinogen.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Specific Target Organ Toxicity (Single Exposure): Inhalation exposure may cause drowsiness or dizziness by inhalation exposure.

Aspiration Hazard: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Potential Health Effects: Vapor irritating to skin, eyes, nose, and throat. Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of

combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

12. ECOLOGICAL INFORMATION

Toxicity:
This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

Data for Component: Diesel Fuel (68476-34-6)

Material is toxic to aquatic organisms based on an acute basis (LC50/EC50 >1 but ≤ 10 mg/L in the most sensitive species tested).

Material is a long-term aquatic hazard based on a chronic basis (LC50/EC50 >1 but ≤ 10 mg/L in the most sensitive species tested).

Persistence and Degradation: This material is not expected to be readily biodegradable.

Bioaccumulative Potential: Not available

Mobility in Soil: Not available

Other Adverse Effects: None known

Other Information: Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Consult federal, state and local waste regulations to determine appropriate disposal options. May be considered a hazardous waste if disposed. Direct solid waste (landfill) or incineration at a solid waste facility is not permissible. Do not discharge to sanitary or storm sewer. Personnel handling waste containers should follow precautions provided in this document.

Shipping containers must be DOT authorized packages. Follow licensure and regulations for transport of hazardous material and hazardous waste as applicable.

14. TRANSPORT INFORMATION

US DOT

UN Identification Number	NA 1993
Proper Shipping Name	Diesel fuel
Hazard Class and Packing Group	3, PGIII
Shipping Label	Flammable liquid
Placard / Bulk Package	Flammable liquid, 1993
Emergency Response Guidebook Guide Number	128

This product may be re-classified as a “Combustible Liquid” meeting the definition in 49 CFR 173.120 unless transported by vessel or aircraft.
Specific placard requirements must be met for shipments of this product as a Combustible Liquid by rail (See 49 CFR 172.332).
Non-bulk packages (<= 119 gal) of Combustible Liquids in package sizes less than the product reportable quantity are not regulated as hazardous materials if the material does not meet any other hazard class.

IATA Information

UN Identification Number	UN 1202
Proper Shipping Name	Diesel fuel
Hazard Class and Packing Group	3, PGIII
ICAO Label	3
Packing Instructions Cargo	310
Max Quantity Per Package Cargo	220L
Packing Instructions Passenger	309Y
Max Quantity per Package Passenger	60L

ICAO

UN Identification Number	UN 1202
Shipping Name / Description	Diesel fuel
Hazard Class and Packing Group	3, PG III
IMDG Label	3

IMDG

UN Identification Number	UN 1202
Shipping Name / Description	Diesel fuel
Hazard Class and Packing Group	3, PGIII
IMDG Label	3
EmS Number	F-E-S-E
Marine Pollutant	Yes

15. REGULATORY INFORMATION

U.S. Federal, State, and Local Regulatory Information
Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other federal, state, or local regulations; consult those regulations applicable to your facility/operation.

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning And Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	Yes
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

Clean Water Act (Oil Spills)
Any spill or release of this product to “navigable waters” (Essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practical, the U.S. Coast Guard with follow up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA Section 103 and SARA Section 304 (Release to the Environment)
The CERCLA definition of hazardous substances contains a “petroleum exclusion” clause which exempts this material. This product does not contain any chemicals subject to the reporting requirements of CERCLA Section 103 or SARA 304.

SARA Section 313- Supplier Notification
This product does not contain any chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

EPA Notification (Oil Spills)
If the there is a discharge of more than 1,000-gallons of oil into or upon navigable waters of the United States, or if it is the second spill event of 42 gallons or more of oil into water within a twelve (12) month period, a written report must be submitted to the Regional Administrator of the EPA within sixty days of the event.

Pennsylvania Right to Know Hazardous Substance list:
The following product components are cited in the Pennsylvania Special Hazardous Substance List, and are present at levels which require reporting.

Component	CAS	Amount
Diesel Fuel	68476-34-6	100%

New Jersey Right to Know Hazardous Substance list:
The following product components are cited in the New Jersey Right to Know Hazardous Substance List, and are present at levels which require reporting.

Component	CAS	Amount
Diesel Fuel	68476-34-6	100%

California Proposition 65 WARNING: This product contains chemicals known to the State of California to cause Cancer or Reproductive Toxicity.

Component	CAS	Amount
Naphthalene	91-20-3	<0.1%

U.S. Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

Canadian Regulatory Information (WHMIS)
Class B3 – Combustible Liquid
Class D2A – Materials causing other toxic effects. (Very Toxic)

16. OTHER INFORMATION

Version	5
Issue Date	June 26, 2019
Prior Issue Date	May 20, 2016

Description of Revisions
Update viscosity information in Section 9. Update transportation information in Section 14 to clarify US DOT re-classification option as a Combustible Liquid.

Abbreviations

˚F	Degrees Fahrenheit (temperature)
<	Less than
=	Equal to
>	Greater than
AP	Approximately
C	Centigrade (temperature)
kg	Kilogram
L	Liter
mg	Milligrams
mL	Milliliter
mm^2	Square millimeters
mmHg	Millimeters of mercury (pressure)
N/A	Not applicable
N/D	Not determined
ppm	Parts per million
sec	Second
ug	Micrograms

Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
AL	Action Level
ANSI	American National Standards Institute
API	American Petroleum Institute
CAS	Chemical Abstract Service
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
EC50	Ecological concentration 50%
EPA	U.S. Environmental Protection Agency
ERPG	Emergency Response Planning Guideline
GHS	Global Harmonized System

HMIS	Hazardous Materials Information System
IARC	International Agency for Research On Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
Koc	Soil Organic Carbon
LC50	Lethal concentration 50%
LD50	Lethal dose 50%
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association
NIOSH	National Institute of Occupational Safety and Health
NOIC	Notice of Intended Change
NTP	National Toxicology Program
OPA	Oil Pollution Act of 1990
OSHA	U.S. Occupational Safety & Health Administration
PEL	Permissible Exposure Limit (OSHA)
RCRA	Resource Conservation and Recovery Act Reauthorization Act of 1986 Title III
REL	Recommended Exposure Limit (NIOSH)
RVP	Reid Vapor Pressure
SARA	Superfund Amendments and
SCBA	Self Contained Breathing Apparatus
SPCC	Spill Prevention, Control, and Countermeasures
STEL	Short Term Exposure Limit (generally 15 minutes)
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average (8 hr.)
UN	United Nations
UNECE	United Nations Economic Commission for Europe
WEEL	Workplace Environmental Exposure Level (AIHA)
WHMIS	Canadian Workplace Hazardous Materials Information System

Disclaimer of Expressed and Implied Warranties

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

** End of Safety Data Sheet **

GuardTop® Asphalt Based Sealcoat Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

Product form:	Liquid
Substance name:	GuardTop® Asphalt Based Sealcoat
Synonyms:	Asphalt Based Emulsion

Manufacturer

GuardTop LLC
30012 Ivy Glenn Dr., Suite 145
Laguna Niguel, CA 92677
(949) 218-4319

Emergency telephone number

CHEMTREC (800) 424-9300

Section 2: Hazards identification

Classification of the substance or mixture:

Eye Irritant	Category 2A
Skin Corrosion/Irritation	Category 2
Respiratory/Skin Sensitizer	Category 1
Carcinogenicity	Category 1A
Specific target organ toxicity, Repeated exposure	Category 2

Signal Word: WARNING

Hazard Statements

- May cause skin and eye irritation.
- Fumes from heated material may be irritating.
- Aspiration hazard if swallowed.
- Substance may be harmful if swallowed irritating mouth, throat and/or stomach.
- Prolonged or excessive inhalation may cause respiratory tract irritation.
- Vapors may have a strong offensive odor which may cause headaches, nausea and vomiting.
- Symptoms of overexposure include: fatigue, tearing of eyes, burning sensation in the throat, cough, chest discomfort and skin irritation.
- Respirable crystalline silica-containing dust may be generated when working with dried product. Wet methods are recommended for any handling of dried material. Use personal protection and controls identified in Section 8 of this SDS as appropriate.

Precautionary Statements

- Obtain and read instructions before use.

- Do not handle until all safety precautions have been read and understood.
- Exposure to hot material may cause thermal burns.

Section 3: Composition/information on ingredients

Chemical Name	Amount	CAS Number
Asphalt	< = 20.0%	8052-42-4
Water	< = 35.0%	7732-18-5
Aggregate Blend	< = 43.0%	14808-60-7
Carbon Black	> = 1.0%	1333-86-4
Hydrogen Sulfide	> 0.05%	7783-06-4
Cellulose Fiber	> = 1.0%	Mixture

Section 4: First aid measures

First-aid measures general: Get prompt medical attention. Dilute with water. If solidified, treat as neat asphalt.

First-aid measures after inhalation: At elevated temperatures, may cause irritation of the respiratory tract. Although this product is not known to cause respiratory problems, if breathing is difficult, safely remove victim to fresh air and provide oxygen. Get immediate medical attention.

First-aid measures after skin contact: Wash skin with soap and water. Wear protective gloves to minimize skin contamination. For hot material exposure, DO NOT attempt to remove solidified material from the skin. DO NOT attempt to dissolve with solvents or thinners. Medical attention may be required for removal.

First-aid measures after eye contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. Burns due to contact with heated material require immediate medical attention.

First-aid measures after ingestion: Get immediate medical attention. Do not induce vomiting due to danger of aspirating liquid into lungs. Gastric lavage may be required.

Most important symptoms and effects, both acute and delayed

Eyes: Irritation

Skin: Irritation

Inhalation: Irritation

Chronic Effects: Unlikely with normal use.

Section 5: Firefighting measures

Extinguishing media

Suitable extinguishing media: Use alcohol foam, Class "B" extinguisher, carbon dioxide or water spray when fighting fires involving this material. Avoid using straight water streams.

Unsuitable extinguishing media: Exercise care when using water as contact with hot asphalt products - may produce steam and violent foaming.

Special hazards arising from the substance or mixture

Fire hazard: Product is an aqueous solution. Heated product may produce hazardous fumes, decomposition products or residues. Small quantities of hydrogen sulfide may be released upon heating.

Explosion hazard: None

Reactivity: Avoid contact with strong bases.

Advice for firefighters

Firefighting instructions: Decomposition may produce fumes, smoke, oxides of carbon, hydrocarbons, and possible small quantities of hydrogen sulfide. Avoid breathing vapors from heated material. Combustion may produce CO, NOx, Sox, and reactive hydrocarbons.

Protection during firefighting: As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH approved and full protective gear.

Section 6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures

General measures: Clean up spills immediately using appropriate personal protective equipment.

For non-emergency personnel

Protective equipment: Gloves, safety glasses with side and brow shield, boots.

Emergency procedures: Absorb spills with absorbent material. Contain spilled liquid with sand or earth.

For emergency responders

Protective equipment: Gloves, safety glasses with side and brow shield, boots.

Emergency procedures: Stop the source of the leak or release. Clean up releases as soon as possible.

Environmental precautions

Prevent contamination of soil, surface water or groundwater.

Methods for containment/clean up

Absorb spills with inert material. Contain spilled liquid with sand or earth. Contain liquid to prevent contamination of soil, surface water or groundwater. Large spillage should be dammed-off and pumped into containers.

Section 7: Handling and storage

Precautions for safe handling

Shelf Life:	30 Days @ 50 - 120 degrees F (in original, sealed containers) not indirect sunlight.
Additional hazards when processed:	When handling hot material, use protective clothing impervious to this material. Respirable crystalline silica-containing dust may be generated when working with dried product. Wet methods are recommended for any handling of dried material. Use personal protection and controls identified in Section 8 of this SDS as appropriate.
Precautions for safe handling:	Use good Hygiene measures: wash exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.
Storage conditions:	Do not store at temperatures above 120 degrees F.

Section 8: Exposure controls/personal protection

Engineering Controls:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Avoid confined spaces. Cutting, grinding, or impacting should be done under wet methods or other system to contain dust particles
Eye/Face Protection Requirements:	Where contact with this material is likely, eye protection with side and brow shields is recommended.
Skin Protection Requirements:	Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation and potential exposure.
Respiratory Protection Requirements:	Where there is potential for airborne exposure more than applicable limits, wear NIOSH/MSHA approved respiratory protection.

Exposure Guidelines:

Hydrogen Sulfide:	NIOSH REL	C 10 ppm, 15 mg/m3 (10 min.)
	OSHA PEL	C 20 ppm, 50 ppm (10 min.)
Sodium Hydroxide	NIOSH REL	2 mg/m3
	OSHA PEL	2 mg/m3
	TWA	2 mg/m3
Asphalt Cement Fumes	TWA	0.5 mg/m3

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	Brown to Black
Odor:	Asphalt Odor
pH:	8.5-10.0
Melting point:	0 C
Freezing point:	0 C
Specific Gravity:	1.2-1.5 (Water=1)
Boiling point:	212 degrees F @ 760 mm Hg
Flash point:	None
UEL:	N/A
LEL:	N/A
Vapor pressure:	Same as water mm Hg @ 70 degrees F
Solubility:	Soluble in water
%Volatiles:	<35% @ 70 degrees F @ 760 mm Hg
VOC:	<1

Section 10: Stability and reactivity

Reactivity:	Low
Chemical stability:	This compound is stable at ambient conditions.
Possibility of hazardous reactions:	Low
Conditions to avoid:	Avoid extreme temperatures.
Incompatible materials:	Avoid contact with strong bases.
Hazardous decomposition product:	Decomposition will not occur if handled and stored properly.
Polymerization:	Hazardous polymerization will not occur.

Section 11: Toxicological information

Skin corrosion:	May cause irritation and a rash with prolonged or repeated contact with skin.
Serious eye damage/irritation:	Irritating, may injure eye tissue if not removed promptly.
Respiratory or skin sensitization:	Repeated contact may cause skin irritation, prolonged inhalation may cause respiratory tract irritation.
Germ cell mutagenicity:	None
Carcinogenicity:	

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by OSHA.

Reproductive toxicity:	This product contains one or more chemicals known to cause reproductive harm.
Specific target organ toxicity (single exposure):	Skin and/or respiratory irritation, mild.
Specific target organ toxicity (repeated exposure):	Skin, respiratory, kidney and liver.
Aspiration hazard:	Respiratory distress because of aspiration.
Symptoms/injuries after inhalation:	Prolonged inhalation may be harmful. Respiratory tract irritation, cough, chest discomfort.
Symptoms/injuries after eye contact:	Eye tearing, irritation, burns if contact made with heated material.
Symptoms/injuries after ingestion:	Harmful if swallowed, irritating to mouth, throat, and stomach.

Section 12: Ecological information

Environmental Hazards

This material should be prevented from uncontrolled applications to soil or earth. This material should be prevented from entering storm water, sewage drainage systems and bodies of water.

Section 13: Disposal considerations

Waste Disposal:	This product, as supplied, when discarded or disposed of, may be a hazardous waste according to Federal regulations (40 CFR 261). Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine whether the material is a hazardous waste subject to RCRA. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements. Avoid disposal into wastewater treatment facilities.
Contaminated Materials:	Treat as product waste.
Container Disposal:	Unclean empty containers should be disposed of in the same manner as the contents.

Section 14: Transport information

Product Label:	Guard Top Asphalt Based Emulsion
UN Number:	Non-hazardous, no UN number
DOT Shipping Name:	Non-Regulated, Water Based Asphalt Emulsion
DOT Hazard Class:	Non-Hazardous

Section 15: Regulatory information

EEC Symbols and Indications of Danger:	Irritant (Xi)
R-Phrases:	R36/37/38 – Irritating to eyes, respiratory system, and skin.
WHMIS Hazard Symbols:	Class D – Irritant
CERCLA Hazardous Substances:	HYDROGEN SULFIDE (CAS 7783-06-4) – RQ 100 lb.
California Proposition 65:	This product contains one or more chemicals known to the State of California to cause cancer and/or reproductive harm.
Clean Air Act – Section 112:	
Title V:	HYDROGEN SULFIDE (7783-06-4)
SC Toxic Air Pollutants List:	HYDROGEN SULFIDE (7783-06-4)
Sara Title II – Section 313:	There are no known ingredients in sufficient quantity to be subject to reporting.
TSCA Inventory Status:	All ingredients of this product are listed.

Section 16: Other information

Indication of changes

NFPA health hazard:	1
NFPA fire hazard:	0
NFPA reactivity:	0
Personal Protection Index:	1

HMIS III Rating

Health:	1
Flammability:	0
Reactivity:	0
Special Hazard:	None

Cold Pour Crack Filler by GuardTop®
Product Specification

Cold Pour Crack Filler by GuardTop®

GuardTop Crack Filler Product Specification
A rubberized asphalt emulsion with greater flexibility designed for sealing narrow pavement cracks up to 1" in width in asphalt and concrete surfaces. It has resilient characteristics that allow self threading or memory. It has excellent flow properties and no pinholing. GuardTop Crackfiller is ready to use on roadways, parking lots, airports, athletic courts, driveways, traffic safety islands, playgrounds and walkways.

Surface Preparation
Surface must be dry and free from all loose material, dirt and dust.

Application
Mix well before using, Use as is. Fill cracks completely. It can be applied with a pour pot or suitable crack sealing machine. Scrape excess from surfaces (use rubber squeegee), and allow to cure completely before sealing with a mechanical applicator. To promote adhesion to coal tar or asphalt emulsion type pavement sealer, sprinkle silica sand to avoid tracking when climate conditions are extremely hot.

Coverage per Gallon
Indefinite - For estimation purpose – up to 80 linear feet of ½" X ½" depth cracks.

Caution
KEEP FROM FREEZING. Do not use when rain is in forecast, when surface is wet or when temperature is below 50ºF. Wash tools in water. Use paint thinner if material has dried. Do not store in direct sunlight or where temperatures exceed 100ºF. Container should be closed when not in use. Keep out of the reach of children. Wherever low temperature flexibility is required (due to expansion and contraction) use Allstates' Super-Flex® (ALT – 654).

Packaging
1 gallon jugs, 5 gallon pails and 55 gallon drums.

Meets or exceeds the following specifications:

Weight per gallon, ASTM D1010	9.20 - 9.60
Nonvolatile %, ASTM D2939	68
Viscosity, ASTM D562	85 - 95
Penetration (0.1 mm), ASTM D5	50 - 60
Application Temp. (°F)	50 min.
Preparation Before use	stir or shake
Std. Spec. for Emulsified Asphalt	
AASHTO Designation M140-70	meets spec.
ASTM Designation D977-69	meets spec.
ASTM Designation D244	meets spec.

Cold Pour Crack Filler by GuardTop®
Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

Product form: Liquid
Substance name: Cold Pour Crack Filler by GuardTop®
Synonyms: Pavement Crack and Joint Sealer

Manufacturer
GuardTop LLC
30012 Ivy Glenn Dr., Suite 145
Laguna Niguel, CA 92677
(949) 218-4319

Emergency telephone number
CHEMTREC (800) 424-9300

Section 2: Hazards identification

Classification of the substance or mixture:

Eye Irritant	Category 2A
Skin Corrosion/Irritation	Category 2
Respiratory/Skin Sensitizer	Category 1
Carcinogenicity	Category 1A
Specific target organ toxicity, Repeated exposure	Category 2

Signal Word: WARNING

Hazard Statements

- May cause skin and eye irritation.
- Fumes from heated material may be irritating.
- Aspiration hazard if swallowed.
- Substance may be harmful if swallowed irritating mouth, throat and/or stomach.
- Prolonged or excessive inhalation may cause respiratory tract irritation.
- Vapors may have a strong offensive odor which may cause headaches, nausea and vomiting.
- Contact with heated material may cause eye burns and permanent tissue damage.
- Symptoms of overexposure include: fatigue, tearing of eyes, burning sensation in the throat, cough, chest discomfort and skin irritation.
- Hot material may cause thermal burns.

Precautionary Statements

- Obtain and read instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Exposure to hot material may cause thermal burns.

Section 3: Composition/information on ingredients

Chemical Name	Amount	CAS Number
Asphalt	40-45%	8052-42-4
Water	30-35%	7732-18-5
Compounded Clay	10.0%	Mixture
Hydrogen Sulfide	0-0.5%	7783-06-4
Emulsifier	<3.5%	Trade Secret
Latex	1.0-15%	Trade Secret

Section 4: First aid measures

First-aid measures general: Get prompt medical attention. Dilute with water. If solidified, treat as neat asphalt.

First-aid measures after inhalation: At elevated temperatures, may cause irritation of the respiratory tract. Although this product is not known to cause respiratory problems, if breathing is difficult, safely remove victim to fresh air and provide oxygen. Get immediate medical attention.

First-aid measures after skin contact: Wash skin with soap and water. Wear protective gloves to minimize skin contamination. For hot material exposure, DO NOT attempt to remove solidified material from the skin. DO NOT attempt to dissolve with solvents or thinners.

First-aid measures after eye contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. Burns due to contact with heated material require immediate medical attention.

First-aid measures after ingestion: Get immediate medical attention. Do not induce vomiting due to danger of aspirating liquid into lungs. Gastric lavage may be required.

Most important symptoms and effects, both acute and delayed

Eyes: Irritation

Skin: Irritation

Inhalation: Irritation

Chronic Effects: Unlikely with normal use.

Section 5: Firefighting measures

Extinguishing media

Suitable extinguishing media: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

Unsuitable extinguishing media: Exercise care when using water as contact with hot asphalt product may produce steam and violent foaming.

Special hazards arising from the substance or mixture

Fire hazard:	Product is an aqueous solution. Heated product may produce hazardous fumes, decomposition products or residues. Small quantities of hydrogen sulfide may be released upon heating.
Explosion hazard:	None
Reactivity:	Avoid contact with strong bases.

Advice for firefighters

Firefighting instructions:	Decomposition may produce fumes, smoke, oxides of carbon, hydrocarbons and possible small quantities of hydrogen sulfide. Avoid breathing vapors from heated material. Combustion may produce CO, NOx, SOx and reactive hydrocarbons.
Protection during firefighting:	As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH approved and full protective gear.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures:	Clean up spills immediately using appropriate personal protective equipment.

For non-emergency personnel

Protective equipment:	Gloves, safety glasses with side and brow shield, boots.
Emergency procedures:	Absorb spills with absorbent material. Contain spilled liquid with sand or earth.

For emergency responders

Protective equipment:	Gloves, safety glasses with side and brow shield, boots.
Emergency procedures:	Stop the source of the leak or release. Clean up releases as soon as possible.

Environmental precautions

Prevent contamination of soil, surface water or groundwater.

Methods for containment/clean up

Absorb spills with absorbent materials. Contain spilled liquid with sand or earth. Contain liquid to prevent contamination of soil, surface water or groundwater. Large spillage should be dammed-off and pumped into containers.

Section 7: Handling and storage

Precautions for safe handling:

Shelf Life:	30 Days @ 50-120 degrees F (in original, sealed containers).
Additional hazards when processed:	When handling hot material, use protective clothing impervious to this material.
Precautions for safe handling:	Use good Hygiene measures: wash exposed areas with mild soap and water before eating, drinking or smoking and again when leaving work.
Storage conditions:	Do not store at temperatures above 120 degrees F.

Section 8: Exposure controls/personal protection

Engineering Controls:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Eye/Face Protection Requirements:	Where contact with this material is likely, eye protection with side and brow shields is recommended. Cutting, grinding, or impacting should be done under wet methods or other system to contain dust particles.
Skin Protection Requirements:	Selection of specific items such as gloves, boots, apron or full-body suit will depend on operation and potential exposure.
Respiratory Protection Requirements:	Where there is potential for airborne exposure in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

Exposure Guidelines

Hydrogen Sulfide:	NIOSH REL	C 10 ppm, 15 mg/m3 (10 min.)
	OSHA PEL	C 20 ppm, 50 ppm (10 min.)

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	Brown to Black
Odor:	Asphalt Odor
pH:	10-11.5
Melting point:	0 C
Freezing point:	0 C
Specific Gravity:	1.4-1.7 (Water=1)
Boiling point:	100 degrees C @ 760 mm Hg
Flash point:	None
UEL:	N/A
LEL:	N/A
Vapor pressure:	Same as water mm Hg @ 21 degrees C
Solubility:	Soluble in water
%Volatiles:	<35% @ 21 degrees C @ 760 mm Hg
VOC:	<1

Section 10: Stability and reactivity

Reactivity:	Low
Chemical stability:	This compound is stable at ambient conditions.
Possibility of hazardous reactions:	Low
Conditions to avoid:	Avoid extreme temperatures.
Incompatible materials:	Avoid contact with strong bases.
Hazardous decomposition product:	Decomposition will not occur if handled and stored properly.
Polymerization:	Hazardous polymerization will not occur.

Section 11: Toxicological information

Skin corrosion:	May cause irritation and a rash with prolonged or repeated contact with skin.
Serious eye damage/irritation:	Irritating, may injure eye tissue if not removed promptly.
Respiratory or skin sensitization:	Repeated contact may cause skin irritation, prolonged inhalation may cause respiratory tract irritation.
Germ cell mutagenicity:	None
Carcinogenicity:	IARC has determined Hydrochloric acid may be carcinogenic in humans.
Reproductive toxicity:	This product contains one or more chemicals known to cause reproductive harm.
Specific target organ toxicity (single exposure):	Skin and/or respiratory irritation, mild.
Specific target organ toxicity (repeated exposure):	Skin, respiratory, kidney and liver.
Aspiration hazard:	Respiratory distress as a result of aspiration.
Symptoms/injuries after inhalation:	Respiratory tract irritation, cough, chest discomfort.
Symptoms/injuries after eye contact:	Eye tearing, irritation. Burns if contact made with heated material.
Symptoms/injuries after ingestion:	Harmful if swallowed, irritating to mouth, throat and stomach.

Section 12: Ecological information

Environmental Hazards

This material should be prevented from uncontrolled applications to soil or earth. This material should be prevented from entering storm water, sewage drainage systems and bodies of water.

Section 13: Disposal considerations

Waste Disposal:	This product, as supplied, when discarded or disposed of, may be a hazardous waste according to Federal regulations (40 CFR 261). Under the Resource Recovery Act (RCRA), it is the responsibility of the user of the product to determine whether the material is a hazardous waste subject to RCRA. Treat or dispose of waste material in accordance with all local, state/provincial and national requirements. Avoid disposal into wastewater treatment facilities.
Contaminated Materials:	Treat as product waste.
Container Disposal:	Unclean empty containers should be disposed of in the same manner as the contents.

Section 14: Transport information

Product Label:	Cold Pour Crack Filler
UN Number:	Non-hazardous, no UN number
DOT Shipping Name:	Non Regulated, Water Based Asphalt Emulsion
DOT Hazard Class:	Non-Hazardous

Section 15: Regulatory information

EEC Symbols and Indications of Danger:	Irritant (Xi)
R-Phrases:	R36/37/38 – Irritating to eyes, respiratory system and skin.
WHMIS Hazard Symbols:	Class D – Irritant
CERCLA Hazardous Substances:	HYDROGEN SULFIDE (CAS 7783-06-4) – RQ 100 lb.
California Proposition 65:	This product contains one or more chemicals known to the State of California to cause cancer and/or reproductive harm.
Clean Air Act – Section 112:	
Title V:	HYDROGEN SULFIDE (7783-06-4)
SC Toxic Air Pollutants List:	HYDROGEN SULFIDE (7783-06-4)
Sara Title II – Section 313:	There are no known ingredients subject to reporting.
TSCA Inventory Status:	All ingredients of this product are listed.

Section 16: Other information

Indication of changes

NFPA health hazard:	1
NFPA fire hazard:	1
NFPA reactivity:	0
Personal Protection Index:	1

HMIS III Rating

Health:	1
Flammability:	1
Reactivity:	0
Special Hazard:	None

IMPORTANT*: The information presented herein, while not guaranteed, is true and accurate to the best of our knowledge.* ***NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE.*** *This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and GuardTop LLC. assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer.*

Black Elixir Rapid Dry Additive by GuardTop®
Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

Product form:	Liquid
Substance name:	Black Elixir Rapid Dry Additive by GuardTop®
Synonyms:	Asphalt Sealer Rapid Dry Additive

Manufacturer
GuardTop LLC
30012 Ivy Glenn Dr., Suite 145
Laguna Niguel, CA 92677
(949) 218-4319

Emergency telephone number
CHEMTREC (800) 424-9300

Section 2: Hazards identification

Classification of the substance or mixture:	Eye Irritant	Category 2A
	Skin Corrosion/Irritation	Category 3

Signal Word: WARNING

Hazard Statements

- May be harmful if swallowed.
- May cause mild skin irritation.
- Will cause eye irritation in the event of eye exposure.

Precautionary Statements

- Obtain and read instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Exposure to hot material may cause thermal burns.

Section 3: Composition/information on ingredients

Chemical Name	Amount	CAS Number
Acrylic Polymer	<45.00%	NA Mixture
Asphalt Residual	<10.00%	08052-42-4
Methanol	<2.0%	67-56-1
Carbon Black	<5.0%	1333-86-4

Section 4: First aid measures

First-aid measures general: Remove from contaminated area.

First-aid measures after inhalation: If breathing is difficult, remove to fresh air, give oxygen. Get immediate medical attention.

First-aid measures after skin contact: Wash skin with soap and water. Wear protective glove to minimize skin contamination.

First-aid measures after eye contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. Burns due to contact with heated material require immediate medical attention.

First-aid measures after ingestion: If conscious, give two glasses of water or milk. Get immediate medical attention. Do not induce vomiting due to danger of aspirating liquid into lungs. Gastric lavage may be required.

Most important symptoms and effects, both acute and delayed

Eyes: Irritation

Skin: Irritation

Inhalation: Irritation

Chronic Effects: No known hazards in normal industrial use.

Section 5: Firefighting measures

Extinguishing media

Suitable extinguishing media: Dry chemical, carbon dioxide, water spray or foam.

Unsuitable extinguishing media: Exercise care when using water as contact with hot asphalt products may produce steam and violent foaming.

Special hazards arising from the substance or mixture

Fire hazard: Product is an aqueous solution. Heated product may produce hazardous fumes, decomposition products or residues. Small quantities of hydrogen sulfide may be released upon heating.

Explosion hazard: None

Reactivity: Avoid contact with strong bases.

Advice for firefighters

Firefighting instructions: Decomposition may produce fumes, smoke, oxides of carbon and hydrocarbons and possible small quantities of hydrogen sulfide. Avoid breathing vapors from heated material. Combustion may produce CO, NOx, Sox and reactive hydrocarbons.

Protection during firefighting: As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH approved and full protective gear.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures: Clean up spills immediately using appropriate personal protective equipment.

For non-emergency personnel

Protective equipment: Gloves, safety with side shields, boots.

Emergency procedures: Absorb spills with absorbent material. Contain spilled liquid with sand or earth.

For emergency responders

Protective equipment: Gloves, safety glasses with side shields, boots.

Emergency procedures: Stop the source of the leak or release. Clean up releases as soon as possible.

Environmental precautions

Prevent contamination of soil, surface water or groundwater.

Methods for containment/clean up

Absorb spills with inert material and place into separate waste container. Contain spilled liquid with sand or earth. Contain liquid to prevent contamination of soil, surface water or groundwater. Large spillage should be dammed-off and pumped into containers.

Section 7: Handling and storage

Precautions for safe handling

Use only as directed in well ventilated area. Avoid prolonged contact with skin. Avoid contact with eyes. Avoid breathing mist or vapors. Do not eat, smoke, or drink with contaminated hands. Do not discard into sewers or drains. Always wear personal protective equipment.

Storage conditions: Keep all containers tightly sealed. Do not store in direct sunlight. Store at room temperature.

Section 8: Exposure controls/personal protection

Engineering Controls:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Eye/Face Protection Requirements:	Where contact with this material is likely, eye protection is recommended.
Skin Protection Requirements:	Selection of specific items such as gloves, boots, apron or full-body suit will depend on operation and potential exposure.
Respiratory Protection Requirements:	Where there is potential for airborne exposure in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

Exposure Guidelines:

Methanol	OSHA PEL	200 mg/M3
Asphalt Residual	OSHA PEL	5 mg/M3
Carbon Black	OSHA PEL	3.5 mg/M3

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	Brown to Black
Odor:	Asphalt Odor
pH:	7-8
Freezing point:	32 degrees F
Specific Gravity:	1.4-1.7 (Water=1)
Boiling point:	212 degrees F
Flash point:	None
UEL:	N/A
LEL:	N/A
Vapor pressure:	Same as water mm Hg @ 21 degrees C
Solubility:	Soluble in water
Decomposition temperature:	275 degrees F
Viscosity:	78 KU's

Section 10: Stability and reactivity

Reactivity:	Low
Chemical stability:	This compound is stable at ambient conditions.
Possibility of hazardous reactions:	Low
Conditions to avoid:	Avoid extreme temperatures.
Incompatible materials:	Avoid contact with strong bases.
Hazardous decomposition product:	Decomposition will not occur if handled and stored properly.
Polymerization:	Hazardous polymerization will not occur.

Section 11: Toxicological information

None Tested

Section 12: Ecological information

Environmental Hazards

This product is considered to be biodegradable. There is no evidence to show that this product will cause adverse ecological effects on the environment.

Section 13: Disposal considerations

Waste Disposal:	This product, as supplied, when discarded or disposed of, may be a hazardous waste according to Federal regulations (40 CFR 261). Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine whether the material is a hazardous waste subject to RCRA. Treat or dispose of waste material in accordance with all local, state/provincial and national requirements. Avoid disposal into wastewater treatment facilities.
Contaminated Materials:	Treat as product waste.
Container Disposal:	Unclean empty containers should be disposed of in the same manner as the contents.

Section 14: Transport information

Product Label:	Asphalt Sealer Rapid Dry Additive
UN Number:	Non-hazardous, no UN number
DOT Shipping Name:	Non Regulated, Water Based Asphalt Emulsion
DOT Hazard Class:	Non-Hazardous

Section 15: Regulatory information

None

Section 16: Other information

Indication of changes

NFPA health hazard:	1
NFPA fire hazard:	0
NFPA reactivity:	0
Personal Protection Index:	1

HMIS III Rating

Health:	1
Flammability:	0
Reactivity:	0
Special Hazard:	None

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Hot Pour Crack Filler by GuardTop®
Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

Product form: Solid
Substance name: Hot Pour Crack Filler by GuardTop®
Synonyms: Pavement Crack and Joint Sealant

Manufacturer
GuardTop LLC
30012 Ivy Glenn Dr., Suite 145
Laguna Niguel, CA 92677
(949) 218-4319

Emergency telephone number
CHEMTREC (800) 424-9300

Section 2: Hazards identification

Classification of the substance or mixture:

Eye Irritant	Category 2A
Skin Corrosion/Irritation	Category 2
Respiratory/Skin Sensitizer	Category 1
Carcinogenicity	Category 1A
Specific target organ toxicity, Repeated exposure	Category 2

Signal Word: WARNING

Hazard Statements

- May cause skin and eye irritation.
- Fumes from heated material may be irritating.
- Aspiration hazard if swallowed.
- Substance may be harmful if swallowed irritating mouth, throat and/or stomach.
- Prolonged or excessive inhalation may cause respiratory tract irritation.
- Vapors may have a strong offensive odor which may cause headaches, nausea and vomiting.
- Contact with heated material may cause eye burns and permanent tissue damage.
- Symptoms of overexposure include: fatigue, tearing of eyes, burning sensation in the throat, cough, chest discomfort and skin irritation
- Hot material may cause thermal burns.

Precautionary Statements

- Obtain and read instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Exposure to hot material may cause thermal burns.

Section 3: Composition/information on ingredients

Chemical Name	Amount	CAS Number
Petroleum Asphalt	10-75%	8052-42-4
Petroleum Distillate	0-10%	64741-96-4
Mineral Filler	15-75%	1317-65-3
Vulcanized, Ground Rubber	5-30%	N/A
Styrene-Isoprene Copolymer	5-10%	25038-32-8
Polyester Fibers	1-8%	25038-59-9
Styrene-Butadiene Copolymer	5-20%	9003-55-8

Section 4: First aid measures

First-aid measures general: Get prompt medical attention. Dilute with water. If solidified, treat as neat asphalt.

First-aid measures after inhalation: At elevated temperatures, may cause irritation of the respiratory tract. Although this product is not known to cause respiratory problems, if breathing is difficult, safely remove victim to fresh air and provide oxygen. Get immediate medical attention.

First-aid measures after skin contact: Wash skin with soap and water. Wear protective gloves to minimize skin contamination. For hot material exposure, DO NOT attempt to remove solidified material from the skin. DO NOT attempt to dissolve with solvents or thinners. Seek medical attention, may be required for removal.

First-aid measures after eye contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. Burns due to contact with heated material require immediate medical attention. Do not attempt to remove cooled material from eye. Seek medical attention.

First-aid measures after ingestion: Get immediate medical attention. Do not induce vomiting due to danger of aspirating liquid into lungs. Gastric lavage may be required.

Most important symptoms and effects, both acute and delayed

Eyes: Irritation

Skin: Irritation

Inhalation: Irritation

Chronic Effects: Unlikely with normal use.

Section 5: Firefighting measures

Extinguishing media

Suitable extinguishing media: Use water, fine spray orfog, dry chemical, carbon dioxide or foam for fighting fires involving this material.

Unsuitable extinguishing media: Exercise care when using water as contact with hot asphalt products may produce steam and violent foaming.

Special hazards arising from the substance or mixture

Fire hazard: Product is an aqueous solution. Heated product may produce hazardous fumes, decomposition products or residues. This material may ignite when sufficient heat is applied. Upon burning, this product will generate dense black smoke.

Explosion hazard: None

Reactivity: Avoid contact with strong bases.

Advice for firefighters

Firefighting instructions: Decomposition may produce fumes, smoke, oxides of carbon and hydrocarbons. Avoid breathing vapors from heated material. Combustion may produce CO, NOx, Sox and reactive hydrocarbons.

Protection during firefighting: As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH approved and full protective gear.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures: Clean up spills immediately using appropriate personal protective equipment.

For non-emergency personnel

Protective equipment: Gloves, safety glasses with side and brow shield, boots.

Emergency procedures: Absorb spills with absorbent material. Contain spilled liquid with sand or earth.

For emergency responders

Protective equipment: Gloves, safety glasses with side and brow shield, boots.

Emergency procedures: Stop the source of the leak or release. Clean up releases as soon as possible.

Environmental precautions

Prevent contamination of soil, surface water or groundwater.

Methods for containment/clean up

Absorb spills with absorbent materials. Contain spilled liquid with sand or earth. Contain liquid to prevent contamination of soil, surface water or groundwater. Large spillage should be dammed-off and pumped into containers.

Section 7: Handling and storage

Precautions for safe handling:

Shelf Life:	Unheated material presents no known hazards. Observe good hygienic practices by thoroughly washing with soap and water before eating or using the restroom.
Additional hazards when processed:	When handling hot material, use protective clothing impervious to this material.
Precautions for safe handling:	Use good hygiene measures: wash exposed areas with mild soap and water before eating, drinking or smoking and again when leaving work.
Storage conditions:	Good general ventilation should be sufficient for most conditions.

Section 8: Exposure controls/personal protection

Engineering Controls:	Good general ventilation is recommended.
Eye/Face Protection Requirements:	Where contact with this material is likely, eye protection with side and brow shield is recommended. Cutting, grinding, or impacting should be done under wet methods or other system to contain dust particles
Skin Protection Requirements:	Selection of specific items such as gloves, boots, apron or full-body suit will depend on operation and potential exposure.
Respiratory Protection Requirements:	Where there is potential for airborne exposure in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.
General Hygiene Considerations:	When using do not smoke. Avoid contact with eyes, avoid contact with skin. Keep away from food and drink.
Thermal Burns:	During product use, there is a risk of thermal burns.

Exposure Guidelines

Components:	***Limit Value:***
Petroleum Asphalt	5 mg/m3
Petroleum Distillate	10 mg/m3
Mineral Filler	10 mg/m3
Styrene-Butadiene Copolymer	10 mg/m3
Vulcanized, Ground Rubber	N/A
Styrene-Isoprene Copolymer	10 mg/m3
Polyester Fibers	N/A

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Solid
Appearance:	Brown to Black
Odor:	Asphalt Odor
pH:	N/A
Melting point:	110 degrees C, 230 degrees F
Viscosity:	15-50 Poise
Specific Gravity:	1.10-1.30 (Water=1)
Boiling point:	>750 degrees F
Flash point:	>400 degrees F, >204 degrees C
UEL:	N/A
LEL:	N/A
Vapor pressure:	Not determined
Solubility:	Negligible
Auto-Ignition Temp:	>700 degrees F, >371 degrees C

Section 10: Stability and reactivity

Reactivity:	Low
Chemical stability:	This compound is stable at ambient conditions.
Possibility of hazardous reactions:	Low
Conditions to avoid:	Avoid extreme temperatures and oxidizers.
Incompatible materials:	Avoid contact with oxidizers.
Hazardous decomposition product:	Decomposition will not occur if handled and stored properly. Upon decomposition, product emits acrid dense smoke with carbon dioxide, carbon monoxide, trace oxides of nitrogen, sulfur and water.
Polymerization:	Hazardous polymerization will not occur.

Section 11: Toxicological information

Skin corrosion:	May cause irritation and a rash with prolonged or repeated contact with skin. Chronic exposure may defat skin.
Serious eye damage/irritation:	Irritating, may injure eye tissue if not removed promptly. Hot material may cause burn to eye. Do not remove cooled material, seek medical attention.
Respiratory or skin sensitization:	Repeated contact may cause skin irritation, prolonged inhalation may cause respiratory tract irritation.
Germ cell mutagenicity:	None
Carcinogenicity:	IARC has determined Asphalt may be carcinogenic in humans.
Reproductive toxicity:	No data available to indicate mutagenic or genotoxic hazard.
Specific target organ toxicity (single exposure):	Skin and/or respiratory irritation, mild.
Specific target organ toxicity (repeated exposure):	Skin, respiratory.
Aspiration hazard:	Respiratory distress as a result of aspiration.
Symptoms/injuries after inhalation:	Respiratory tract irritation, cough, chest discomfort.
Symptoms/injuries after eye contact:	Eye tearing, irritation. Burns if contact made with heated material.
Symptoms/injuries after ingestion:	Harmful if swallowed, irritating to mouth, throat and stomach.

Section 12: Ecological information

Environmental Hazards

This material should be prevented from uncontrolled applications to soil or earth. This material should be prevented from entering storm water, sewage drainage systems and bodies of water.

Section 13: Disposal considerations

Waste Disposal:	This product, as supplied, when discarded or disposed of, may be a hazardous waste according to federal regulations (40 CFR 261). Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine whether the material is a hazardous waste subject to RCRA. Treat or dispose of waste material in accordance with all local, state/provincial and national requirements. Avoid disposal into wastewater treatment facilities.
Contaminated Materials:	Treat as product waste.
Container Disposal:	Unclean, empty containers should be disposed of in the same manner as the contents.

Section 14: Transport information

Product Label:	Guard Top Crack Filler
UN Number:	Non-hazardous, no UN number when cool. When heated, ship as Elevated Temperature Liquid, N.O.S. (Asphalt), UN 3257, PG III, Class 9.
DOT Shipping Name:	Non Regulated, Water Based Asphalt Emulsion
DOT Hazard Class:	Non-Hazardous unless heated.
IATA:	Non-hazardous, elevated temperature material not permitted for transport.
IMDG:	Non-hazardous

Section 15: Regulatory information

EEC Symbols and Indications of Danger:	Irritant (Xi)
R-Phrases:	R36/37/38 – Irritating to eyes, respiratory system and skin
WHMIS Hazard Symbols:	Class D – Irritant
CERCLA Hazardous Substances:	No listing, this material in its solid form is not a hazardous substance and does not have a reportable quantity. However, if spilled in liquid form into the waters of the U.S., it may be reportable under the Clean Water Act.
California Proposition 65:	This product contains one or more chemicals known to the State of California to cause cancer and/or reproductive harm.
Sara Title II – Section 313:	There are no known ingredients subject to reporting. If heated there are immediate and chronic health hazards.
TSCA Inventory Status:	All ingredients of this product are listed.
State Regulations:	The following chemicals are known to be specifically listed by individual states. For details on each state requirement, contact the appropriate state agency.
Pennsylvania:	Right-to-Know (Asphalt Fumes)
Rhode Island:	Hazardous Substances List (Asphalt Fumes)
Florida:	Hazardous Substances List (Asphalt Fumes)
Minnesota:	Right-to-Know (Asphalt Fumes)
Massachusetts:	Right-to-Know (Asphalt Fumes, Mineral Oil, Petroleum Distillates including heavy Naphthenic.
New Jersey:	Right-to-Know (Asphalt Fumes)
Texas:	Air Contaminants Screening Level
Illinois:	Toxic Substance Disclosure to Employees List
California State:	Superfund Hazardous Substance
California Prop 65:	Carcinogens or Reproductive Toxins List: Asphalt fumes of distillates

Section 16: Other information

Indication of changes

NFPA health hazard:	1
NFPA fire hazard:	1
NFPA reactivity:	0
Personal Protection Index:	1

HMIS III Rating

Health:	1
Flammability:	1
Reactivity:	0
Special Hazard:	None

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Latex Additive by GuardTop®
Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

Product form: Solid
Substance name: Latex Additive by GuardTop®
Synonyms: Polymer Modifier

Manufacturer
GuardTop LLC
30012 Ivy Glenn Dr., Suite 145
Laguna Niguel, CA 92677
(877) 948-2738

Emergency telephone number
CHEMTREC (800) 424-9300

Section 2: Hazards identification

Classification of the substance or mixture: Not a hazardous substance or mixture.
Labelling (GHS): No labeling according to GHS is required.
Other hazards: No data available.

Section 3: Composition/information on ingredients

Chemical Name: Copolymer of vinyl acetate + ethylene (dispersion in water)
Information on Ingredients: This material does not contain any reportable hazardous ingredients.

Substances listed in the Subsections "California Proposition 65 Carcinogens/Reproductive Toxins" that are not listed in this section are only present at quantities below 0.1% for California Proposition 65 listed toxins or below 1% for non-carcinogenic or they are inextricably bound in the product.

Section 4: First aid measures

First-aid measures general: Get prompt medical attention if irritation or other symptoms occur. Before seeking medical attention, remove contaminated clothing and shoes. Take a copy of the Safety Data Sheet when going for medical treatment.
First-aid measures after inhalation: If inhaled as aerosol, remove to fresh air. No special measures required.
First-aid measures after skin contact: If in contact with skin, wash skin with plenty of water or with water and soap.
First-aid measures after eye contact: If material gets into eyes, immediately hold eyelids apart and flush with water for fifteen minutes.
First-aid measures after ingestion: For ingestion, if conscious, give several glasses of water but do not induce vomiting. If vomiting does occur, give additional fluids. Get medical attention if symptoms occur. Show label to medical personnel if possible.

Section 5: Firefighting measures

Flammable Properties: This product does not meet the definition of a flammable product. Dried material is combustible. This material does not present any unusual fire or explosion hazards.

Extinguishing media

Suitable extinguishing media: Use water fog, dry chemical, carbon dioxide or foam for fighting fires involving this material. Water may be used to cool tanks and structures adjacent to the fire.

Unsuitable extinguishing media: Not applicable.

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases: At low oxygen level, acetic acid.

Advice for firefighters

Firefighting procedures: Fire fighters should wear full protective clothing including a self-contained breathing apparatus.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures: Clean up spills immediately using appropriate personal protective equipment, if material is released, indicate risk of slipping.

Containment:

Prevent material from entering sewers or surface waters. Contain any fluid using earth or other suitable material. Spills of material which could reach surface waters must be reported to the United States Coast Guard National Response Center.

Methods for clean up:

Take up mechanically and dispose of according to local/state/federal regulations. For small amounts, absorb with a liquid binding material such as diatomaceous earth and dispose of according to local/state/federal regulations. Contain larger amounts and pump up into suitable containers. Clean up with plenty of water. Dispose of cleansing water in accordance with local/state/federal regulations.

Section 7: Handling and storage

Precautions for safe handling:

Precautions for safe handling: Avoid exposure by technical measures or personal protective equipment. Spilled substances increase risk of slipping. No special precautions against fire and explosion are required.

Use good hygiene measures: wash exposed areas with mild soap and water before eating, drinking or smoking and again when leaving work.

Storage conditions: Protect against frost. Minimum temperature allowed during storage and transportation is 0 degrees C or 32 degrees F.

Section 8: Exposure controls/personal protection

Engineering Controls: Good general ventilation is recommended. No special ventilation is required.

Eye/Face Protection Requirements: Where contact with this material is likely, eye protection is recommended.

Skin Protection Requirements: Any liquid-tight rubber or vinyl gloves. Additional skin protection, such as SARANEX coated Tyvek apron, over-sleeves, lab coat, coveralls or protective suit should be worn if splashing could occur. Provide safety shower and eyewash.

Respiratory Protection Requirements: Respiratory protection is not normally required.

General Hygiene Considerations: When using, do not smoke. Avoid contact with eyes, avoid contact with skin. Keep away from food and drink. Wash thoroughly after handling.

Exposure Guidelines

Components:	***Limit Value:***	
CAS #108-05-4 Vinyl Acetate	ACGIH TWA	10.0 PPM
	STEL	15 PPM

Carcinogenicity: A3 (ACGIH)

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	White
Odor:	Slight
pH:	5.0-6.5
Melting point:	Approx. 0.00 degrees C (32 degrees F)
Viscosity:	1300-2200 mPa.s at 25 degrees C (77 degrees F)
Specific Gravity:	1.05 g/cm3 (Water=1)
Boiling point:	Approx. 100 degrees C (212 degrees F)
Flash point:	Not applicable
UEL:	N/A
LEL:	N/A
Solubility:	Moderately soluble
Auto-Ignition Temp:	N/A

Section 10: Stability and reactivity

Reactivity:	Low
Chemical stability:	This compound is stable at ambient conditions.
Possibility of hazardous reactions:	Low
Conditions to avoid:	Do not store below freezing.
Incompatible materials:	None known.
Hazardous decomposition product:	Decomposition will not occur if handled and stored properly. Upon decomposition which would occur only at increased temperature, acetic acid.
Polymerization:	Hazardous polymerization will not occur.

Section 11: Toxicological information

Skin corrosion:	Skin irritation is not expected.
Serious eye damage/irritation:	Eye irritation is not expected.
Respiratory or skin sensitization:	No data available to indicate respirator or skin sensitization will occur.
Germ cell mutagenicity:	None
Carcinogenicity:	No data available to indicate carcinogenic hazard.
Reproductive toxicity:	No data available to indicate mutagenic or genotoxic hazard.
Specific target organ toxicity (single exposure):	Skin and/or respiratory irritation should not occur.
Specific target organ toxicity (repeated exposure):	No data available to indicate target organ toxicity.
Aspiration hazard:	No aspiration symptoms are expected.
Symptoms/injuries after inhalation:	Respiratory tract irritation, cough, chest discomfort.
Symptoms/injuries after eye contact:	Eye tearing, irritation.
Symptoms/injuries after ingestion:	No symptoms indicated in the event of ingestion.

Section 12: Ecological information

Environmental Hazards

No adverse effects are expected in the event or a spill involving this material. A polymer component is not readily biodegradable. Elimination by adsorption to activated sludge. Separation by flocculation is possible.

Section 13: Disposal considerations

Waste Disposal:	Dispose of according to regulations by incineration in a special waste incinerator. Small quantities may be disposed of by incineration in an approved facility. Observe local/state/federal regulations.
Contaminated Materials:	Treat as product waste. Recommended cleaning agent is water.
Container Disposal:	Unclean, empty containers should be disposed of in the same manner as the contents.

Section 14: Transport information

USDOT & Canada TDG Surface:	Not regulated for transport.
Transport by sea IMDG-Code:	Not regulated for transport.
Air transport ICAO-TI/IATA-DGR:	Not regulated for transport.

Section 15: Regulatory information

US Federal Regulations:

TSCA Inventory Status & TSCA Information:	This material or its components are listed on or are in compliance with the requirements of the TSCA Chemical Substance Inventory.
TSCA 12(b) Export Notification:	This material does not contain any TSCA 12 (b) regulated chemicals.
CERCLA Regulated Chemicals:	This material does not contain any CERCLA regulated chemicals.
SARA 302 EHS Chemicals:	This material does not contain any SARA extremely hazardous substances.
SARA 313 Chemicals:	This material does not contain any SARA 313 chemicals above de minimus levels.

U.S. State Regulations:

California Proposition 65 Carcinogens:	75-07-0 Acetaldehyde (Upper limit wt. % <0.0023) 50-00-0 Formaldehyde (Upper limit wt. % <0.0163)
California Proposition 65 Reproductive Toxins:	67-56-1 Methanol (Upper limit wt. % <0.0093)
Massachusetts Substance List:	This material contains no listed components.
New Jersey Right-to-Know Hazardous Substance List:	This material contains no listed components.
Pennsylvania Right-to-Know Hazardous Substance List:	This material contains no listed components.
Canadian Regulations:	This product has been classified in accordance with the Hazard criteria of the CPR and the SDS contains all the information required by the CPR.
WHMIS Hazard Classes:	None
Non-DSL Chemicals:	This material does not contain any non-DSL chemicals.

Section 16: Other information

Indication of changes

NFPA health hazard:	1
NFPA fire hazard:	1
NFPA reactivity:	0
Personal Protection Index:	1

HMIS III Rating

Health:	1
Flammability:	1
Reactivity:	0
Special Hazard:	None

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Oil Spot Primer by GuardTop®
Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

Product form: Solid
Substance name: Oil Spot Primer by GuardTop®
Synonyms: Concentrated Oil Spot Primer for Asphalt Surfaces

Manufacturer
GuardTop LLC
30012 Ivy Glenn Dr., Suite 145
Laguna Niguel, CA 92677
(949) 218-4319

Emergency telephone number
CHEMTREC (800) 424-9300

Section 2: Hazards identification

Classification of the substance or mixture: Not a hazardous substance or mixture.
Labelling (GHS): No labeling according to GHS is required.
Other hazards: No data available.

Section 3: Composition/information on ingredients

Chemical Name: Copolymer of vinyl acetate + ethylene (dispersion in water)
Information on Ingredients: This material does not contain any reportable hazardous ingredients.

Substances listed in the Subsections “California Proposition 65 Carcinogens/Reproductive Toxins” that are not listed in this section are only present at quantities below 0.1% for California Proposition 65 listed toxins or below 1% for non-carcinogenic or they are inextricably bound in the product.

Section 4: First aid measures

First-aid measures general: Get prompt medical attention if irritation or other symptoms occur. Before seeking medical attention, remove contaminated clothing and shoes. Take a copy of the Safety Data Sheet when going for medical treatment.
First-aid measures after inhalation: If inhaled as aerosol, remove to fresh air. No special measures required.
First-aid measures after skin contact: If in contact with skin, wash skin with plenty of water or with water and soap.
First-aid measures after eye contact: If material gets into eyes, immediately hold eyelids apart and flush with water for fifteen minutes.
First-aid measures after ingestion: For ingestion, if conscious, give several glasses of water but do not induce vomiting. If vomiting does occur, give additional fluids. Get medical attention if symptoms occur. Show label to medical personnel if possible.

Section 5: Firefighting measures

Flammable Properties: This product does not meet the definition of a flammable product. Dried material is combustible. This material does not present any unusual fire or explosion hazards.

Extinguishing media

Suitable extinguishing media: Use water, fine spray or fog, dry chemical, carbon dioxide or foam for fighting fires involving this material. Water may be used to cool tanks and structures adjacent to the fire.

Unsuitable extinguishing media: Sharp water jet.

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases: At low oxygen level, acetic acid.

Advice for firefighters

Firefighting procedures: Fire fighters should wear full protective clothing including a self-contained breathing apparatus.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures: Clean up spills immediately using appropriate personal protective equipment, if material is released, indicate risk of slipping.

Containment:

Prevent material from entering sewers or surface waters. Contain any fluid using earth or other suitable material. Spills of material which could reach surface waters must be reported to the United States Coast Guard National Response Center.

Methods for clean up:

Take up mechanically and dispose of according to local/state/federal regulations. For small amounts, absorb with a liquid binding material such as diatomaceous earth and dispose of according to local/state/federal regulations. Contain larger amounts and pump up into suitable containers. Clean up with plenty of water. Dispose of cleansing water in accordance with local/state/federal regulations.

Section 7: Handling and storage

Precautions for safe handling:

Precautions for safe handling:	Avoid exposure by technical measures or personal protective equipment. Spilled substances increase risk of slipping. No special precautions against fire and explosion are required. Use good hygiene measures: wash exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.
Storage conditions:	Protect against frost. Minimum temperature allowed during storage and transportation is 0 degrees C or 32 degrees F.

Section 8: Exposure controls/personal protection

Engineering Controls:	Good general ventilation is recommended. No special ventilation is required.
Eye/Face Protection Requirements:	Where contact with this material is likely, eye protection with side shields is recommended.
Skin Protection Requirements:	Any liquid-tight rubber or vinyl gloves. Additional skin protection, such as SARANEX coated Tyvek apron, over-sleeves, lab coat, coveralls or protective suit should be worn if splashing could occur. Provide safety shower and eyewash.
Respiratory Protection Requirements:	Respiratory protection is not normally required.
General Hygiene Considerations:	When using, do not smoke. Avoid contact with eyes, avoid contact with skin. Keep away from food and drink. Wash thoroughly after handling.

Exposure Guidelines

Components:	***Limit Value:***	
CAS #108-05-4 Vinyl Acetate	ACGIH TWA	10.0 PPM
	STEL	15 PPM

Carcinogenicity: A3 (ACGIH)

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	White
Odor:	Slight
pH:	5.0-6.5
Melting point:	Approx. 0.00 degrees C (32 degrees F)
Viscosity:	1300-2200 mPa.s at 25 degrees C (77 degrees F)
Specific Gravity:	1.05 g/cm3 (Water=1)
Boiling point:	Approx. 100 degrees C (212 degrees F)
Flash point:	Not applicable
UEL:	N/A
LEL:	N/A
Solubility:	Moderately soluble
Auto-Ignition Temp:	N/A

Section 10: Stability and reactivity

Reactivity:	Low
Chemical stability:	This compound is stable at ambient conditions.
Possibility of hazardous reactions:	Low
Conditions to avoid:	Do not store below freezing.
Incompatible materials:	None known.
Hazardous decomposition product:	Decomposition will not occur if handled and stored properly. Upon decomposition which would occur only at increased temperature, acetic acid.
Polymerization:	Hazardous polymerization will not occur.

Section 11: Toxicological information

Skin corrosion:	Skin irritation is not expected.
Serious eye damage/irritation:	Eye irritation is not expected.
Respiratory or skin sensitization:	No data available to indicate respirator or skin sensitization will occur.
Germ cell mutagenicity:	None
Carcinogenicity:	No data available to indicate carcinogenic hazard.
Reproductive toxicity:	No data available to indicate mutagenic or genotoxic hazard.
Specific target organ toxicity (single exposure):	Skin and/or respiratory irritation should not occur.
Specific target organ toxicity (repeated exposure):	No data available to indicate target organ toxicity.
Aspiration hazard:	No aspiration symptoms are expected.
Symptoms/injuries after inhalation:	Respiratory tract irritation, cough, chest discomfort.
Symptoms/injuries after eye contact:	Eye tearing, irritation.
Symptoms/injuries after ingestion:	No symptoms indicated in the event of ingestion.

Section 12: Ecological information

Environmental Hazards

No adverse effects are expected in the event or a spill involving this material. A polymer component is not readily biodegradable. Elimination by adsorption to activated sludge. Separation by flocculation is possible.

Section 13: Disposal considerations

Waste Disposal:	Dispose of according to regulations by incineration in a special waste incinerator. Small quantities may be disposed of by incineration in an approved facility. Observe local/state/federal regulations.
Contaminated Materials:	Treat as product waste. Recommended cleaning agent is water.
Container Disposal:	Unclean, empty containers should be disposed of in the same manner as the contents.

Section 14: Transport information

USDOT & Canada TDG Surface:	Not regulated for transport.
Transport by sea IMDG-Code:	Not regulated for transport.
Air transport ICAO-TI/IATA-DGR:	Not regulated for transport.

Section 15: Regulatory information

US Federal Regulations:

TSCA Inventory Status & TSCA Information:	This material or its components are listed on or are in compliance with the requirements of the TSCA Chemical Substance Inventory.
TSCA 12(b) Export Notification:	This material does not contain any TSCA 12 (b) regulated chemicals.
CERCLA Regulated Chemicals:	This material does not contain any CERCLA regulated chemicals.
SARA 302 EHS Chemicals:	This material does not contain any SARA extremely hazardous substances.
SARA 313 Chemicals:	This material does not contain any SARA 313 chemicals above de minimus levels.

U.S. State Regulations:

California Proposition 65 Carcinogens:	75-07-0 Acetaldehyde (Upper limit wt. % <0.0023) 50-00-0 Formaldehyde (Upper limit wt. % <0.0163)
California Proposition 65 Reproductive Toxins:	67-56-1 Methanol (Upper limit wt. % <0.0093)
Massachusetts Substance List:	This material contains no listed components.
New Jersey Right-to-Know Hazardous Substance List:	This material contains no listed components.
Pennsylvania Right-to-Know Hazardous Substance List:	This material contains no listed components.
Canadian Regulations:	This product has been classified in accordance with the Hazard criteria of the CPR and the SDS contains all the information required by the CPR.
WHMIS Hazard Classes:	None
Non-DSL Chemicals:	This material does not contain any non-DSL chemicals.

Section 16: Other information

Indication of changes

NFPA health hazard:	1
NFPA fire hazard:	1
NFPA reactivity:	0
Personal Protection Index:	1

HMIS III Rating

Health:	1
Flammability:	1
Reactivity:	0
Special Hazard:	None

IMPORTANT*: The information presented herein, while not guaranteed, is true and accurate to the best of our knowledge.* ***NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE.*** *This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and GuardTop LLC. assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer.*

SAFETY DATA SHEET

Prepared in accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200

SECTION 1: IDENTIFICATION

PRODUCT **TIRE RUBBER MODIFIED SURFACE SEAL**
SYNONYMS TRMSS
RECOMMENED USE Asphalt Sealer
RECOMMENDED RESTRICTIONS No Information Available

MANUFACTURER/IMPORTER/SUPPLIER/DISTIBUTOR INFORMATION

MANUFACTURER GuardTop, LLC
ADDRESS 30012 Ivy Glenn Dr., Suite 145
Laguna Niguel, CA 92677
WEBSITE www.guardtop.com
TELEPHONE 949-218-4319
24-HOUR EMERGENCY CHEMTREC North America 1-800-424-9300; International 1-703-527-3887

SECTION 2 : HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW This product is a tan to dark brown viscous liquid with a mild odor.
HEALTH HAZARDS Exposure to this product can be irritating to the eyes, respiratory system, and skin. Heated material can cause thermal burns. Heated material may liberate hydrogen sulfide. Long-term exposure to high concentrations of asphalt fumes may cause chronic bronchitis and pneumonitis.
ENVIRONMENTAL HAZARDS The environmental effects of this product have not been investigated. This material is not expected to be toxic to aquatic organisms.

LABEL ELEMENTS

US DOT Symbol

Non-Regulated

Canada (WHMIS)Symbol

European and GHS Hazard Symbol

Signal Word Warning!

GHS Hazard Classification(s) Acute Toxicity Inhalation Category 4
Hazard Statements H319: Causes serious eye irritation
H315: Causes skin irritation
H332: Harmful if inhaled
H335: May cause respiratory irritation
Precautionary Statements P260: Do not breathe dust/fume/gas/mist/vapors/spray
P264: Wash hands thoroughly after handling
P271: Use only in well-ventilated area
P280: Wear protective gloves/protective clothing/eye protection/face protection.
Hazard Symbol(s) Warning
* Harmful if Inhaled
Risk Phrases R26: Very toxic by inhalation
R36/37/38: Irritating to eyes, respiratory system and skin
Safety Phrases S24/25: Avoid contact with skin and eyes

S36: Wear suitable protective clothing
S37/39: Wear suitable gloves and eye/face protection
S45: In case of accident or if you feel unwell, seek medical advice immediately.

SUPPLEMENTAL INFORMATION

Vapors containing hydrogen sulfide may accumulate during storage or transport. HYDROGEN SULFIDE (H_2S) can be harmful or fatal if inhaled. H_2S is a flammable gas.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	COMMON NAME AND SYNONYMS	CAS NUMBER	PERCENT
WATER		7732-18-5	53-61
PETROLEUM ASPHALT	Bitumen, Asphalt, AsphaltCement	8052-42-4	30-38
GROUND TIRE RUBBER		133-86-4	5
NAPHTHENIC/AROMATIC OIL		64742-0407	<0.5
CARBON BLACK		1333-86-4	<0.3
ZINC OXIDE		1314-13-2	<0.05
SEPOLITE CLAY		63800-37-2	< 4.0
FATTY AMINE SALT		TSCA Listed	<0.5

COMPOSTION COMMENTS

Values do not reflect absolute minimums and maximums; these values are typical and may vary from time to time. Asphaltic materials can contain hydrogen sulfide, because it is naturally occurring in the crude oil from which asphalt is derived. Hydrogen sulfide can also be present as a byproduct of asphalt processing. This Safety Data Sheet is intended to communicate potential health hazards and potential physical hazards associated with the product(s) covered by this sheet, and it not intended to communicate product specific information.

SECTION 4 : FIRST-AID MEASURES

INHALATION

If respiratory symptoms develop from exposure to fumes, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is no breathing, clear airway and immediately begin artificial respiration. If breathing becomes difficult, oxygen should be administered by qualified personnel. Seek immediate medical attention.

SKIN CONTACT

If clothing sticks to the skin, do not remove. Lotion or hand cream may aid in the removal of asphalt. Wash contact areas with soap and water. If needed, seek medical attention.

EYE CONTACT

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. If irritation or redness develops from exposure to fumes, move victim away from exposure and into fresh air. Flush eyes with clean water.

INGESTION

Rinse mouth. DO NOT induce vomiting. Get medical attention immediately. If ingestion of a large amount does occur, call a poison control center immediately.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED

Direct contact with eyes may cause temporary irritation.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED
Treat symptomatically.

GENERAL INFORMATION
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA
Foam. Dry chemical powder. Carbon dioxide (CO_2).

UNSUITABLE EXTINGUISHING MEDIA
Water. Do not use water jet as an extinguisher, as this will spread the fire.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL
Fire may cause irritating and toxic gases or fumes may be released, including H2S..

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, rubber boots, and in enclosed spaces, SCBA. Structural firefighter's protective clothing will only provide limited protection.

FIRE-FIGHTING EQUIPMENT/INSTRUCTIONS
ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Use of foam or water may cause frothing.

SPECIFIC METHODS
In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the SDS.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP
This product is miscible in water.

LARGE SPILLS: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas.

SMALL SPILLS: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Ventilate area and avoid breathing vapors or mist. For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

ENVIRONMENTAL PRECAUTIONS Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Avoid prolonged exposure. Use only in well-ventilated areas. Hydrogen sulfide, a very highly toxic gas, may be present with this material. Keep face clear of tank and/or tank car openings. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site.

CONDITIONS FOR SAFE STORAGE, INCLUDING INCOMPATIBILITIES

Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Do not allow material to freeze.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
PETROLEUM ASPHALT (CAS 8052-42-4)		Not Listed

US. ACGIH THRESHOLD LIMIT VALUES

Components	Type	Value	Form
PETROLEUM ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m³	Inhalable fraction

US. NIOSH: POCKET GUIDE TO CHEMICAL HAZARDS

Components	Type	Value	Form
PETROLEUM ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m³	Fume

BIOLOGICAL LIMIT VALUES

No biological exposure limits noted for the ingredient(s).

APPROPRIATE ENGINEERING CONTROLS

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Avoid confined spaces.

RECOMMENDATIONS FOR PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION	Safety glasses. Wear chemical goggles if there is a risk of splashes.
HAND PROTECTION	Chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.
OTHER	Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact. Plastic or rubber gloves, apron and boots.
RESPIRATORY PROTECTION	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
THERMAL HAZARDS	Wear appropriate thermal protective clothing, when necessary.

GENERAL HYGIENE CONSIDERATIONS

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Brown/black liquid
PHYSICAL STATE	Liquid
COLOR	tan to dark brown
ODOR	Mild
ODOR THRESHOLD	Not Available
pH	7-9
MELTING POINT/FREEZING POINT	Not Available
INITIAL BOILING POINT	212°F (100 °C)
FLASH POINT	400.0 °F (204.4 °C) COC
EVAPORATION RATE	< 1
FLAMMABILITY (SOLID, GAS)	Not Available
FLAMMABILITY LIMIT – LOWER (%)	Not Available
FLAMMABILITY LIMIT - UPPER (%)	Not Available
EXPLOSIVE LIMIT – LOWER (%)	Not Available
EXPLOSIVE LIMIT – UPPER (%)	Not Available
VAPOR PRESSURE	< 1 mm Hg at 70°F
VAPOR DENSITY	> 1
RELATIVE DENSITY	0.8 - 1.10
SOLUBILITY (WATER)	Soluble
PARTITION COEFFICIENT (n-octanol/water)	Not Available
AUTO-IGNITION TEMPERATURE	> 700 °F (> 371.11 °C)
DECOMPOSITION TEMPERATURE	Not Available
VISCOSITY	Not Available

SECTION 10: STABILITY & REACTIVITY

REACTIVITY

The product is stable and non-reactive under normal conditions of use, storage and transport.

CHEMICAL STABILITY

Stable under normal temperature conditions.

POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous polymerization does not occur.

CONDITIONS TO AVOID

Avoid temperatures exceeding the flash point. Contact with incompatible materials. Do not overheat product.

INCOMPATIBLE MATERIALS

Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Upon decomposition, this product may yield sulfur dioxide, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Hydrogen sulfide.

SECTION 11: TOXICOLOGICAL INFORMATION

INFORMATION ON LIKELY ROUTES OF EXPOSURE

INGESTION	Expected to be a low digestion hazard.
INHALATION	Prolonged inhalation may be harmful.
SKIN CONTACT	No adverse effects due to skin contact are expected.
EYE CONTACT	Harmful if contacted with eyes.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS

Not available

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	Not available
SKIN CORROSION/IRRITATION	Prolonged skin contact may cause temporary irritation.
SERIOUS EYE DAMAGE/EYE IRRITATION	Contact with eyes harmful.

RESPIRATORY OR SKIN SENSITIZATION

RESPIRATORY SENSITIZATION	Not available
SKIN SENSITIZATION	May cause skin disorders with prolonged or repeated contact.

GERM CELL MUTAGENICITY

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

CARCINOGENICITY

Risk of cancer cannot be excluded with prolonged exposure. IARC: occupational exposures to straight-run bitumen and their emissions during road paving are "possibly carcinogenic to humans" (Group 2B)

IARC MONOGRAPHS. OVERALL EVALUATION OF CARCINOGENICITY

ASPHALT (CAS 8052-42-4)	2B Possibly carcinogenic to humans.

US. OSHA SPECIFICALLY REGULATED SUBSTANCES (29 CFR 1910.1001-1050)

Not listed

REPRODUCTIVE TOXICITY	Not available

SPECIFIC TARGET ORGAN TOXICITY

- single exposure	Not available
- repeated exposure	Not available
ASPIRATION HAZARD	Not available
CHRONIC EFFECTS	Prolonged inhalation may be harmful.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY Not expected to be harmful to aquatic organisms.

PERSISTENCE AND DEGRADABILITY No data is available on the degradability of this product.

BIOACCUMULATIVE POTENTIAL No data available.

MOBILITY IN SOIL No data available.

OTHER ADVERSE EFFECTS No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: DISPOSAL INFORMATION

DISPOSAL INSTRUCTIONS Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations. No components are identified as hazardous wastes. Disposal recommendations are based on uncontaminated material.

LOCAL DISPOSAL REGULATIONS Dispose in accordance with all applicable regulations.

HAZARDOUS WASTE CODE The waste code should be assigned in discussion between the user, the producer and the waste disposal company. Not applicable.

WASTE FROM RESIDUES /UNUSED PRODUCTS Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground.

CONTAMINATED PACKAGING Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

SECTION 14: TRANSPORTATION INFORMATION

DOT Not regulated as dangerous goods.

IATA Not regulated as dangerous goods.

IMDG Not regulated as dangerous goods.

TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE Not Available

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS All components are on the U.S. EPA TSCA Inventory List.

TSCA SECTION 12(B) EXPORT NOTIFICATION (40 CFR 707, SUBPT. D) Not Regulated

CERCLA HAZARDOUS SUBSTANCE LIST (40 CFR 302.4)
ASPHALT (CAS 8052-42-4) Listed

US EPCRA SECTION 304 EXTREMELY HAZ. SUBS. & CERCLA HAZ. SUBS.:
SECTION 304 EHS REPORTABLE QUANTITY
Not Regulated

US. OSHA SPECIFICALLY REGULATED SUBSTANCES (29 CFR 1910.1001-1050) Not Listed

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 EXTREMELY HAZARDOUS SUBSTANCE Not Listed

SARA 311/312 HAZARDOUS CHEMICAL No

SARA 313 (TRI REPORTING) Not Regulated

OTHER FEDERAL REGULATIONS

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List Not Regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not Regulated

SAFE DRINKING WATER ACT (SDWA) Not Regulated

DRUG ENFORCEMENT ADMINISTRATION (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2)
Not Regulated

DEA ESSENTIAL CHEMICAL CODE NUMBER Not Regulated

DRUG ENFORCEMENT ADMINISTRATION (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))
Not Regulated

DEA EXEMPT CHEMICAL MIXTURES CODE NUMBER Not Regulated

US STATE REGULATIONS

WARNING: This product contains a chemical known to the State of California to cause cancer.

US. Massachusetts RTK - Substance List

ASPHALT (CAS 8052-42-4)

US. New Jersey Worker and Community Right-to-Know Act

Not Regulated

US. Pennsylvania RTK - Hazardous Substances

ASPHALT (CAS 8052-42-4)

US. Rhode Island RTK

Not Regulated

US. California Proposition 65

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

ASPHALT (CAS 8052-42-4) Listed: January 1, 1990

INTERNATIONAL INVENTORIES

Country(s) or region Inventory name On inventory (yes/no)*

Australia Australian Inventory of Chemical Substances (AICS) Yes
Canada Domestic Substances List (DSL) Yes
Canada Non-Domestic Substances List (NDSL) No
China Inventory of Existing Chemical Substances in China (IECSC) Yes
Europe European Inventory of Existing Commercial Chemical Substances (EINECS) Yes

Europe European List of Notified Chemical Substances (ELINCS) No
Japan Inventory of Existing and New Chemical Substances (ENCS) Yes
Korea Existing Chemicals List (ECL) Yes
New Zealand New Zealand Inventory Yes
Philippines Philippine Inventory of Chemicals and Chemical Substances (PICCS) Yes
United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

SECTION 16: OTHER INFORMATION

NFPA LABEL

ISSUE DATE 05-29-2015
VERSION # 01
DISCLAIMER

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GuardTop® Ultra High Performance Sealcoat Safety Data Sheet

Section 1: Identification of the substance/mixture and of the company/undertaking

Product form: Liquid
Substance name: GuardTop Ultra
Synonyms: Polymer Modified Asphalt Based Emulsion

Manufacturer
GuardTop LLC
32834 Pacific Coast Highway, Suite 210
Dana Point, CA 92629
(877) 948-2738

Emergency telephone number
CHEMTREC (800) 424-9300

Section 2: Hazards identification

Classification of the substance or mixture:

Eye Irritant	Category 2A
Skin Corrosion/Irritation	Category 2
Respiratory/Skin Sensitizer	Category 1

Signal Word: WARNING

Hazard Statements

- May cause skin and eye irritation.
- Fumes from heated material may be irritating.
- Aspiration hazard if swallowed.
- Substance may be harmful if swallowed irritating mouth, throat and/or stomach.
- Prolonged or excessive inhalation may cause respiratory tract irritation.
- Vapors may have a strong offensive odor which may cause headaches, nausea and vomiting.
- Symptoms of overexposure include: fatigue, tearing of eyes, burning sensation in the throat, cough, chest discomfort and skin irritation.

Precautionary Statements

- Obtain and read instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Exposure to hot material may cause thermal burns.

Section 3: Composition/information on ingredients

Chemical Name	Amount	CAS Number
Asphalt	<20%	8052-42-4
Water	<45%	7732-18-5
Aggregate Blend	>30%	14808-60-7
Carbon Black	2.0%	1333-86-4
Hydrogen Sulfide	<0.05%	7783-06-4
Cellulose Fiber	<2.0%	Mixture
Latex	1-10%	Trade Secret

Section 4: First aid measures

First-aid measures general: Get prompt medical attention. Dilute with water. If solidified, treat as neat asphalt.

First-aid measures after inhalation: At elevated temperatures, may cause irritation of the respiratory tract. Although this product is not known to cause respiratory problems, if breathing is difficult, safely remove victim to fresh air and provide oxygen. Get immediate medical attention.

First-aid measures after skin contact: Wash skin with soap and water. Wear protective gloves to minimize skin contamination. For hot material exposure, DO NOT attempt to remove solidified material from the skin. DO NOT attempt to dissolve with solvents or thinners.

First-aid measures after eye contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. Burns due to contact with heated material require immediate medical attention.

First-aid measures after ingestion: Get immediate medical attention. Do not induce vomiting due to danger of aspirating liquid into lungs. Gastric lavage may be required.

Most important symptoms and effects, both acute and delayed

Eyes: Irritation

Skin: Irritation

Inhalation: Irritation

Chronic Effects: No known hazards in normal industrial use.

Section 5: Firefighting measures

Extinguishing media

Suitable extinguishing media: Use alcohol foam, carbon dioxide or water spray when fighting fires involving this material.

Unsuitable extinguishing media: Exercise care when using water as contact with hot asphalt products - may produce steam and violent foaming.

Special hazards arising from the substance or mixture

Fire hazard: Product is an aqueous solution. Heated product may produce hazardous fumes, decomposition products or residues. Small quantities of hydrogen sulfide may be released upon heating.

Explosion hazard: None

Reactivity: Avoid contact with strong bases.

Advice for firefighters

Firefighting instructions: Decomposition may produce fumes, smoke, oxides of carbon, hydrocarbons and possible small quantities of hydrogen sulfide. Avoid breathing vapors from heated material. Combustion may produce CO, NOx, Sox and reactive hydrocarbons.

Protection during firefighting: As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH approved and full protective gear.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures: Clean up spills immediately using appropriate personal protective equipment.

For non-emergency personnel

Protective equipment: Gloves, safety glasses, boots.

Emergency procedures: Absorb spills with absorbent material. Contain spilled liquid with sand or earth.

For emergency responders

Protective equipment: Gloves, safety glasses, boots.

Emergency procedures: Stop the source of the leak or release. Clean up releases as soon as possible.

Environmental precautions

Prevent contamination of soil, surface water or groundwater.

Methods for containment/clean up

Absorb spills with inert material. Contain spilled liquid with sand or earth. Contain liquid to prevent contamination of soil, surface water or groundwater. Large spillage should be dammed-off and pumped into containers.

Section 7: Handling and storage

Precautions for safe handling

Shelf Life:	30 Days @ 77 degrees C (in original, sealed containers).
Additional hazards when processed:	When handling hot material, use protective clothing impervious to this material.
Precautions for safe handling:	Use good Hygiene measures: wash exposed areas with mild soap and water before eating, drinking or smoking and again when leaving work.
Storage conditions:	Do not store at temperatures above 82 degrees C.

Section 8: Exposure controls/personal protection

Engineering Controls:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Eye/Face Protection Requirements:	Where contact with this material is likely, eye protection is recommended.
Skin Protection Requirements:	Selection of specific items such as gloves, boots, apron or full-body suit will depend on operation and potential exposure.
Respiratory Protection Requirements:	Where there is potential for airborne exposure in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

Exposure Guidelines:

Hydrogen Sulfide:	NIOSH REL	C 10 ppm, 15 mg/m3 (10 min.)
	OSHA PEL	C 20 ppm, 50 ppm (10 min.)

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Appearance:	Brown to Black
Odor:	Asphalt Odor
pH:	10-11.5
Melting point:	0 C
Freezing point:	0 C
Specific Gravity:	1.4-1.7 (Water=1)
Boiling point:	100 degrees C @ 760 mm Hg
Flash point:	None
UEL:	N/A
LEL:	N/A
Vapor pressure:	Same as water mm Hg @ 21 degrees C
Solubility:	Soluble in water
%Volatiles:	<35% @ 21 degrees C @ 760 mm Hg
VOC:	<1

Section 10: Stability and reactivity

Reactivity:	Low
Chemical stability:	This compound is stable at ambient conditions.
Possibility of hazardous reactions:	Low
Conditions to avoid:	Avoid extreme temperatures.
Incompatible materials:	Avoid contact with strong bases.
Hazardous decomposition product:	Decomposition will not occur if handled and stored properly.
Polymerization:	Hazardous polymerization will not occur.

Section 11: Toxicological information

Skin corrosion:	May cause irritation and a rash with prolonged or repeated contact with skin.
Serious eye damage/irritation:	Irritating, may injure eye tissue if not removed promptly.
Respiratory or skin sensitization:	Repeated contact may cause skin irritation, prolonged inhalation may cause respiratory tract irritation.
Germ cell mutagenicity:	None
Carcinogenicity:	IARC has determined Hydrochloric acid may be carcinogenic in humans.
Reproductive toxicity:	This product contains one or more chemicals known to cause reproductive harm.
Specific target organ toxicity (single exposure):	Skin and/or respiratory irritation, mild.
Specific target organ toxicity (repeated exposure):	Skin, respiratory, kidney and liver.
Aspiration hazard:	Respiratory distress as a result of aspiration.
Symptoms/injuries after inhalation:	Respiratory tract irritation, cough, chest discomfort.
Symptoms/injuries after eye contact:	Eye tearing, irritation, burns if contact made with heated material.
Symptoms/injuries after ingestion:	Harmful if swallowed, irritating to mouth, throat and stomach.

Section 12: Ecological information

Environmental Hazards

This material should be prevented from uncontrolled applications to soil or earth. This material should be prevented from entering storm water, sewage drainage systems and bodies of water.

Section 13: Disposal considerations

Waste Disposal:	This product, as supplied, when discarded or disposed of, may be a hazardous waste according to Federal regulations (40 CFR 261). Under the Resource Recovery Act (RCRA), it is the responsibility of the user of the product to determine whether the material is a hazardous waste subject to RCRA. Treat or dispose of waste material in accordance with all local, state/provincial and national requirements. Avoid disposal into wastewater treatment facilities.
Contaminated Materials:	Treat as product waste.
Container Disposal:	Unclean empty containers should be disposed of in the same manner as the contents.

Section 14: Transport information

Product Label:	GuardTop Ultra Asphalt Based Emulsion
UN Number:	Non-hazardous, no UN number
DOT Shipping Name:	Non Regulated, Water Based Asphalt Emulsion
DOT Hazard Class:	Non-Hazardous

Section 15: Regulatory information

EEC Symbols and Indications of Danger:	Irritant (Xi)
R-Phrases:	R36/37/38 – Irritating to eyes, respiratory system and skin.
WHMIS Hazard Symbols:	Class D – Irritant
CERCLA Hazardous Substances:	HYDROGEN SULFIDE (CAS 7783-06-4) – RQ 100 lb.
California Proposition 65:	This product contains one or more chemicals known to the State of California to cause cancer and/or reproductive harm.
Clean Air Act – Section 112:	
Title V:	HYDROGEN SULFIDE (7783-06-4)
SC Toxic Air Pollutants List:	HYDROGEN SULFIDE (7783-06-4)
Sara Title II – Section 313:	There are no known ingredients subject to reporting.
TSCA Inventory Status:	All ingredients of this product are listed.

Section 16: Other information

Indication of changes

NFPA health hazard:	1
NFPA fire hazard:	0
NFPA reactivity:	0
Personal Protection Index:	1

HMIS III Rating

Health:	1
Flammability:	0
Reactivity:	0
Special Hazard:	None

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SAFETY DATA SHEET

ANTIBACTERIAL HAND SOAP

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name	:	ANTIBACTERIAL HAND SOAP
Product Codes	:	5009, 5012, 5019, 5065, 5067, 65036, 65014, 30441, 21513, 21538
Recommended use	:	Antibacterial Hand Cleaner
Product dilution information	:	Product is sold ready to use.
Company	:	Kutol Products Company 100 Partnership Way Sharonville, Ohio 45241-1571 1-800-543-4641
Chemtrec Phone	:	1-800-424-9300
Issuing date	:	2/19/2020

SECTION 2 – HAZARD(S) IDENTIFICATION

GHS Classification : Category 2B
Eye irritation

GHS Label Element :
Hazards pictograms

Signal Word : Warning

Hazard Statements : **Response:**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Other Hazards : None known.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration (%)
BENZALKONIUM CHLORIDE	8001-54-5	< 5

SECTION 4 – FIRST AID MEASURES

In case of eye contact	:	Flush eyes under eyelids with plenty of cool water for at least 15 minutes. If irritation persists, seek medical/advice attention.
In case of skin contact	:	If irritation persists, wash with water.
If ingested	:	Contact a physician or Poison Control Center immediately. Do not induce vomiting never give anything by mouth to an unconscious person.

If inhaled	:	Get medical attention if symptoms occur.
Protection of first-aiders	:	No special precautions are necessary.
Notes to physicians	:	Treat symptomatically.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	No flammable or combustible.
Hazardous combustions products	:	Carbon oxides
Special protective equipment for fire-fighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions	:	No special measures required.
Environmental precautions	:	Avoid contact of large amounts of spilled material runoff with soil and surface waterways.
Methods of cleaning up	:	Absorb with inert material. Use a water rinse for final clean-up.

SECTION 7 – HANDLING AND STORAGE

Handling	:	Wash hands after handling.
Storage	:	Keep out of reach of children. Keep container tightly closed. Store between 32 to 122 degrees F.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures	:	Good general ventilation should be sufficient to control workers exposure to airborne contamination.
<u>Personal protection</u>		
Eyes	:	Eye protection should be used when splashing may occur.
Hands	:	No protective equipment is needed under normal use.
Skin	:	No protective equipment is needed under normal use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Viscous amber liquid
Odor: Spicy floral fragrance
Odor Threshold: No data available
ph: 6.0 typical

Upper/lower flammability limits: N/A
Vapor pressure: N/A
Vapor density: N/A
Relative density: No data available.

Melting point/freezing point: N/A
Initial boiling and boiling range: N/A
Flash point: N/A
Evaporation rate: <1
Flammability (solid, gas): No data available

Solubility (ies): No data available.
Partition coefficient: n-octanol/water: No data available.
Auto ignition temperature: N/A
Decomposition temperature: No data available.
Viscosity: 3,250 CPS @ 77 F; 25 C

SECTION 10 – STABILITY AND REACTIVITY

Stability	:	The product is stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction is known under conditions of normal use.
Conditions to avoid	:	None known.
Incompatible materials	:	None known.
Hazardous decomposition products	:	Carbon oxides

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on likely routines of exposure	:	Inhalation, eye contact, skin contact.

Potential Health Effects

Eyes	:	Cause of irritation.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic exposure	:	Health injuries are not known or expected under normal use.

Experience with Human Exposure

Eye contact	:	Redness, irritation.
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Acute oral toxicity	:	Acute toxicity estimate: >5,000 mg/kg
Acute inhalation toxicity	:	No data available
Acute dermal toxicity	:	Acute toxicity estimate: >5,000 mg/kg
Skin corrosion/irritation	:	No data available
Serious eye damage/eye irritation	:	Mild eye irritation.
Respiratory or skin sensitization	:	No data available.

Carcinogenicity

IARC	:	No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.
OSHA	:	No ingredient of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12 – ECOLOGICAL INFORMATION

Ecological Tests	:	Data is not available.
Environmental Impact	:	The product ingredients are expected to be safe for the environment at the concentrations predicted under normal use and accidental spill scenarios. Packaging components are compatible with the conventional solid waste management practices.

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal methods	:	The product should not be allowed to enter drains, water courses or the soil. When possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not reuse empty containers.

SECTION 14 – TRANSPORT INFORMATION

Certain shipping modes or package sizes may have exceptions from the transport regulations. The classification provided may not reflect those exceptions and may not apply to all shipping modes or package sizes. The shipper / consignor / sender are responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Shipment	Identification Number	Proper Shipping Name	Hazardous Classification	Packaging Group
US DOT	Not dangerous goods	N/A	N/A	None
IATA (Air)	Not dangerous goods	N/A	N/A	None
IMDG (Vessel)	Not dangerous goods	N/A	N/A	None

SECTION 15 – REGULATORY INFORMATION

U.S. Federal Regulations

TSCA (Toxic Substances Control Act):	:	All ingredients in this product are either listed, or exempt from listing, on the TSCA Inventory.
CERCLA (Comprehensive Response Compensation, and Liability Act)	:	Not Determined
SARA Title III (Superfund Amendments and Reauthorization Act)	:	None

SARA 313 Reportable Ingredients	:	None.

SECTION 16 - OTHER INFORMATION

NFPA 704:

HMIS III:

HEALTH	**1**
FLAMMABILITY	**0**
PHYSICAL HAZARDS	**0**

Issuing date	:	2/19/2020
Version	:	3.0
Prepared by	:	Regulatory Compliance

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in conjunction with any other materials or in any process, unless specified in the text.

Isopropyl Alcohol 90%

1. Identification

Product Name: Isopropyl Alcohol 90%
Item #: 9569 **Web SDS:** S259
Synonyms: IPA, Isopropanol, 2-Propanol, Rubbing Alcohol
Recommended Use: Dehydrating Solution
Restrictions on Use: N/A

Manufacturer:
BBC Biochemical
409 Eleanor Lane,
Mount Vernon, WA 98273
1-800-635-4477

In Case of Emergency:
Chemtrec US 1-800-424-9300
Chemtrec International 703-527-3887

2. Hazards Identification

OSHA Hazard Classification(s):
Skin Irritation - Category 2
Eye Irritation - Category 2A
Specific Target Organ Toxicity (single exposure) - Category 1
Flammable Liquids - Category 2

Signal Word: Danger

Hazard Statement(s): Causes skin irritation. Causes serious eye irritation. Causes damage to organs (lungs,kidneys). Highly flammable liquid and vapor.

Pictogram(s):

Precautionary Statement(s): Prevention: Wash body thoroughly after handling. Wear protective gloves. Wear eye protection, face protection. Do not breathe dust, vapors. Do not eat, drink or smoke when using this product. Keep away from heat sources and open flame. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting and equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Response: If on skin: Wash with plenty of water. Specific treatment (see first aid section on this label). If skin irritation or rash occurs: Get medical attention. Take off all contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing If eye irritation persists: Get medical attention. If exposed or concerned: Call a doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. In case of fire: Use water, dry chemical, CO2 or foam to extinguish.

Storage: Store locked up. Store in a well-ventilated place. Keep cool.

Disposal: Dispose of contents/container in accordance with local regulations.

Descriptions of Hazards not otherwise classified: N/A
Percent of mixture with unknown acute toxicity: N/A

3. Composition and Information on Ingredients

Chemical Name	Common Name	CAS #	Concentration %
Isopropyl Alcohol	2-Propanol	67-63-0	90
Water		7732-18-5	10

4. First Aid Measures

Eye Contact: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing and wash before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.

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Inhalation: Vapor harmful. Remove to fresh air; give artificial respiration if breathing has stopped. Get medical advice/attention if you feel unwell.
Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.
Symptoms: Irritation eyes, nose, throat; drowsiness, dizziness, headache; dry cracking skin; in animals: narcosis
Recommendations for immediate medical care/special treatment: Get medical advice/attention if you feel unwell.

5. Fire- Fighting Measures

Extinguishing Media: Dry chemical, carbon dioxide, alcohol foam. Use water spray to cool fire-exposed containers and disperse vapors.
Fire Hazards (Chemical): OSHA classified Flammable Liquid. Vapors are flammable.
Special Protective Equipment: Fire fighters should use self-contained breathing apparatus and protective clothing.
Precautions for Firefighters: Fire fighters should use self-contained breathing apparatus and protective clothing.

6. Accidental Release Measures

Emergency Procedures: Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.
Protective Equipment: See section 8
Environmental Precautions: Prevent release to the environment by using barriers.
Containment and Clean-Up Procedures: Use barriers to prevent spreading. Collect spill in container. Call waste authorities.

7. Handling and Storage

Handling: Do not breathe vapors. Do not eat, drink or smoke when using this product. Keep away from heat, sparks, open flames, hot surfaces. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.
Storage: Store locked up. Store in a well-ventilated place. Keep cool.

8. Exposure Controls/Personal Protection

OSHA Permissible Exposure Limits (PELs):

Reagent	CAS #	OSHA PEL TWA
Isopropyl Alcohol	67-63-0	400ppm

ACGIH Threshold Limit Values (TLVs):

Reagent	CAS #	ACGIH PEL TLV	ACGIH STEL
Isopropyl Alcohol	67-63-0	400ppm (983 mg/m3)	500ppm (1230 mg/m3)

Engineering Controls: Use in a well ventilated area to prevent exposure. Maintain eyewash fountain and quick-drench facilities in work areas.
Personal Protective Measures: Wear gloves, lab coat, eye protection and impervious footwear. Contact lenses should not be worn when working with this material.
Special PPE Requirements: If ventilation hood not available wear respirator.

9. Physical and Chemical Properties Section

Appearance: Colorless, Colorless Liquid
Molecular Weight: N/A
Molecular Formula: N/A
pH: N/A
Boiling Point and Boiling Range: N/A
Melting Point/Freezing Point: -70ºF

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Flash Point: 65ºF
Specific Gravity/Relative Density: N/A
Odor: Characteristic of rubbing alcohol
Odor Threshold: N/A
Color: Colorless
Flammability (solid/gas): Emits flammable vapors, flammable liquid
Vapor Density: N/A
Upper/Lower flammability or explosive limits: LE 2.0%, UEL (200ºF) 12.7%
Vapor Pressure: N/A
Evaporation Rate: N/A
Partition Coefficient: n-octanol/water: N/A
Viscosity: N/A
Auto-ignition temperature: N/A
Solubility: Miscible in water
Decomposition Temperature: N/A

10. Stability and Reactivity

Reactivity:
Chemical Stability: Stable
Conditions of Stability/Instability: Instable under heat
Stabilizers needed: None
Safety issue indicated by appearance change: N/A
Other: N/A
Hazardous Reactions: N/A
Hazardous Polymerization: Does not occur
Conditions to avoid: Heat, open flame.
Classes of Incompatible Materials: Strong oxidizers, acetaldehyde, chlorine, ethylene oxide, acids, isocyanates
Hazardous Decomposition Products: Thermal-oxidation degradation can produce oxides of carbon. Toxic gases and vapors (I.e. Carbon monoxide) may be released in a fire.

11. Toxicological Information

Likely Routes of Exposure
Eyes: Irritation.
Skin: Irritation.
Inhalation: May cause dizziness, headache, nausea, and narcosis, irritation of the throat
Ingestion: May cause blindness, nausea, damage to gastrointestinal tract, liver, kidneys and cardiovascular system.

Signs or Symptoms of Exposure: Irritation eyes, skin, nose; headache, dry cracking skin, drowsiness, lassitude (weakness, exhaustion), effects on eyes, skin, respiratory system, central nervous system.
Effects from short term exposure (delayed, immediate, chronic): May cause blindness, nausea, damage to gastrointestinal tract, liver, kidneys and cardiovascular system
Acute Toxicity (Numerical Measures): N/A
Carcinogenicity (NTP, IARC, OSHA): Not listed as a carcinogen

12. Ecological Information

Ecotoxicity: N/A
Persistence and degradability: N/A
Bioaccumulation Potential (octanol-water partition coefficient, BCF): N/A
Mobility in the soil: N/A

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Adverse Environmental Effects: N/A

13. Disposal Considerations

Recommended Disposal Containers: Check with your local waste authorities*
Recommended Disposal Methods: Do not dispose of in drains, check with your local waste authorities.*
Physical/Chemical Properties affecting Disposal: See section 2 and section 9 applicable information.*
Special Precautions for Landfill and Incineration Activities: Check with your local waste authorities.*
Waste Stream: Consult your local or regional authorities.*

14. Transport Information

UN Number: UN1219
UN Proper Shipping Name: Isopropanol
Transport Hazard Class(es): 3
Packing Group Number: II
Environmental Hazards (IMDG code):
Marine Pollutant: No
Transport in Bulk (IBC Code): N/A
Special Transport Precautions: N/A

15. Regulatory Information

OSHA:
DOT:
EPA:
CPSC:

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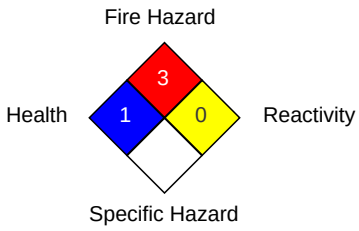
16. Other Information

Revision Date: 04/21/2015

NFPA

Health	1
Fire Hazard	3
Reactivity	0
Specific Hazard	

National Fire Protection Association (USA) NFPA



HMIS

Health	1
Flammability	3
Physical Hazard	0
Personal Protection	

Hazardous Material Information System HMIS

Health	1
Flammability	3
Physical Hazard	0
Personal Protection	

Notice to Reader:

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

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Safety Data Sheet

according to Hazard Communication Standard; 29 CFR 1910.1200

OFF!® ACTIVE® INSECT REPELLENT I

Version *1*.1

Print Date 03/04/2015

Revision Date 02/23/2015

SDS Number 350000004806
GEN_SOF Number 38268

1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Product name : **OFF!® ACTIVE® INSECT REPELLENT I**

Recommended use : Insect Repellent

Manufacturer, importer, supplier : S.C. Johnson & Son, Inc.
1525 Howe Street
Racine WI 53403-2236

Telephone : +18005585252

Emergency telephone number : 24 Hour Medical Emergency Phone: (866)231-5406
24 Hour International Emergency Phone: (703)527-3887
24 Hour Transport Emergency Phone: (800)424-9300

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System (GHS) Classification

Hazard classification	Hazard category	Hazards identification
Aerosol	Category 1	Extremely flammable aerosol.
Eye irritation	Category 2B	Causes eye irritation.
Gases under pressure	Liquefied gas	Contains gas under pressure; may explode if heated.

Labelling
Hazard symbols
Flame
Gas cylinder

Signal word
Danger

Hazard statements
Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes eye irritation.

Precautionary statements
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.

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Read label before use.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Protect from sunlight. Store in a well-ventilated place.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Wash hands thoroughly after handling.
Other hazards : None identified

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Weight percent
Ethyl alcohol	64-17-5	60.00 - 100.00
N,N-Diethyl-m-toluamide	134-62-3	10.00 - 30.00
Butane	106-97-8	1.00 - 5.00
Propane	74-98-6	1.00 - 5.00
Isobutane	75-28-5	1.00 - 5.00

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

For additional information on product ingredients, see www.whatsinsidescjohnson.com.

4. FIRST AID MEASURES

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Skin contact : If you suspect a reaction to this product, discontinue use and remove contaminated clothing.

Inhalation : No special requirements.

Ingestion : No special requirements

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5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during firefighting : Aerosol Product - Containers may rocket or explode in heat of fire. Do not allow run-off from fire fighting to enter drains or water courses.

Further information : Fight fire from maximum distance or protected area. Cool and use caution when approaching or handling fire-exposed containers. Wear full protective clothing and positive pressure self-contained breathing apparatus. In case of fire and/or explosion do not breathe fumes.

NFPA Classification : NFPA Level 2 Aerosol

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Remove all sources of ignition.
Wear personal protective equipment.
Wash thoroughly after handling.

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Use appropriate containment to avoid environmental contamination.
Outside of normal use, avoid release to the environment.

Methods and materials for containment and cleaning up : If damage occurs to aerosol can:
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Use only non-sparking equipment.
Dike large spills.
Clean residue from spill site.

7. HANDLING AND STORAGE

Handling

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Precautions for safe handling	:	Avoid contact with eyes and lips. For personal protection see section 8. Use only as directed. KEEP OUT OF REACH OF CHILDREN AND PETS. Pressurized container. Do not pierce or burn, even after use. Wash thoroughly after handling.
Advice on protection against fire and explosion	:	Keep away from sources of ignition - No smoking. Do not spray on an open flame or other ignition source.

Storage

Requirements for storage areas and containers	:	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Keep away from food, drink and animal feedingstuffs. Keep in a dry, cool and well-ventilated place.
Other data	:	Stable under recommended storage conditions.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Components	CAS-No.	mg/m3	ppm	Non-standard units	Basis
Ethyl alcohol	64-17-5	1,900 mg/m3	1,000 ppm	-	OSHA TWA
Ethyl alcohol	64-17-5	-	1,000 ppm	-	ACGIH STEL
Butane	106-97-8	-	1,000 ppm	-	ACGIH STEL
Propane	74-98-6	-	1,000 ppm	-	ACGIH TWA
Propane	74-98-6	1,800 mg/m3	1,000 ppm	-	OSHA TWA
Isobutane	75-28-5	-	1,000 ppm	-	ACGIH STEL

Personal protective equipment

Respiratory protection : Do not spray in enclosed areas.

Hand protection : No special requirements.

Eye protection : No special requirements.

Skin and body protection : No special requirements.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form : aerosol

Color : clear

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Odor	:	pleasant
Odour Threshold	:	No data available
pH	:	Not applicable
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	-7 °C 19.4 °F Propellant
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Sustains combustion
Upper/lower flammability or explosive limits	:	No data available
Vapour pressure	:	No data available
Vapour density	:	No data available
Relative density	:	0.781 g/cm3 at 21 °C
Solubility(ies)	:	dispersible
Partition coefficient: n-octanol/water	:	No data available

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Auto-ignition temperature	:	No data available
Decomposition temperature	:	
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available
Volatile Organic Compounds Total VOC (wt. %)*	:	84.4 % - additional exemptions may apply *as defined by US Federal and State Consumer Product Regulations
Other information	:	None identified

:

10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL INFORMATION

Emergency Overview	:	Danger
Acute oral toxicity	:	LD50 3,735 mg/kg

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SDS Number 350000004806
GEN_SOF Number 38268

Acute inhalation toxicity : GHS LC50 (dust and mist)
> 2.18 mg/l

Acute dermal toxicity : LD50
> 2,000 mg/kg

GHS Properties	Classification	Routes of entry
Acute toxicity	No classification proposed	-
Skin corrosion/irritation	No classification proposed	-
Eye irritation	Category 2B	-
Skin sensitisation	No classification proposed	-
Respiratory sensitisation	No classification proposed	-
Germ cell mutagenicity	No classification proposed	-
Carcinogenicity	No classification proposed	-
Reproductive toxicity	No classification proposed	-
Specific target organ toxicity - single exposure	No classification proposed	-
Specific target organ toxicity - repeated exposure	No classification proposed	-
Aspiration hazard	No classification proposed	-

Aggravated Medical Condition : Do not apply to cuts or irritated skin.

12. ECOLOGICAL INFORMATION

Product : The product itself has not been tested.

Toxicity
The ingredients in this formula have been reviewed and no adverse impact to the environment is

expected when used according to label directions.

Toxicity to fish

Components	End point	Species	Value	Exposure time
Ethyl alcohol	flow-through test LC50	Pimephales promelas (fathead minnow)	14,200 mg/l	96 h
N,N-Diethyl-m-toluamide	static test LC50	Oncorhynchus mykiss (rainbow trout)	71.25 mg/l	96 h
Butane	No data available			
Propane	LC50	Fish	27.98 mg/l	96 h
Isobutane	LC50	Fish	27.98 mg/l	96 h

Toxicity to aquatic invertebrates

Components	End point	Species	Value	Exposure time
Ethyl alcohol	static test EC50	Daphnia magna (Water flea)	2 mg/l	48 h
	NOEC	Daphnia magna	9.6 mg/l	9 d

N,N-Diethyl-m-toluamide	No data available			
Butane	No data available			
Propane	LC50	Daphnid	14.22 mg/l	48 h
Isobutane	LC50	Daphnid	16.33 mg/l	48 h

Toxicity to aquatic plants

Components	End point	Species	Value	Exposure time
Ethyl alcohol	Static EC50	Chlorella vulgaris (Fresh water algae)	275 mg/l	72 h
N,N-Diethyl-m-toluamide	No data available			
Butane	No data available			
Propane	No data available			
Isobutane	EC50	Green algea	8.57 mg/l	96 h

Persistence and degradability

Component	Biodegradation	Exposure time	Summary
Ethyl alcohol	97 %	28 d	Readily biodegradable
N,N-Diethyl-m-toluamide	No data available		
Butane	100 %	385.5 h	Readily biodegradable
Propane	70 %	< 10 d	Readily biodegradable
Isobutane	70 %	< 10 d	Readily biodegradable

Bioaccumulative potential

Component	Bioconcentration factor (BCF)	Partition Coefficient n-Octanol/water (log)
Ethyl alcohol	3.2 estimated	-0.35 Measured
N,N-Diethyl-m-toluamide	No data available	No data available
Butane	No data available	2.89
Propane	No data available	2.36
Isobutane	1.57 - 1.97	2.8

Mobility

Component	End point	Value
Ethyl alcohol	No data available	
N,N-Diethyl-m-toluamide	No data available	
Butane	No data available	
Propane	No data available	
Isobutane	No data available	

PBT and vPvB assessment

Component	Results
Ethyl alcohol	Not fulfilling PBT and vPvB criteria
N,N-Diethyl-m-toluamide	Not fulfilling PBT and vPvB criteria
Butane	Not fulfilling PBT and vPvB criteria
Propane	Not fulfilling PBT and vPvB criteria
Isobutane	Not fulfilling PBT and vPvB criteria

Other adverse effects : None known.

OFF!® ACTIVE® INSECT REPELLENT I

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13. DISPOSAL CONSIDERATIONS

PESTICIDAL WASTE:
For disposal information, please read and follow Disposal instructions on the pesticide label.
Consumer may discard empty container in trash, or recycle where facilities exist.

14. TRANSPORT INFORMATION

Please refer to the Bill of Lading/receiving documents for up-to-date shipping information.

	Land transport	**Sea transport**	**Air transport**
UN number	1950	1950	1950
UN proper shipping name	AEROSOLS, Flammable, 2.1	AEROSOLS, Flammable, 2.1	AEROSOLS, Flammable, 2.1
Transport hazard class(es)	2.1	2	2.1
Packing group	-	-	-
Environmental hazards	-	-	-
Special precautions for user	Limited quantities derogation may be applicable to this product, please check transport documents.	Limited quantities derogation may be applicable to this product, please check transport documents.	Limited quantities derogation may be applicable to this product, please check transport documents.

15. REGULATORY INFORMATION

FIFRA Labeling

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.
Following is the hazard information as required on the pesticide label:

WARNING:

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Causes substantial but temporary eye injury.
Harmful if swallowed.
Use of this product may cause skin reactions in rare cases.
Flammable.
Contents under pressure.
Exposure to temperatures above 120° F may cause bursting.

Notification status : All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Notification status : All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).

California Prop. 65 : This product is not subject to the reporting requirements under California's Proposition 65.

Registration # / Agency
4822-380/US/EPA

16. OTHER INFORMATION

HMIS Ratings

Health	2
Flammability	4
Reactivity	0

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SDS Number 350000004806
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NFPA Ratings

Health	2
Fire	4
Reactivity	0
Special	-

This information is being provided in accordance with the Occupational Safety and Health Administration (OSHA) regulation (29 CFR 1910.1200). The information supplied is designed for workplaces where product use and frequency of exposure exceeds that established for the labeled consumer use.

Further information

This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

Prepared by	SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA)

POLGREEN DELTA ULTRA RTU (1:5)

Safety Data Sheet 2503499 RTU

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/06/2017 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Trade name : POLGREEN DELTA ULTRA RTU (1:5)

Product code : 2503499

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Genesan
12 Bartlett Road
Gorham, 04038 - United States of America
T 1- 877-854-0072
info@cleaneasier.com - http://www.cleaneasier.com/

1.4. Emergency telephone number

Emergency number : Info Trac 1-800-535-5053

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-statements: see section 16

3.2. Mixture

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: Blue.
Odour	: Fruity.
Odour threshold	: No data available
pH	: 9.5 (9 - 10)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available

Relative vapour density at 20 °C	:	No data available
Relative density	:	≈ 1
Density	:	≈ 1000 g/l
Solubility	:	Soluble in water.
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Not classified
Skin corrosion/irritation	:	Not classified pH: 9.5 (9 - 10)
Serious eye damage/irritation	:	Not classified pH: 9.5 (9 - 10)
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information
In accordance with DOT
Not regulated for transport

Additional information
Other information : No supplementary information available.

ADR
Transport document description :

Transport by sea
No additional information available

Air transport
No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations
No additional information available

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

15.2.2. National regulations
No additional information available

15.3. US State regulations

POLGREEN DELTA ULTRA RTU (1:5)()	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

SECTION 16: Other information

HMIS III Rating

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

H.M.I.S. RATING	
Health	1
Flammability	0
Reactivity	0
Protective Equip.	E

Material Safety Data Sheet – OSHA 174

Material Safety Data Sheet
May be used to comply with OSHA's Hazard communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

US Department of Labor
Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072

Polymer-Modified MasterSeal (PMM)

Product No. S1097

SECTION I - Manufacturer / Product Information

Manufacturer's Name: SealMaster
Address: Locations Nationwide
www.sealmaster.net

Emergency Telephone No.: Chemtrec: 1-800-424-9300
Telephone Number for Information: 1-800-395-7325
Date Prepared: January 13, 2010

SECTION II - Chemical Identity Information

Ingredient	CAS #	OSHA_PEL	ACGIH_TLV	Other Limits	Percent
Ball Clay	1332-58-7	10 mg/m3	N/A		
Asphalt	8052-42-4	N/A	5 mg/m3		
Calcium Carbonate	1317-65-3	5 mg/m3	2mg/m3		

SECTION III - Physical / Chemical Characteristics

Boiling Point: 100° Celsius (212° Fahrenheit)
Vapor Pressure (mm Hg): Nearly equal to water.
Specific Gravity (H2O = 1): 1.14
Melting Point: N/A
Vapor Density (AIR = 1): <1
Evaporation Rate (Butyl Acetate = 1): Approximately 1.8
Solubility in Water: Easily dispersible in the liquid state.
Appearance and Odor: Black liquid, asphaltic odor.

SECTION IV - Fire and Explosion Hazard Data

Flash Point (Method Used): N/A **Flammable Limits:** N/A **LEL:** N/A **UEL:** N/A
Extinguishing Media: Foam, CO2, dry chemical, water fog, other.
Special Fire Fighting Procedures: Full protective equipment, including self-contained breathing apparatus to be worn. Water cool sealed containers in area of fire to prevent rupture due to steam generation.
Unusual Fire and Explosion Hazards: N/A

SECTION V - Reactivity Data

Stability: **Unstable:** **Stable:** X **Conditions to Avoid:** Keep from freezing and extreme heat.
Incompatibility (Materials to Avoid): Strong oxidizers.
Hazardous Decomposition or Byproducts: Combustion may yield fumes, smoke, carbon monoxide, carbon dioxide and other toxic pyrolysis products.
Hazardous Polymerization: **May Occur:** **Will Not Occur:** X **Conditions to Avoid:** N/A

SECTION VI - Health Hazard Data

Route(s) of Entry: **Inhalation?** Yes **Skin Contact?** No **Ingestion?** Yes **Eye Contact?** Yes
Carcinogenicity: **NTP?** No **IARC Monographs?** No **OSHA Regulated?** No
Inhalation Hazards: Vapors and Fumes can cause irritation to nasal and respiratory tract. Extended exposure can cause dizziness and nausea.
Ingestion Hazards: Product has low order of acute toxicity.
Skin Hazards: Hot emulsified asphalt can cause thermal burns. Frequent or prolonged contact can cause

irritation and dermatitis. Product has low order of toxicity.
Eye: Emulsified asphalt can cause eye irritation.

Medical Conditions Generally Aggravated by Exposure: None known.
Emergency and First Aid Procedures:
Inhalation: Move person to fresh air immediately. If not breathing, give artificial resuscitation. Immediately call a physician.
Ingestion: If ingested, call a physician immediately and follow directions.
Skin Contact: Hot material- Gently flush with cool water. Call a physician.
Cold material- Remove emulsified asphalt with waterless hand cleaner and wash with soap and water. If irritation occurs, call a physician.
Eye Contact: Gently flush with large amounts of water. Call a physician immediately.

SECTION VII - Precautions for Safe Handling and Use

Steps to be taken in case material is released or spilled: Dike and contain spill with inert material (sand, sawdust, diamateous earth, etc.). Pump liquid into storage tanks. Remaining liquid may be taken up with inert materials. Place in closed container for proper disposal.
Waste Disposal Method: Dispose of in accordance with Local, State, and Federal regulations.
Precautions to Be Taken in Handling and Storage: Keep container closed and upright to prevent leakage. Avoid freezing or temperatures above 50° Celsius.
Other Precautions: Do not take internally. Keep away from children. Avoid breathing vapors. For external use only.

SECTION VIII - Control Measures

Respiratory Protection (Specify Type): None required if good ventilation is maintained. Otherwise use NIOSH approved respirator designed to remove particles and vapor.
Ventilation: **Local Exhaust:** Yes **Special:** N/A
Mechanical (General): N/A **Other:** N/A
Protective Gloves: Yes **Eye Protection:** Yes
Other Protective Clothing or Equipment: A rubber apron is recommended to protect clothing from splash during application.
Work/Hygienic Practices: Do not apply during or just before (within one hour) of rain to avoid contamination of runoff water. Wash hands before eating.

SECTION IX - Disclaimer

All information, recommendations, and suggestions concerning this product are based upon tests, literature references, and/or calculations, believed to be reliable. The manufacturer makes no guarantee, expressed or implied, as to the affect of use, or the safety and toxicity of the product. The information contained in this sheet cannot be taken as the sum total of all protective measures to be taken.

Material Safety Data Sheet

24 Hour Assistance:
1-847-367-7700
Rust-Oleum Corp.
www.rustoleum.com

Section 1 - Chemical Product / Company Information

Product Name:	Industrial Choice Aerosol - Solvent Based Inverted Marking Paint	Revision Date:	03/22/2007
Identification Number:	203022, 203024, 203025, 203026, 203029, 203030, 1634838, 1668838, 1675838, 201516, 1652838, 239007, 1663838		
Product Use/Class:	Industrial Choice - Precision Line Marking Paint/Aerosol		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	Manufacturer:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Department, Regulatory		

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Liquefied Petroleum Gas	68476-86-8	35.0	1000 PPM	N.E.	1000 PPM	N.E.
Acetone	67-64-1	30.0	500 PPM	750 PPM	750 PPM	N.E.
Toluene	108-88-3	20.0	50 PPM	150 PPM	200 PPM	300 PPM
Aliphatic Hydrocarbon	64742-89-8	15.0	300 PPM	N.E.	300 PPM	N.E.
Xylene	1330-20-7	15.0	100 PPM	150 PPM	100 PPM	N.E.
Titanium Dioxide	13463-67-7	15.0	10 mg/m3	N.E.	10 mg/m3	N.E.
N-Butyl Acetate	123-86-4	15.0	150 PPM	200 PPM	150 PPM	N.E.
Aliphatic Petroleum Distillates	64742-48-9	10.0	400 PPM	N.E.	400 PPM	N.E.
Naphtha	8032-32-4	10.0	300 PPM	N.E.	N.E.	N.E.
Magnesium Silicate	14807-96-6	5.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Ethylbenzene	100-41-4	5.0	100 PPM	125 PPM	100 PPM	N.E.
Aluminum Flake	7429-90-5	5.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Pigment Black 7	1333-86-4	5.0	3.5 mg/m3	N.E.	3.5 mg/m3	N.E.
Calcined Aluminum Silicate	1332-58-7	5.0	2 mg/m3	N.E.	5 mg/m3	N.E.
Pigment Red 122	980-26-7	1.0	15mg/m3	N.E.	5mg/m3	N.E.
Microcrystalline Silica	14808-60-7	1.0	0.025 mg/m3	N.E.	0.10 mg/m3 respirable quartz	N.E.

Section 3 - Hazards Identification

*** Emergency Overview ***: Contents Under Pressure. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Vapors may cause flash fire or explosion. Extremely flammable liquid and vapor. Harmful if swallowed.

Effects Of Overexposure - Eye Contact: Causes eye irritation.

Effects Of Overexposure - Skin Contact: Prolonged or repeated contact may cause skin irritation. Substance may cause slight skin irritation.

Effects Of Overexposure - Inhalation: High vapor concentrations are irritating to the eyes, nose, throat and lungs. Avoid breathing vapors or mists. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Harmful if

inhaled.

Effects Of Overexposure - Ingestion: Aspiration hazard if swallowed; can enter lungs and cause damage. Substance may be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: IARC lists Ethylbenzene as a possible human carcinogen (group 2B). May cause central nervous system disorder (e,g.,narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. Overexposure to toluene in laboratory animals has been associated with liver abnormalities, kidney, lung and spleen damage. Effects in humans have included liver and cardiac abnormalities.
Contains carbon black. Chronic inflammation, lung fibrosis, and lung tumors have been observed in some rats experimentally exposed for long periods of time to excessive concentrations of carbon black and several insoluble fine dust particles. Tumors have not been observed in other animal species (i.e., mouse and hampster) under similar circumstances and study conditions. Epidemiological studies of North American workers show no evidence of clinically significant adverse health effects due to occupational exposure to carbon black.
Carbon black is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC and is proposed to be listed as A4- "not classified as a human carcinogen" by the American Conference of Govermental Industrial Hygienists. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of carbon black in the formula. Contains crystalline silica as silicon dioxide. Excessive inhalation of respirable crystalline silica dust may cause lung disease, silicosis or lung cancer. Significant exposure is not anticipated during brush or trowel application or drying. Risk of overexposure depends on the duration and level of exposure to dust from repeated sanding of surfaces, mechanical abrasion or spray mist and actual concentration of crystalline silica in the formula. Crystalline silica is listed as Group 1 "carcinogenic to humans" by the International Agency for Research on Cancer (IARC,) and Group 2, "reasonably anticipated to be a carcinogen" by the National Toxicology Program (NTP)

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Eye Contact

Section 4 - First Aid Measures

First Aid - Eye Contact: Hold eyelids apart and flush with plenty of water for at least 15 minutes. Get medical attention.

First Aid - Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

First Aid - Inhalation: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

First Aid - Ingestion: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point: -156 F
(Setaflash)

LOWER EXPLOSIVE LIMIT: 0.7 %
UPPER EXPLOSIVE LIMIT : 12.8 %

Extinguishing Media: Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR! Water spray may be ineffective. Closed containers may explode when exposed to extreme heat.

Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Perforation of the pressurized container may cause bursting of the can. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame.

Special Firefighting Procedures: Evacuate area and fight fire from a safe distance.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

Section 7 - Handling And Storage

Handling: Wash hands before eating. Wash thoroughly after handling. Avoid breathing vapor or mist. Use only in a well-ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

Storage: Contents under pressure. Do not expose to heat or store above 120 ° F. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment.

Respiratory Protection: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Skin Protection: Nitrile or Neoprene gloves may afford adequate skin protection. Use impervious gloves to prevent skin contact and absorption of this material through the skin.

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other protective equipment: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

Hygienic Practices: Wash thoroughly with soap and water before eating, drinking or smoking.

Section 9 - Physical And Chemical Properties

Boiling Range:	-34 - 900 F	Vapor Density:	Heavier than air
Odor:	Solvent Like	Odor Threshold:	ND

Appearance:	Liquid	Evaporation Rate:	Faster than Ether
Solubility in H2O:	Slight		
Freeze Point:	ND	Specific Gravity:	
Vapor Pressure:		PH:	NE
Physical State:	Liquid		

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition. Flammable hydrogen gas will evolve when product comes in contact with water or damp air. Heat will be generated. The amount of heat generated will depend upon the volume of material in contact.

Incompatibility: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

Hazardous Decomposition: When heated to decomposition, it emits acrid smoke and irritating fumes. By open flame, carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

Product LD50: ND

Product LC50: ND

Chemical Name	LD50	LC50
Liquefied Petroleum Gas	N.D.	N.D.
Acetone	N.D.	N.D.
Toluene	N.D.	N.D.
Aliphatic Hydrocarbon	N.D.	N.D.
Xylene	N.D.	N.D.
Titanium Dioxide	>7500 mg/kg (ORAL, RAT)	N.D.
N-Butyl Acetate	13100 mg/kg (ORAL, RAT)	2000 PPM (INH 4 Hr, RAT)
Aliphatic Petroleum Distillates	N.D.	N.D.
Naphtha	>5000 mg/kg (ORAL, RAT)	N.D.
Magnesium Silicate	N.D.	TCLo:11mg/m3 inh.
Ethylbenzene	3500 mg/kg (ORAL, RAT)	N.D.
Aluminum Flake	N.D.	N.D.
Pigment Black 7	>8000 mg/kg (ORAL, RAT)	N.D.
Calcined Aluminum Silicate	5000 mg/kg (oral Rat)	N.D.
Pigment Red 122	N.D.	N.D.
Microcrystalline Silica	N.D.	N.D.

Section 12 - Ecological Information

Ecological Information: Product is a mixture of listed components.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance to local, state and federal regulations and ordinances. Do not allow to enter storm drains or sewer systems.

Section 14 - Transportation Information

DOT Proper Shipping Name:	Aerosol	Packing Group:	---
DOT Technical Name:	---	Hazard Subclass:	---
DOT Hazard Class:	2.1	Resp. Guide Page:	126
DOT UN/NA Number:	UN1950		

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD

SARA Section 313:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS Number
Toluene	108-88-3
Xylene	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

Listed below are the substances (if any) contained in this product that are subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None known

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS Number
Calcium Carbonate	1317-65-3
C-9 HYDROCARBON RESIN UNSATURATED	71302-83-5

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS Number
Calcium Carbonate	1317-65-3
C-9 HYDROCARBON RESIN UNSATURATED	71302-83-5
Modified Alkyd	PROPRIETARY
Modified Alkyd	PROPRIETARY
Water	7732-18-5
Barium Sulfate	7727-43-7

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name	CAS Number
Ethylbenzene	100-41-4
Microcrystalline Silica	14808-60-7
Benzene	71-43-2
Lead Compounds	NOT SPECIFIED
Formaldehyde	50-00-0
Cadmium Compounds	NOT SPECIFIED
Arsenic Compounds	NOT SPECIFIED
Nickel Compounds	NOT SPECIFIED
Acetaldehyde	75-07-0

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name	CAS Number
Toluene	108-88-3
Benzene	71-43-2
Mercury Compounds	NOT SPECIFIED
Lead Compounds	NOT SPECIFIED
Cadmium Compounds	NOT SPECIFIED
Arsenic Compounds	NOT SPECIFIED

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: AB5, D2A, D2B

Section 16 - Other Information

HMIS Ratings:

Health: 2 Flammability: 4 Reactivity: 0 Personal Protection: X

VOLATILE ORGANIC COMPOUNDS, g/l: NA

REASON FOR REVISION:

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained on this MSDS has been checked and should be accurate. However, it is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.

SAFETY DATA SHEET

1. Identification

Product identifier: CRAZY CLEAN ALL PURPOSE CLEANER

Other means of identification
SDS number: RE1000008937

Recommended restrictions
Product Use: Cleaner
Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name:	Sprayway, Inc.
Address:	1000 INTEGRAM DR Pacific,MO 63069
Telephone:	630-628-3000
Fax:	

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Gases under pressure	Compressed gas

Health Hazards

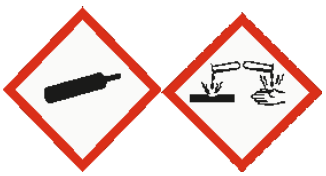
Serious Eye Damage/Eye Irritation	Category 1

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:	Contains gas under pressure; may explode if heated. Causes serious eye damage. Harmful to aquatic life.
Precautionary Statements	
Prevention:	Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment. Keep container tightly closed.
Response:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
Storage:	Protect from sunlight. Store in a well-ventilated place.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Hazard(s) not otherwise classified (HNOC):	None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Water	7732-18-5	50 - <100%
Ethanol, 2-butoxy-	111-76-2	1 - <5%
Alcohols, C9-11, ethoxylated	68439-46-3	1 - <3%
Butane	106-97-8	1 - <5%
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, sodium salt (1:4)	64-02-8	1 - <3%
Proprietary		1 - <5%
Propane	74-98-6	0.1 - <1%
Silicic acid (H2SiO3), sodium salt (1:2)	6834-92-0	0.1 - <1%
Sodium hydroxide (Na(OH))	1310-73-2	0.1 - <1%
Benzoic acid, phenylmethyl ester	120-51-4	0 - <0.1%
Glycine, N,N-bis(carboxymethyl)-, sodium salt (1:3)	5064-31-3	0 - <0.1%
Ammonium hydroxide ((NH4)(OH))	1336-21-6	0 - <0.1%
3-Cyclohexene-1-methanol, α,α,4-trimethyl-, 1-acetate	80-26-2	0 - <0.1%
Acetic acid, phenylmethyl ester	140-11-4	0 - <0.1%
Benzoic acid, 2-hydroxy-, phenylmethyl ester	118-58-1	0 - <0.1%
Benzeneethanol	60-12-8	0 - <0.1%
Cedrene	11028-42-5	0 - <0.1%
2-Propen-1-ol, 3-phenyl-	104-54-1	0 - <0.1%
Oils, orange, sweet	8008-57-9	0 - <0.1%
Oils, petitgrain	8014-17-3	0 - <0.1%
Ethanone, 1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthalenyl)-	1506-02-1	0 - <0.1%
3-Cyclohexene-1-methanol, α,α,4-trimethyl-	98-55-5	0 - <0.1%
Heptanal, 2-(phenylmethylene)-	122-40-7	0 - <0.1%
Oils, lavandin	8022-15-9	0 - <0.1%
1,3-Benzodioxole-5-carboxaldehyde	120-57-0	0 - <0.1%
Benzaldehyde, 4-methoxy-	123-11-5	0 - <0.1%
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	1222-05-5	0 - <0.1%
Benzene, 1,1'-oxybis-	101-84-8	0 - <0.1%
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	0 - <0.1%
2-Propenal, 3-phenyl-	104-55-2	0 - <0.1%
Oils, styrax	8024-01-9	0 - <0.1%

Benzenemethanol	100-51-6	0 - <0.1%
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	128-37-0	0 - <0.1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Stop flow of gas. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: Pressurized container may explode when exposed to heat or flame.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Do not get in eyes. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Protect from sunlight. Store in a cool place. Aerosol Level 1

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
Ethanol, 2-butoxy-	TWA	20 ppm		US. ACGIH Threshold Limit Values (2008)
	TWA	25 ppm	120 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	REL	5 ppm	24 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	50 ppm	240 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA PEL	20 ppm	97 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	TWA	25 ppm	120 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	AN ESL		760 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL		3,700 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL		2,900 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL		600 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Butane	REL	800 ppm	1,900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	800 ppm	1,900 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	1,000 ppm		US. ACGIH Threshold Limit Values (03 2018)
	TWA	800 ppm	1,900 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	AN ESL		3,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11

				2016)
	AN ESL		7,100 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	TWA PEL	800 ppm	1,900 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	ST ESL		66,000 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL		28,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Propane	REL	1,000 ppm	1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	1,000 ppm	1,800 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA PEL	1,000 ppm	1,800 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	TWA	1,000 ppm	1,800 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	TWA	1,000 ppm	1,800 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Sodium hydroxide (Na(OH))	Ceiling		2 mg/m3	US. ACGIH Threshold Limit Values (2008)
	Ceiling		2 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	Ceil_Time		2 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL		2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	Ceiling		2 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	Ceiling		2 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
Sodium hydroxide (Na(OH)) - Particulate.	AN ESL		2 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL		20 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Ammonium hydroxide ((NH4)(OH))	STEL	35 ppm		US. ACGIH Threshold Limit Values (2008)
	TWA	25 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	35 ppm	27 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	REL	25 ppm	18 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	50 ppm	35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	35 ppm	27 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA PEL	25 ppm	18 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	STEL	35 ppm	27 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	AN ESL		92 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL		180 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Acetic acid, phenylmethyl ester	TWA	10 ppm		US. ACGIH Threshold Limit Values (2008)
	TWA PEL	10 ppm	61 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)

	ST ESL		100 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL		10 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL		610 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL		61 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Benzene, 1,1'-oxybis- - Vapor.	STEL	2 ppm		US. ACGIH Threshold Limit Values (03 2018)
	TWA	1 ppm		US. ACGIH Threshold Limit Values (03 2018)
	PEL	1 ppm	7 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA PEL	1 ppm	7 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)
	REL	1 ppm	7 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	1 ppm	7 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Benzene, 1,1'-oxybis-	ST ESL		70 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL		7 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Benzene, 1,1'-oxybis- - Vapor.	TWA	1 ppm	7 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Benzene, 1,1'-oxybis-	ST ESL		10 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL		1 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	TWA		10 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA		10 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl- - Inhalable fraction and vapor.	TWA		2 mg/m3	US. ACGIH Threshold Limit Values (2008)
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	REL		10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA PEL		10 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (02 2012)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Ethanol, 2-butoxy- (Butoxyacetic acid (BAA), with hydrolysis: Sampling time: End of shift.)	200 mg/g (Creatinine in urine)	ACGIH BEL (03 2013)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information:	Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Eye/face protection:	Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.
Skin Protection	
Hand Protection:	No data available.
Other:	No data available.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Do not get in eyes. Observe good industrial hygiene practices.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	Spray Aerosol
Color:	No data available.
Odor:	No data available.
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	-104.44 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	2,757.9029 - 4,136.8544 hPa (20 °C)
Vapor density:	No data available.
Density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.

Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	No data available.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 11,270.09 mg/kg

Dermal
Product:

Inhalation

Product: Not classified for acute toxicity based on available data.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Water	No data available.
Ethanol, 2-butoxy-	No data available.
Alcohols, C9-11, ethoxylated	No data available.
Butane	No data available.
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, sodium salt (1:4)	No data available.
Proprietary	No data available.
Propane	No data available.
Silicic acid (H2SiO3), sodium salt (1:2)	No data available.
Sodium hydroxide (Na(OH))	No data available.
Benzoic acid, phenylmethyl ester	No data available.
Glycine, N,N-bis(carboxymethyl)-, sodium salt (1:3)	No data available.
Ammonium hydroxide ((NH4)(OH))	No data available.
3-Cyclohexene-1-methanol, α,α,4-trimethyl-, 1-acetate	No data available.
Acetic acid, phenylmethyl ester	No data available.
Benzoic acid, 2-hydroxy-, phenylmethyl ester	No data available.
Benzeneethanol	No data available.
Cedrene	No data available.
2-Propen-1-ol, 3-phenyl-	No data available.
Oils, orange, sweet	No data available.
Oils, petitgrain	No data available.
Ethanone, 1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthalenyl)-	No data available.
3-Cyclohexene-1-methanol, α,α,4-trimethyl-	No data available.
Heptanal, 2-(phenylmethylene)-	No data available.
Oils, lavandin	No data available.
1,3-Benzodioxole-5-carboxaldehyde	No data available.
Benzaldehyde, 4-methoxy-	No data available.
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	No data available.
Benzene, 1,1'-oxybis-	No data available.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	No data available.
2-Propenal, 3-phenyl-	No data available.
Oils, styrax	No data available.
Benzenemethanol	No data available.
Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	No data available.

Other adverse effects: Harmful to aquatic organisms.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: No data available.

14. Transport information

DOT

UN Number:	UN 1950
UN Proper Shipping Name:	
Transport Hazard Class(es)	
Class:	2.2
Label(s):	–
Packing Group:	II
Marine Pollutant:	No
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IMDG

UN Number:	UN 1950
UN Proper Shipping Name:	
Transport Hazard Class(es)	
Class:	2
Label(s):	–
EmS No.:	
Packing Group:	–
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IATA

UN Number:	UN 1950
Proper Shipping Name:	
Transport Hazard Class(es):	
Class:	2.2
Label(s):	–
Packing Group:	–
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.
Cargo aircraft only:	Forbidden.

15. Regulatory information

US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Butane	lbs. 100
Propane	lbs. 100
Sodium hydroxide (Na(OH))	lbs. 1000
Ammonium hydroxide ((NH4)(OH))	lbs. 1000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Sudden Release of Pressure
Immediate (Acute) Health Hazards
Gases under pressure
Serious Eye Damage/Eye Irritation
Simple asphyxiant

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Ethanol, 2-butoxy-	
Butane	lbs. 100
Propane	lbs. 100
Sodium hydroxide (Na(OH))	lbs. 1000
Ammonium hydroxide ((NH4)(OH))	lbs. 1000
Cedrene	

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Water	10000 lbs
Ethanol, 2-butoxy-	10000 lbs
Alcohols, C9-11, ethoxylated	10000 lbs
Butane	10000 lbs
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, sodium salt (1:4)	10000 lbs
Proprietary	10000 lbs
Propane	10000 lbs
Silicic acid (H2SiO3), sodium salt (1:2)	10000 lbs
Sodium hydroxide (Na(OH))	10000 lbs
Benzoic acid, phenylmethyl ester	10000 lbs
Glycine, N,N-bis(carboxymethyl)-, sodium salt (1:3)	10000 lbs
Ammonium hydroxide ((NH4)(OH))	10000 lbs
3-Cyclohexene-1-methanol, α,α,4-trimethyl-, 1-acetate	10000 lbs
Acetic acid, phenylmethyl ester	10000 lbs
Benzoic acid, 2-hydroxy-, phenylmethyl ester	10000 lbs
Benzeneethanol	10000 lbs
Cedrene	10000 lbs
2-Propen-1-ol, 3-phenyl-	10000 lbs
Oils, orange, sweet	10000 lbs
Oils, petitgrain	10000 lbs
Ethanone, 1-(5,6,7,8-tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthalenyl)-	10000 lbs
3-Cyclohexene-1-methanol, α,α,4-trimethyl-	10000 lbs
Heptanal, 2-(phenylmethylene)-	10000 lbs
Oils, lavandin	10000 lbs
1,3-Benzodioxole-5-carboxaldehyde	10000 lbs
Benzaldehyde, 4-methoxy-	10000 lbs
Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-	10000 lbs
Benzene, 1,1'-oxybis-	10000 lbs
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	10000 lbs
2-Propenal, 3-phenyl-	10000 lbs
Oils, styrax	10000 lbs
Benzenemethanol	10000 lbs

Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-	10000 lbs

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
Ethanol, 2-butoxy-	N230 lbs	N230 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Ethanol, 2-butoxy-
Butane

US. Massachusetts RTK - Substance List

Chemical Identity
Glycine, N,N-bis(carboxymethyl)-, sodium salt (1:3)

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Ethanol, 2-butoxy-
Butane

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

Inventory Status:

Australia AICS:	Not in compliance with the inventory.
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	Not in compliance with the inventory.
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	Not in compliance with the inventory.
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
Mexico INSQ:	Not in compliance with the inventory.
Ontario Inventory:	Not in compliance with the inventory.
Taiwan Chemical Substance Inventory:	Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

Issue Date:	05/03/2019
Revision Information:	No data available.
Version #:	1.0
Further Information:	No data available.
Disclaimer:	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

Unilever Asia Private Limited
20 Pasir Panjang Road #06-22
Mapletree Business City
Singapore 117439

T : (65) 6643 3000
F : (65) 6570 1090

Safety Data Sheet
HAND SANITIZER

1. Product and Manufacturer Identification

Product name	Suave Professional Pump Hand Sanitizer		
Other means of identification	SUAVE 500ML Professional Pump Hand sanitizer		
Recommended use	Use as a hand sanitizer.		
Restrictions on use	This is a personal care product that is safe for consumers under normal use. This SDS contains information to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills.		
Manufacturer/Supplier	Unilever Asia Private Limited		
Address	20 Pasir Panjang Road #06-22 Mapletree Business City Singapore 117439		
Telephone	: (65) 6643 3000	**Fax.**	: (65) 6570 1090
MSDS No.	2020001586 bE	**Effective date**	March 16, 2020
Distributor:	PRIDE PRODUCTS, 4333 VETERANS MEMORIAL HIGHWAY, RONKONKOMA NY 11779. TEL: 1-800-767-3757 NEPTUNE HEALTH AND WELLNESS INNOVATION INC 408 S. MCLIN CREEK ROAD CONOVER, NC 28613. TEL: 1-888-664-9166.		

2. Hazards Identification

GHS Classification	Flammable liquids (Category 2) Eye irritation (Category 2A)
GHS Label element	

Pictogram	
Signal Word	Danger
Hazard statement(s)	H225 Highly flammable liquid and vapor. H319 Causes serious eye irritation.
Precautionary Statements	P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P233 Keep container tightly closed. P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P280 Wear protective gloves/ eye protection/ face protection. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/ attention. P403 + P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards	May cause fire or explosion when exposed to high heat or flame.

* Classification according to GHS (Globally Harmonized System of Classification and Labelling of Chemicals) (8th revised edition)

3. Composition/Information on Ingredients

Component	Range % by v/v（wt）
Ethanol	75（73.91）
Water	25.51
Carbomer	0.4
Triethanolamine	0.09

Tert-Butyl Alcohol	0.093
Denatonium Benzoate	0.0004

4. First Aid Measures

General advice	In the case of an accident seek medical attention immediately. In all cases of suspicion or lasting symptoms, seek medical advice.
Skin contact	Wash with water and soap as a safety measure. If symptoms occur, please get medical attention
Eye contact	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If experiencing eye symptoms, get medical attention.
Inhalation	Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms, consult a physician.
Ingestion	If swallowed, rinse mouth thoroughly with water and do not try to induce vomiting. Seek medical attention if symptoms occur.
Acute and delayed symptoms are important	Can generate serious eye irritation.
Protection of firstaiders	First Aid emergency crews should adhere to self-protection procedures and use PPE when exposure exists.
First Aid Procedures	In the event of an emergency, notes to physician to treat symptomatically and supportively.

5. Fire Fighting Measures

Suitable extinguishing media	Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO2), sand
Unsuitable extinguishing media	High volume water jet
Specific hazards during fire fighting	Do not use solid water flow because it may spread and spread fire. At the same time, a mixture of vapor and air will form an explosive mixture. Flash back possible over considerable distance. Exposure to combustion products may be harmful to health
Hazardous combustion products	Carbon oxides and other toxic/irritating fumes.
Specific extinguishing measures	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters	Use self-contained breathing apparatus and personal protective equipment in the event of fire.

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures	Remove all sources of ignition. Use personal protective equipment and adhere to safe handling procedures.
Methods and materials for containment and cleaning up	When safe to do so, avoid any further leakage or spillage. Isolate the hazard area and keep unnecessary and unprotected personnel from entering. Removal of ignition sources. Use non-sparking tools and equipment. Soak up the leakage with inert absorbent material and recover into suitable, closed containers for disposal. Local or national regulations may apply to the disposal of materials and what's applicable. Flush the contaminated area with plenty of water. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained to avoid release to the environment.

7. Handling and Storage Measures

Precautions of safe handling	Keep containers tightly closed when not in use. Ensure good ventilation/exhaustion at the workplace. Use explosion-proof electrical/ventilating/lighting equipment and non-sparking tools. Avoid static discharges. Keep away from sources of ignition or heat. No smoking. Do not breathe vapors or spray mist. Do not swallow. Do not get into eyes. Avoid prolonged or repeated contact with skin. Handle in accordance with good industrial hygiene and safety practice.
Conditions for safe storage	Keep in properly labeled containers and tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat, sources of ignition and equipped with adequate firefighting equipment.

Incompatibilities	Avoid to store with the following product types: Strong oxidizing agents, Organic peroxides, Flammable solids, Pyrophoric liquids, Pyrophoric solids, Self-heating substances and mixtures, Substances and mixtures which in contact with water emit, flammable gases, Explosives, Gases.

8. Exposure Controls / Personal Protection

Occupational exposure limits	Component	CAS No.	Limited Values
	Ethanol	64-17-5	1000 ppm TWA (OSHA) 1900 mg/m3 TWA (OSHA) 1000 ppm TWA (ACGIH)
			1900 mg/m3 TWA (NIOSH)
	Triethanolami ne	I02-71-6	5 mg/m3 TWA (ACGIH)
Appropriate engineering controls	Use explosion-proof electrical/ventilating/lighting equipment and non-sparking tools. In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if the workers experiencing symptoms, a local exhaust system should be considered. Maintain eye wash fountain and quick-drench facilities in work area.		
Respiratory protection	Keep the workplace well-ventilated. If the exposure level exceeds the recommended limits or the engineering controls are not feasible, wear a half facepiece or full- face piece air-purified respirator such as respirator with multi-purpose combination(us) or respirator with type ABEK (EN 14387) respirator cartridges. For emergencies or instance where the exposure levels are not known, use a full- facepiece positive- pressure, air-supplied respirator. The respirators and components should be tested and approved appropriate official standards such as NIOSH(US) or CEN(EU). WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres		
Eye protection	Use safety goggles or face protections to protect against possible eye exposure. The safety goggles or face protections should be tested and approved appropriate official standards such as NIOSH(US) or CEN(EU).		
Hygiene Measures	Ensure that eye flushing systems and safety showers are located closed to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-sue.		

Skin and body protection	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: Flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc.)
Skin protection	Wear protective gloves and anti-static clothing.
Hand protection	Wear protective gloves. The selected protective gloves should satisfy the specifications of EU. Directive 89/686/EEC and the standard EN374.
Other protection	No information.

9.Chemical and Physical Properties

Appearance	Colorless viscous liquid, with weak odor.
Odor	Has the original smell of ethanol
Odor threshold	No data available
pH	4.5--9.0
Melting point/freezing point	No data available
Initial boiling point and boiling range	＞35 ℃
Flash point	21 °C (Closed Cup)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density 20℃/20℃ (water=l)	0.870 +/-0.02
Solubility(ies)	Miscible with water.
Partition coefficient: noctanol/water	Not applicable

Auto-ignition temperature	No data available
Decomposition temperature	The substance or mixture is not classified self-reactive
viscosity	4500-12000cp
Octanol/water partition coefficient as log Pow	Ethanol (CAS No.64-17-5): -0.35 (20°C)
Flammability	Flammable liquid (Category 2).
Explosive properties	Not classified as explosive substance.
Oxidizing properties	Not classified as oxidizing substance.
Main purpose	Used for sterilization.
Other properties	No data available.

10. Stability and Reactivity

Reactivity	Not classified as a reactivity hazard.
Chemical stability	Stable under ordinary conditions of use and storage.
Possibility of hazardous reactions	Flammable liquid and vapor. Vapors may form explosive mixture with air. Can react with strong oxidizing agents
Conditions to avoid	High heat, flame.紫外线照射
Incompatible materials	Oxidizing agents
Hazardous decomposition products	Exposure to heat and flame may cause fire/explosion and release carbon oxides and other toxic/irritating fumes.

11. Toxicological Information

Information on the likely routes of exposure	Inhalation, Skin contact, Ingestion, Eye contact
Symptoms related to the physical,chemical and toxicological characteristics	No data available

Acute toxicity	No data available
Delayed and immediate effects and also chronic effects from short-and long term exposure	No data available
Skin irritation/corrosion	Ethanol (CAS No. 64-17-5): Not irritating.
Eye damage/irritation	No data available.
Respiratory or skin sensitization	No data available.
Reproductive cell mutagenicity	No data available.
Carcinogenicity	The substance is not listed in IARC (International Agency for Research on Cancer) Category.
Reproductive toxicity	No data available.
STOT-single exposure	No data available.
STOT-repeated exposure	No data available.
Aspiration hazard	May be harmful if the liquid entered the respiratory tract.
Health hazards	Skin Contact: May cause mild irritation. Eye Contact: May cause irritation. Inhalation: May causes respiratory tract irritation. Excessive inhalation may cause headache, fatigue and drowsiness. Ingestion: May be harmful if swallowed. May cause burning sensation, headache, confusion, dizziness and unconsciousness.
Other toxicity	No data available.

12. Ecological Information

Ecological toxicity	Ethanol (CAS No. 64-17-5): Toxicity to fishes LC50 - Pimephales promelas - 14200 mg/L - 96 h Toxicity to daphnia and LC50 - Ceriodaphnia dubia - 5012 mg/L --48 h other aquatic invertebrates NOEC - Daphnia magna - 9.6 mg/L - 9 d Toxicity to algae EC50 - Chlorella vulgaris - 275 mg/L - 72 h Triethanolamine (CAS No. I 02-71-6): Toxicity to daphnia and EC50 - Daphnia - 609.98 mg/I - 48 h other aquatic invertebrates
Persistence and degradability	Ethanol (CAS No. 64-17-5): Readily biodegradable. Triethanolamine (CAS No. 102-71-6): Readily biodegradable .
Bioaccumulation	No data available.
Mobility in soil	No data available .
Others	No data available.

13. Disposal Information

Disposal measures	Offer surplus and non-recyclable solutions to a licensed disposal company.
Notes	Local disposal regulations may differ from Chinese regulations. Dispose in accordance with local country or state.

14. Transportation Information

Regulations	IATA DGR (61st Edition)	IMDG Code (2018 Edition)
UN No.	UN1l70	UN1 170
Proper Shipping Name	Ethanol solution	Ethanol solution
Hazard Class/Division	3	3
Packing Group	II	II
Packing Method	Y341, 353,364	POOi, IBC02, T4, TPI
Environmental hazards	Not regulated as environmentally hazardous substance/marine pollutants	
Transport	Transport as cases of 24 x 500ML in Consumer Packaging	

Land	UN No.: UN1170 Proper shipping name: ethanol solution Hazard class/division: 3 Packing Group: II Environment hazards: not regulated as environmentally hazardous substance
	Label: 
Air (cargo aircraft)	UN No.: UN1170 Proper shipping name: ethanol solution Hazard class/division: 3 Packing Group: II Environment hazards: not regulated as environmentally hazardous substance Label: 
Air (passenger aircraft)	UN No.: UN1170 Proper shipping name: ethanol solution Hazard class/division: 3 Packing Group: II Environment hazards: not regulated as environmentally hazardous substance Label: 
Ship	UN No.: UN1170 Proper shipping name: ethanol solution Hazard class/division: 3 Packing Group: II Environment hazards: not regulated as environmentally hazardous substance/marine pollutants. Label: 
Notes	No information.

15. Regulatory Information

Domestic authority regulations:

Regulations on the Safety Administration of Dangerous Chemicals (2011).

This substance is listed in General rule for classification and hazard communication of chemicals (GB 13690-2009).

International Regulations:

Commission Regulation (EC) No. 1907/2006 (REACH) and its amendments.

Commission Regulation (EC) No. 12 72/2008 (CLP) and its amendments.

Waste Framework Directive 2008/98/EC and its amendments. Toxic Substance Control Act (TSCA).

16. Other Information

According to	Safety Data Sheet for Chemical Products-Content and Order of Sections (ISO I I014: 2009)
Issue date	March 16, 2020
Prepared and checked by	Department of Physical Properties Test, China National Analytical Center, Guangzhou
Other information	NO

********** The End **********

PTFE Tape
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Article

Product name : PTFE Tape

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only

Use of the substance/mixture : The tape is intended as an antiseize and sealant of pipe threads of liquid and gaseous oxygen systems of 2,000 psi or less.

Uses advised agaisnt : Incompatible with molten alkali metals, fluorine and other halogens, strong oxidizing agents.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Swagelok
29495 F.A. Lennon Drive
44139 Solon, OH - United States
T 440-349-5600 - F 440-519-3304
www.swagelok.com

Supplier:
Distributor, add your contact information

1.4. Emergency telephone number

Emergency number : **Infotrac**: North America: 1-800-535-5053 International: 1-352-323-3500

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

No labeling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH annex II

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Firefighters should wear protective clothing and use equipment that is suitable for the materials involved in the surrounding fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : At temperatures above 700F/371C, may produce decomposition products containing carbon monoxide, carbon dioxide, hydrogen.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

Other information : Exposure to fire/heat: keep upwind.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : children. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage area : Store in a cool, dry place for optimal product performance. Store away from oxidizers. May decompose when heated above 700F/371C.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

General industrial hygiene practice. Ensure good ventilation of the work station.

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Use of a NIOSH approved organic vapor respirator when the product is being used in high temperature applications.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Tape.
Color	:	White.
Odor	:	Odorless.
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	626 - 655°F
Freezing point	:	-341 °C
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	371 °C
Flammability (solid, gas)	:	Non flammable
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	2.2 (H2O=1)
Solubility	:	insoluble in water.
Log Pow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosion limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Relatively inert, as long as it is used at temperatures not exceeding 550F.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. Relatively inert, as long as it is used at temperatures not exceeding 550F.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Hydrogen fluoride. Toxic organo-fluorine compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Aquatic acute	: Not classified
Aquatic chronic	: Not classified

12.2. Persistence and degradability

PTFE Tape	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

PTFE Tape	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable

UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH candidate substance

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Other information : None.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

SAFETY DATA SHEET

1. Identification

Product identifier	**UNLEADED GASOLINE**
Other means of identification	
SDS number	002-GHS
Synonyms	Regular/Premium/Midgrade - Unleaded Gasoline, RFG - Reformulated Unleaded Gasoline, Conventional Unleaded Gasoline, Oxygenated Unleaded Gasoline, Non-Oxygenated Unleaded Gasoline, CARB (California Air Resource Board) Unleaded Gasoline, RBOB - Reformulated Blendstock for Oxygenate Blending, CBOB - Conventional Blendstock for Oxygenate Blending, Petrol, Motor Fuel. See section 16 for complete information.
Recommended use	Motor Fuel Motor fuels.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier	Valero Marketing & Supply Company and Affiliates One Valero Way San Antonio, TX 78269-6000
General Assistance	210-345-4593
E-Mail	CorpHSE@valero.com
Contact Person	Industrial Hygienist
Emergency Telephone	24 Hour Emergency 866-565-5220 1-800-424-9300 (CHEMTREC USA)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 1
Health hazards	Skin corrosion/irritation	Category 2
	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 1B
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Extremely flammable liquid and vapor. Causes skin irritation. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause drowsiness or dizziness. May cause damage to organs (blood, liver, kidney) through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting// equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe gas/mist/vapors/spray. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
Response	If exposed or concerned: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water fog for extinction. Collect spillage.
Storage	Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Gasoline	86290-81-5	80-100
Toluene	108-88-3	0-30
Hexane (Other Isomers)	96-14-0	5-25
Xylene (o, m, p isomers)	1330-20-7	0-25
Octane (All isomers)	111-65-9	0-18.5
Ethanol	64-17-5	0-10
1,2,4, Trimethylbenzene	95-63-6	0-6
n-Heptane	142-82-5	1-5
Pentane	109-66-0	1-5
Cumene	98-82-8	0-5
Ethylbenzene	100-41-4	0-5
Benzene	71-43-2	0-4.9
n-Hexane	110-54-3	0-3
Cyclohexane	110-82-7	0-3

4. First-aid measures

Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin contact	Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
Ingestion	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.

Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire-fighting equipment/instructions	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapors may form explosive air mixtures even at room temperature. Prevent buildup of vapors or gases to explosive concentrations. Some of these materials, if spilled, may evaporate leaving a flammable residue. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.
Specific methods	Use water spray to cool unopened containers.
General fire hazards	Extremely flammable liquid and vapor. Containers may explode when heated.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas. Use non-sparking tools and explosion-proof equipment. Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.
Environmental precautions	Gasoline may contain oxygenated blend products (Ethanol, etc.) that are soluble in water and therefore precautions should be taken to protect surface and groundwater sources from contamination. If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Extremely flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802.

7. Handling and storage

Precautions for safe handling

Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.
Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Cumene (CAS 98-82-8)	PEL	245 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	PEL	1050 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	PEL	1900 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
n-Heptane (CAS 142-82-5)	PEL	2000 mg/m3
		500 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m3
		500 ppm
Octane (All isomers) (CAS 111-65-9)	PEL	2350 mg/m3
		500 ppm
Pentane (CAS 109-66-0)	PEL	2950 mg/m3
		1000 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	PEL	435 mg/m3
		100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Benzene (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 ppm
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
	TWA	0.5 ppm
Cumene (CAS 98-82-8)	TWA	50 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm
Pentane (CAS 109-66-0)	TWA	600 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3
		25 ppm
Benzene (CAS 71-43-2)	STEL	1 ppm
	TWA	0.1 ppm
Cumene (CAS 98-82-8)	TWA	245 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	TWA	1050 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
		125 ppm
	TWA	435 mg/m3
		100 ppm
Hexane (Other Isomers) (CAS 96-14-0)	Ceiling	1800 mg/m3
		510 ppm
	TWA	350 mg/m3
		100 ppm
n-Heptane (CAS 142-82-5)	Ceiling	1800 mg/m3
		440 ppm
	TWA	350 mg/m3
		85 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3
		50 ppm
Octane (All isomers) (CAS 111-65-9)	Ceiling	1800 mg/m3
		385 ppm
	TWA	350 mg/m3
		75 ppm
Pentane (CAS 109-66-0)	Ceiling	1800 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
		610 ppm
	TWA	350 mg/m3
		120 ppm
Toluene (CAS 108-88-3)	STEL	560 mg/m3
		150 ppm
	TWA	375 mg/m3
		100 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	655 mg/m3
		150 ppm
	TWA	435 mg/m3
		100 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Benzene (CAS 71-43-2)	25 µg/g	S-Phenylmercapturic acid	Creatinine in urine	*
Ethylbenzene (CAS 100-41-4)	0.7 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedi - on, without hydrolysis		*
	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
Xylene (o, m, p isomers) (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Cumene (CAS 98-82-8)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cumene (CAS 98-82-8)	Skin designation applies.
Toluene (CAS 108-88-3)	Skin designation applies.

US - Tennesse OELs: Skin designation

Cumene (CAS 98-82-8)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cumene (CAS 98-82-8)	Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Cumene (CAS 98-82-8)	Can be absorbed through the skin.

Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.
Skin protection	
Hand protection	Avoid exposure - obtain special instructions before use. Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
Other	Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.
Respiratory protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Light straw to red clear liquid with characteristic strong odor of gasoline.
Physical state	Liquid.
Form	Liquid.
Color	Light straw to red clear.
Odor	Characteristic Gasoline Odor (Strong).
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	44.01 °F (6.67 °C) May start to solidify at this temperature. This is based on data for the following ingredient: Cyclohexane. Weighted average: -91.9 deg C (-133.4 deg F)
Initial boiling point and boiling range	80.06 - 440.06 °F (26.7 - 226.7 °C)
Flash point	-40.0 °F (-40.0 °C) (closed cup)
Evaporation rate	10 - 11 BuAc
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.3 %
Flammability limit - upper (%)	7.1 %
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	60.8 - 101.3 kPa (20°C)
Vapor density	3 - 4 (Air=1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Very slightly soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	> 500 °F (> 260 °C)
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Flash point class	Flammable IA
VOC (Weight %)	100 %

10. Stability and reactivity

Reactivity	None known.
Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Swallowing or vomiting of the liquid may result in aspiration into the lungs.
Inhalation	In high concentrations, mists/vapors may irritate throat and respiratory system and cause coughing. May cause drowsiness or dizziness.
Skin contact	Causes skin irritation. Prolonged contact may cause dryness of the skin.
Eye contact	May cause eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.

Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

Components	Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)		
Acute		
Dermal		
LD50	Rabbit	> 3160 mg/kg
Inhalation		
LC50	Rat	> 2000 mg/l, 48 Hours
Oral		
LD50	Rat	6 g/kg
Benzene (CAS 71-43-2)		
Acute		
Oral		
LD50	Rat	3306 mg/kg
Cumene (CAS 98-82-8)		
Acute		
Inhalation		
LC50	Mouse	2000 mg/l, 7 Hours
	Rat	8000 mg/l, 4 Hours
Oral		
LD50	Rat	1400 mg/kg
Cyclohexane (CAS 110-82-7)		
Acute		
Oral		
LD50	Rat	12705 mg/kg

Components	Species	Test Results
Ethanol (CAS 64-17-5)		
Acute		
Inhalation		
LC50	Rat	30000 mg/m3
Ethylbenzene (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	5.46 g/kg
n-Heptane (CAS 142-82-5)		
Acute		
Inhalation		
LC50	Rat	103 mg/l, 4 Hours
n-Hexane (CAS 110-54-3)		
Acute		
Oral		
LD50	Rat	28710 mg/kg
Octane (All isomers) (CAS 111-65-9)		
Acute		
Inhalation		
LC50	Rat	118 mg/l, 4 Hours
Pentane (CAS 109-66-0)		
Acute		
Inhalation		
LC50	Rat	364 mg/l, 4 Hours
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	14.1 ml/kg
Inhalation		
LC50	Rat	8000 mg/l, 4 Hours
Oral		
LD50	Rat	2.6 g/kg
Xylene (o, m, p isomers) (CAS 1330-20-7)		
Acute		
Oral		
LD50	Rat	4300 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitization

Respiratory sensitization Based on available data, the classification criteria are not met.

Skin sensitization Based on available data, the classification criteria are not met.
This substance may have a potential for sensitization which may provoke an allergic reaction among sensitive individuals.

Germ cell mutagenicity May cause genetic defects.
In in-vitro experiments, neither benzene, toluene nor xylene changed the number of sister-chromatid exchanges (SCEs) or the number of chromosomal aberrations in human lymphocytes. However, toluene and xylene caused a significant cell growth inhibition which was not observed with benzene in the same concentrations. In in-vivo experiments, toluene changed the number of sister-chromatid exchanges (SCEs) in human lymphocytes. Toluene may cause heritable genetic damage.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Benzene (CAS 71-43-2)	1 Carcinogenic to humans.
Cumene (CAS 98-82-8)	2B Possibly carcinogenic to humans.
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Gasoline (CAS 86290-81-5)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (o, m, p isomers) (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Benzene (CAS 71-43-2)	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Benzene (CAS 71-43-2)	Cancer

Reproductive toxicity Suspected of damaging fertility or the unborn child.
Benzene, xylene and toluene have demonstrated animal effects of reproductive toxicity. Animal studies of benzene have shown testicular effects, alterations in reproductive cycles, chromosomal aberrations and embryo/fetotoxicity. Ethanol has demonstrated human effects of reproductive toxicity. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Avoid exposure to women during early pregnancy. Avoid contact during pregnancy/while nursing.

Specific target organ toxicity - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure May cause damage to the following organs through prolonged or repeated exposure: Blood. Kidneys. Liver.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Repeated exposure of laboratory animals to high concentrations of gasoline vapors has caused kidney damage and cancer in rats and cancer in mice. Gasoline was evaluated for genetic activity in assays using microbial cells, cultured mammalian cells and rat bone marrow cells. The results were all negative so gasoline was considered nonmutagenic under these conditions. Overexposure to this product or its components has been suggested as a cause of liver abnormalities in laboratory animals and humans. Lifetime studies by the American Petroleum Institute have shown that kidney damage and kidney cancer can occur in male rats after prolonged inhalation exposures at elevated concentrations of total gasoline. Kidneys of mice and female rats were unaffected. The U.S. EPA Risk Assessment Forum has concluded that the male rat kidney tumor results are not relevant for humans. Total gasoline exposure also produced liver tumors in female mice only. The implication of these data for humans has not been determined.

Further information Symptoms may be delayed.

12. Ecological information

Ecotoxicity Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Components		Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	7.19 - 8.28 mg/l, 96 hours
Benzene (CAS 71-43-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	8.76 - 15.6 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	7.2 - 11.7 mg/l, 96 hours
Cumene (CAS 98-82-8)			
Aquatic			
Crustacea	EC50	Brine shrimp (Artemia sp.)	3.55 - 11.29 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.7 mg/l, 96 hours
Cyclohexane (CAS 110-82-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	3.961 - 5.181 mg/l, 96 hours
		Striped bass (Morone saxatilis)	8.3 mg/l, 96 hours

Components		Species	Test Results
Ethanol (CAS 64-17-5)			
Aquatic			
Algae	EC50	Freshwater algae	275 mg/l, 72 Hours
		Marine water algae	1970 mg/l
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
		Freshwater fish	11200 mg/l, 96 Hours
Invertebrate	EC50	Freshwater invertebrate	5012 mg/l, 48 Hours
		Marine water invertebrate	857 mg/l, 48 Hours
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1 - 4 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4 mg/l, 96 hours
n-Heptane (CAS 142-82-5)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	4924 mg/l, 96 hours
n-Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha)	6.86 - 8.48 mg/l, 96 hours
Xylene (o, m, p isomers) (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8 mg/l, 96 Hours

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

Benzene (CAS 71-43-2)	2.13
Cumene (CAS 98-82-8)	3.66
Cyclohexane (CAS 110-82-7)	3.44
Ethanol (CAS 64-17-5)	-0.31
Ethylbenzene (CAS 100-41-4)	3.15
Hexane (Other Isomers) (CAS 96-14-0)	3.6
Octane (All isomers) (CAS 111-65-9)	5.18
Pentane (CAS 109-66-0)	3.39
Toluene (CAS 108-88-3)	2.73
Xylene (o, m, p isomers) (CAS 1330-20-7)	3.2
n-Heptane (CAS 142-82-5)	4.66
n-Hexane (CAS 110-54-3)	3.9

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

Hazardous waste code D001: Waste Flammable material with a flash point <140 °F
D018: Waste Benzene

US RCRA Hazardous Waste U List: Reference

Benzene (CAS 71-43-2)	U019
Cumene (CAS 98-82-8)	U055
Cyclohexane (CAS 110-82-7)	U056
Toluene (CAS 108-88-3)	U220
Xylene (o, m, p isomers) (CAS 1330-20-7)	U239

Waste from residues / unused products Dispose of in accordance with local regulations.

Contaminated packaging Offer rinsed packaging material to local recycling facilities.

14. Transport information

DOT

UN number	UN1203
UN proper shipping name	Gasoline
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	139, B33, B101, T8
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1203
UN proper shipping name	Gasoline
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Environmental hazards	Yes
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1203
UN proper shipping name	Gasoline
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable. However, this product is a liquid and if transported in bulk covered under MARPOL 73/78, Annex I.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Benzene (CAS 71-43-2)	Cancer

Central nervous system
Blood
Aspiration
Skin
Eye
Respiratory tract irritation
Flammability

CERCLA Hazardous Substance List (40 CFR 302.4)

Benzene (CAS 71-43-2)	LISTED
Cumene (CAS 98-82-8)	LISTED
Cyclohexane (CAS 110-82-7)	LISTED
Ethanol (CAS 64-17-5)	LISTED
Ethylbenzene (CAS 100-41-4)	LISTED
Gasoline (CAS 86290-81-5)	LISTED
Hexane (Other Isomers) (CAS 96-14-0)	LISTED
n-Heptane (CAS 142-82-5)	LISTED
n-Hexane (CAS 110-54-3)	LISTED
Octane (All isomers) (CAS 111-65-9)	LISTED
Pentane (CAS 109-66-0)	LISTED
Toluene (CAS 108-88-3)	LISTED
Xylene (o, m, p isomers) (CAS 1330-20-7)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Toluene	108-88-3	0-30
Xylene (o, m, p isomers)	1330-20-7	0-25
1,2,4, Trimethylbenzene	95-63-6	0-6
Cumene	98-82-8	0-5
Ethylbenzene	100-41-4	0-5
Benzene	71-43-2	0-4.9
n-Hexane	110-54-3	0-3
Cyclohexane	110-82-7	0-3

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Benzene (CAS 71-43-2)
Cumene (CAS 98-82-8)
Ethylbenzene (CAS 100-41-4)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Xylene (o, m, p isomers) (CAS 1330-20-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Pentane (CAS 109-66-0)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Toluene (CAS 108-88-3) 6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Toluene (CAS 108-88-3) 35 % weight/volumn

DEA Exempt Chemical Mixtures Code Number

Toluene (CAS 108-88-3) 594

US state regulations

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

1,2,4, Trimethylbenzene (CAS 95-63-6)
Benzene (CAS 71-43-2)
Cumene (CAS 98-82-8)
Cyclohexane (CAS 110-82-7)
Ethanol (CAS 64-17-5)
Ethylbenzene (CAS 100-41-4)
Hexane (Other Isomers) (CAS 96-14-0)
n-Heptane (CAS 142-82-5)
n-Hexane (CAS 110-54-3)
Octane (All isomers) (CAS 111-65-9)
Pentane (CAS 109-66-0)
Toluene (CAS 108-88-3)
Xylene (o, m, p isomers) (CAS 1330-20-7)

US. New Jersey Worker and Community Right-to-Know Act

1,2,4, Trimethylbenzene (CAS 95-63-6)
Benzene (CAS 71-43-2)
Cumene (CAS 98-82-8)
Cyclohexane (CAS 110-82-7)
Ethanol (CAS 64-17-5)
Ethylbenzene (CAS 100-41-4)
n-Heptane (CAS 142-82-5)
n-Hexane (CAS 110-54-3)
Octane (All isomers) (CAS 111-65-9)
Pentane (CAS 109-66-0)
Toluene (CAS 108-88-3)
Xylene (o, m, p isomers) (CAS 1330-20-7)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2,4, Trimethylbenzene (CAS 95-63-6)
Benzene (CAS 71-43-2)
Cumene (CAS 98-82-8)
Cyclohexane (CAS 110-82-7)
Ethanol (CAS 64-17-5)
Ethylbenzene (CAS 100-41-4)
Gasoline (CAS 86290-81-5)
Hexane (Other Isomers) (CAS 96-14-0)
n-Heptane (CAS 142-82-5)
n-Hexane (CAS 110-54-3)
Octane (All isomers) (CAS 111-65-9)
Pentane (CAS 109-66-0)
Toluene (CAS 108-88-3)
Xylene (o, m, p isomers) (CAS 1330-20-7)

US. Rhode Island RTK

1,2,4, Trimethylbenzene (CAS 95-63-6)
Benzene (CAS 71-43-2)
Cumene (CAS 98-82-8)
Cyclohexane (CAS 110-82-7)
Ethylbenzene (CAS 100-41-4)
n-Hexane (CAS 110-54-3)
Pentane (CAS 109-66-0)
Toluene (CAS 108-88-3)
Xylene (o, m, p isomers) (CAS 1330-20-7)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Benzene (CAS 71-43-2)
Cumene (CAS 98-82-8)
Ethylbenzene (CAS 100-41-4)
Toluene (CAS 108-88-3)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

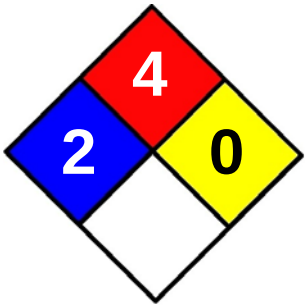
Issue date 13-May-2013

Revision date 23-May-2014

Version # 03

Further information HMIS® is a registered trade and service mark of the NPCA.

NFPA Ratings



References

ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

This material Safety Data Sheet (SDS) was prepared in accordance with 29 CFR 1910.1200 by Valero Marketing & Supply Co., ("VALERO"). VALERO does not assume any liability arising out of product use by others. The information, recommendations, and suggestions presented in this SDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use , the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.

SAFETY DATA SHEET

Effective Date: 3/01/2017
Replaces: 6/01/2015

Hot-Mix Asphalt

1. Identification

Product name:
Hot-Mix Asphalt

Other means of identification/Synonyms/Common Names:
Black Base, Blacktop, CMHB (all types), Hot Mix (all types; may contain rap), Hot-Mix Paving Material, Petroleum-derived Asphalt Concrete

Recommended use:
Hot-Mix Asphalt is used as a construction material.

Recommended restrictions:
None Known

Manufacturer/Contact info:
Vulcan Materials Company and its subsidiaries and affiliates
1200 Urban Center Drive
Birmingham, AL 35242

General Phone Number:
1.866.401.5424

Emergency Phone Number:
1.866.401.5424 (3E Company, 24hours/day, 7 Days/week)

Website:
www.vulcanmaterials.com

2. Hazard(s) Identification

Physical hazards:
Not Classified

Health hazards:
Carcinogenicity-Category 1A
Reproductive Toxicity- Category 2
Specific target organ toxicity, repeated exposure- Category 2

Signal word:

Danger

Hazard statement
May cause cancer (Inhalation)
Suspected of damaging the unborn child
Causes damage to organs (lung/respiratory system, adrenals, bone marrow, liver, lymph nodes, kidney, stomach and thymus) through prolonged or repeated exposure

Precautionary statement:

Prevention

- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
- Do not breathe dust, fume, or vapors. Use only outdoors or in a well ventilated area.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use personal protective equipment as required. Wear protective gloves, protective clothing, eye protection, and face protection.
- Product may contain or release hydrogen sulfide, which is highly toxic and is a flammable gas. Assessment of storage tanks, transport vessels and other confined spaces should be made to determine potential exposures and appropriate controls

Response

- If exposed or concerned: Immediately call a Poison Center or doctor/physician. Get medical advice/attention
- Specific treatment (see the following information on this label).
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF ON SKIN: Remove/Take off immediately all contaminated clothing. Rinse cautiously with water for several minutes. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.
- IF INHALED: Remove victim to fresh air and keep at rest position comfortable for breathing.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- Wash contaminated clothing before reuse.

Storage

- Store in a well ventilated place.

Disposal

- Dispose of contents/container in accordance with all local, regional, national, and international regulations.

Supplemental information:

Heated material can cause thermal burns. Fumes from heated asphalt may be irritating to the eye, nose and throat. Hot-Mix Asphalt contains aggregate, a naturally occurring mineral complex with varying quantities of quartz (crystalline silica). Respirable Crystalline Silica (RCS) may cause cancer. Hardened product may be subjected to various natural or mechanical forces that produce small particles (dust) which may contain respirable crystalline silica (particles less than 10 micrometers in aerodynamic diameter). Repeated inhalation of respirable crystalline silica (quartz) may cause lung cancer according to IARC, NTP; ACGIH states that it is a suspected cause of cancer.

3. Composition/information on ingredients

Chemical name	CAS number	%
Aggregate (crushed stone, sand, gravel, slag)	Mixture	>90
Quartz (crystalline silica)	14808-60-7	>1
Asphalt	8052-42-4	<10
May contain:		
Vacuum tower bottoms	64741-56-6	>0.1
Heavy naph. Petroleum distillates	64741-53-3	>0.1
Aromatic extract oil	64742-11-6	>0.1
Heavy Para. distillate solvent extract	64742-04-7	>0.1
Hydrogen sulfide	7783-06-4	<0.2
Additives	Mixture	<1

4. First-aid measures

Inhalation:

Remove person to fresh air. If lung irritation persists or later develops, contact a physician. If not breathing, initiate rescue breathing, give oxygen by trained personnel and get immediate medical attention. Do not attempt to rescue victim from confined spaces without adequate protective equipment.

Eyes:

Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from eye(s). Contact a physician if irritation persists or later develops. Thermal burns require immediate medical attention.

Skin:

Hot Material: Remove contaminated clothing, if possible, and immediately flush skin in cool water for at least 15 minutes. Iced water or cold packs may be applied to burned area. Do not attempt to remove material from a burn. Get immediate medical attention. Cold Material: Clean exposed skin with soap or mild detergent and large amounts of water until all material is removed from the skin. Do not use solvents or thinners to remove material from skin.

Ingestion:

If swallowed, do not induce vomiting. Drink a large volume of water and get immediate medical attention. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to prevent aspiration.

Most important symptoms/effects, acute and delayed:

Emissions from the heated material may have an unpleasant odor and may cause moderate to severe irritation of the mucous membranes and upper respiratory tract, headaches, nausea and dizziness. Toxic hydrogen sulfide gas may be released. Do not depend upon sense of smell for warning of overexposure, since the gas causes rapid olfactory fatigue which deadens the sense of smell at levels as low as 50 ppm. Unconsciousness and asphyxiation may occur in poorly ventilated or confined spaces. See Section 11 for additional information.

Breathing respirable crystalline silica-containing dust for prolonged periods in the workplace can cause lung damage and a lung disease called silicosis. Symptoms of silicosis may include (but are not limited to) shortness of breath, difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure.

Indication of immediate medical attention and special treatment needed:

In general, emesis induction is unnecessary in high viscosity, low volatility products. Inhalation exposure of hydrogen sulfide may result in pulmonary congestion. Patients may be predisposed to pneumonia during convalescence, and should be kept under observation. Contact a Poison Center for additional treatment information.

Not all individuals with silicosis will exhibit symptoms of the disease. However, silicosis can be progressive, and symptoms can appear even years after exposures have ceased. Persons with silicosis have an increased risk of pulmonary tuberculosis infection.

For emergencies contact 3E Company at 1.866.401.5424 (24 hours/day, 7 days/week).

5. Fire-fighting measures

Suitable extinguishing media:

Agents approved for Class B hazards (e.g., dry chemical, carbon dioxide, halogenated agents, foam, and steam) and water fog.

Unsuitable extinguishing media:

Avoid use of straight-stream water. Adding water to hot asphalt presents an explosion hazard.

Specific hazards arising from the chemical:

Do not heat above flash point.

Fumes/vapors can explode when concentrated in an enclosed environment and supplied with an ignition source. Never weld or use a cutting torch or open flame on a full, partially full or empty bin, hopper, or other container that holds or has held asphaltic material unless precautions are taken to prevent explosion. WARNING: Hydrogen sulfide (H_2S) and other hazardous gases/vapors may evolve and collect in the headspace of storage tanks or other enclosed vessels, and can create an explosive, toxic, or oxygen deficient atmosphere. H_2S gas is extremely flammable and can explode if an ignition source is provided. See Section 11 for health effects of H_2S gas.

Special protective equipment and precautions for firefighters:

Avoid breathing irritating and potentially toxic fumes, including hydrogen sulfide gas. Firefighters should wear NIOSH/MSHA approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

Fire-fighting equipment/instructions:

Adding water to hot asphalt presents an explosion hazard.

Specific methods:

Use water spray to keep fire-exposed containers cool.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ventilate area and avoid emission inhalation or skin contact by using appropriate precautions outlined in this SDS (see Section 8). Keep all sources of ignition at least 50 feet away. Prevent materials from entering streams, drainages, or sewers. Spills entering surface waters or sewers entering/leading to surface waters must be reported to the National Response Center 1-800-424-8802. Based on volume and use, components of this product may be subject to reporting requirements of Title III of SARA, 1986, and 40 CFR 372.

For emergencies, contact 3E Company at 1-866-401-5424 (24 hours/day, 7 days/week).

Environmental precautions:

Stop leak and contain spilled material with sand, aggregate fines, or other inert adsorbent. Collect adsorbed product and clean up materials in appropriate container for proper disposal. Notify proper authorities.

Methods and materials for containment and cleaning up:

Contact the asphalt plant to determine feasibility of recycling material. Dispose of waste materials in accordance with applicable federal, state and local laws and regulations.

7. Handling and storage

Precautions for safe handling:

Follow personal protection and protective controls set forth in Section 8 of this SDS when handling this product. If personnel must enter a tank or other confined space that contained this material, follow the OSHA Confined Space Entry Program as specified in 29 CFR 1910.146. Do not store near food, beverages or smoking materials. Avoid personal

contact with heated material. Respirable crystalline silica-containing dust may be generated when hardened asphalt mix is subjected to mechanical forces, such as demolition work, surface treatment (sanding, grooving, chiseling, etc.), and/or recycling of pavement.
Do not attempt to clean empty containers since residue is difficult to remove. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition as they may explode and cause injury or death. Tripping accidents have occurred because of asphalt buildup on bottoms of shoes and boots; buildup should be removed regularly to prevent such accidents. Do not use solvents or thinners to clean footwear.

Conditions for safe storage, including any incompatibilities:

Store away from all ignition sources and open flames in accordance with applicable laws and regulations.
Vapors containing hydrogen sulfide may accumulate during storage or transport of asphaltic materials. When petroleum asphalt products are heated, potentially irritating emissions (fumes, mists, vapors) may be released.

8. Exposure controls/personal protection

Legend:
NE = Not Established; PEL = Permissible Exposure Limit; TLV = Threshold Limit Value; REL = Recommended Exposure Limit; STEL= Short Term Exposure Limit; OSHA = Occupational Safety and Health Administration; MSHA = Mine Safety and Health Administration; NIOSH = National Institute for Occupational Safety and Health; ACGIH = American Conference of Governmental Industrial Hygienists

Component	OSHA/MSHA PEL	ACGIH TLV	NIOSH REL
Asphalt Fumes	NE	0.5 mg/m^3 (as benzene-soluble aerosol)	Ceiling 5 ppm
Particulates not otherwise classified	15 mg/m^3 (total dust) 5 mg/m^3 (respirable fraction)	10 mg/m^3 (inhalable fraction) 3 mg/m3 (respirable fraction)	NE
Respirable dust containing silica	10 mg/m^3÷ (% silica + 2)	Use Respirable Silica TLV	Use Respirable Silica TLV
Total dust containing silica	MSHA: 30 mg/m^3 ÷ (% silica + 3)	NE	NE
Respirable Crystalline Silica (quartz)	OSHA: 0.05 mg/m^3 (PEL) OSHA: 0.025 mg/m^3 (Action Level) MSHA: Use Respirable Dust containing Silica PEL (above)	0.025 mg/m^3	0.05 mg/m^3
Respirable Tridymite and Cristobalite (other forms of crystalline silica)	OSHA: Use respirable crystalline silica PEL MSHA: 1/2 of respirable dust containing silica PEL	0.025 mg/m^3	0.05 mg/m^3
Ammonia (NH_3)	50 ppm	25 ppm STEL 35 ppm	25 ppm Ceiling 35 ppm
Carbon Monoxide (CO)	50 ppm	25 ppm	35 ppm Ceiling 200 ppm
Hydrogen Sulfide (H_2S)	Ceiling 20 ppm	10 ppm STEL 15 ppm	Ceiling 10 ppm
Nitrogen Dioxide (NO_2)	Ceiling 5 ppm	3 ppm STEL 5 ppm	STEL 1 ppm
Ozone (O_3)	0.1 ppm	0.05 ppm	Ceiling 0.1 ppm
Sulfur Dioxide (SO_2)	5 ppm	STEL 0.25 ppm	2 ppm STEL 5 ppm

Exposure Guidelines:

Workers should station themselves on the upwind side of asphalt emissions when possible. It is recommended that asphalt emissions be monitored regularly to determine exposure levels. Total dust containing silica, respirable silica-containing dust and respirable crystalline silica (quartz) levels should be monitored regularly to determine worker exposure levels. Exposure levels in excess of allowable exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee workstations.

Engineering Controls:

General dilution or local exhaust ventilation is required to maintain exposures below appropriate exposure limits. Use only in well-ventilated areas. Activities with dried/hardened product that generate dust require the use of general ventilation, local exhaust and/or wet suppression methods to maintain exposures below appropriate exposure limits.

Eye Protection:

Use a full-face shield and chemical safety goggles if handling heated material. Safety glasses with side shields should be worn as minimum protection at ambient temperatures. Contact lens should not be worn when eye contact with product is possible.

Skin Protection (Protective Gloves/Clothing):

Avoid skin contact with material by wearing impervious gloves and protective clothing. With product at ambient temperatures, use disposable nitrile, neoprene or butyl rubber material. When handling hot material, use heat-resistant gloves. Use insulated, heat-resistant clothing as necessary.

Respiratory Protection:

Not expected to be necessary under normal use and working conditions. All respirators must be NIOSH-approved for the exposure levels present. (See NIOSH Respirator Selection Guide). The need for respiratory protection should be evaluated by a qualified safety and health professional. For air-contaminant concentrations which exceed or are likely to exceed applicable exposure limits, use a NIOSH-approved, contaminant-specific, air purifying respirator. If such conditions are sufficiently high that the air-purifying respirator is inadequate, or if oxygen adequate to sustain life is not present, use a positive-pressure, self-contained breathing apparatus. Activities that generate dust require the use of an appropriate dust respirator where dust levels exceed or are likely to exceed allowable exposure limits. For respirable silica-containing dust levels that exceed or are likely to exceed an 8-hour time-weighted average (TWA) of 0.25 $\mathrm{mg/m^3}$, a high efficiency particulate filter respirator must be worn at a minimum; however, if respirable silica-containing dust levels exceed or are likely to exceed an 8-hour TWA of 1.25 $\mathrm{mg/m^3}$ an air-purifying, full-face respirator or equivalent is required. Respirator use must comply with applicable MSHA (42 CFR 84) or OSHA (29 CFR 1910.134) standards, which include provisions for a user training program, respirator inspection, repair and cleaning, respirator fit testing, medical surveillance and other requirements.

9. Physical and chemical properties

Appearance:
Black, viscous, granular.

Odor: Petroleum odor.	**PH:** Not applicable	**Decomposition temperature:** Not applicable
Melting point/freezing point: 100-135°F	**Initial boiling point and boiling range:** 470°C	**Flash point:** >500°F (min). COC
Evaporation rate: Not applicable	**Flammability:** Not applicable	**Upper/lower flammability or explosive limits:** Not applicable
Vapor pressure: Not applicable	**Vapor density:** >1	**Solubility:** Negligible
Partition coefficient: n-octanol/water. Not applicable	**Autoignition temperature:** Not applicable	**Specific Gravity (H_2O = 1):** 2.0 -2.5

10. Stability and reactivity

Reactivity:

Not reactive under normal use.

Chemical stability:

Stable under normal temperatures and pressures.

Possibility of hazardous reactions:
None under normal use.

Conditions to avoid (e.g., static discharge, shock or vibration):
Keep away from direct flame/ignition sources. Contact with incompatible materials should be avoided (see below). See Sections 5, 6 and 7 for additional information.

Incompatible materials:
Strong oxidizers may react with hydrocarbons. Contact with fluorine may cause burning or explosion. Adding water to hot asphalt presents an explosion hazard.

Hazardous decomposition products:
Carbon monoxide and other compounds (such as amines, ammonia, nitrogen dioxide, sulfur dioxide, ozone, hydrogen sulfide, and various hydrocarbons) may be released by thermal decomposition. Hazardous vapors can collect in enclosed vessels or areas if not properly ventilated. If hydrogen sulfide is present, the flammable limits range from 4.3 to 45.5% by volume and its presence may promote the formation of pyrophoric (spontaneously igniting) iron compounds (See 29 CFR 1910.146). Respirable crystalline silica-containing dust may be generated. When heated, quartz is slowly transformed into tridymite (above 860°C/1580°F) and cristobalite (above 1470°C/2678°F). Both tridymite and cristobalite are other forms of crystalline silica.

11. Toxicological information

Primary Routes of Exposure:
Inhalation and contact with the eyes and skin.

Symptoms related to the physical, chemical, toxicological characteristics
Inhalation:
Fumes, mists or vapors may cause respiratory irritation. Contains or may release hydrogen sulfide gas (H_2S), which may accumulate in confined spaces. H_2S fumes and vapors may be harmful or fatal if inhaled.
Breathing silica containing dust for prolonged periods in the workplace can cause lung damage and lung disease called silicosis. Several scientific organizations have classified crystalline silica as causing lung cancer in humans. Silicosis and lung cancer can result in permanent injury or death.

Eye Contact:
Direct contact with hot material can cause severe thermal burns. Hardened material may scratch the eye causing tearing, redness and a stinging sensation. Fumes, vapors or mists may be irritating.

Skin Contact:
Direct contact with hot material can cause severe thermal burns. Hardened material may cause irritation due to abrasive effects.

Ingestion:
Direct contact with heated material can cause severe thermal burns. Asphalt has a low toxicity when ingested, however, chewing and swallowing asphalt may cause gastrointestinal effects. Gastric masses (Bezoars) and stomach (pyloric) obstructions have been reported in individuals who have chewed and swallowed asphalt.

Medical Conditions Aggravated by Exposure:
Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and/or lung (including asthma and/or other breathing disorders).

Delayed and immediate effects and also chronic effects from short- and long-term exposure:
Prolonged and repeated exposure to asphalt may cause skin disorders such as dermatitis, folliculitis, and acne-like lesions, or more rarely, pigmentation of the skin. Chronic inhalation of high concentrations of asphalt emissions may cause chronic bronchitis and pneumonitis (inflammation of the lungs). In mice, there was damage to the lungs, including bronchitis, pneumonitis, and abscess formation. Guinea pigs and rats showed pneumonitis, peribronchial adenomatosis, and some squamous cell metaplasia.
This material contains heavy vacuum distillates/aromatic extract oils. Repeated dermal application of these oils to experimental animals has been reported to cause skin disorders, effects on the adrenals, bone marrow, liver, lymph nodes, kidney, stomach and thymus as well as fetal death and birth defects.
Repeated exposure to low levels of H_2S may cause eye effects including conjunctivitis and corneal injury. There is no evidence that H_2S will accumulate in the body tissue.

<u>The following information applies to the dried product if it is subjected to mechanical forces (such as demolition or asphalt recycling work), which may generate crystalline silica-containing dust particles:</u>

Prolonged overexposure to respirable dusts in excess of allowable exposure limits can cause inflammation of the lungs leading to possible fibrotic changes, a medical condition known as pneumoconiosis.
Prolonged and repeated overexposure to high levels of respirable crystalline silica-containing dust may cause a chronic form of silicosis, an incurable lung disease that may result in permanent lung damage or death. Chronic silicosis generally occurs after 10 years or more of overexposure; a more accelerated type of silicosis may occur between 5 and 10 years of higher levels of prolonged and repeated overexposure. In early stages of silicosis, not all individuals will exhibit symptoms (signs) of the disease. However, silicosis can be progressive, and symptoms can appear at any time, even years after exposure has ceased.
Repeated overexposures to very high levels of respirable crystalline silica for periods as short as six months may cause acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include (but are not limited to): shortness of breath, cough, fever, weight loss, and chest pain.
Respirable dust containing newly broken crystalline silica particles has been shown to be more hazardous to animals in laboratory tests than respirable dust containing older crystalline silica particles of similar size. Respirable crystalline silica particles which had aged for sixty days or more showed less lung injury in animals than equal exposures to respirable dust containing newly broken particles of respirable crystalline silica.
There are reports in the literature suggesting that excessive respirable crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

Carcinogenicity:

Skin application of asphalt fume condensate fractions caused skin tumors in laboratory mice. When asphalt was dissolved or mixed with a solvent prior to exposing laboratory animals, the carcinogenicity results were weakly positive. The causal agent is thought to be 4 to 6 ring polycyclic aromatic compounds (PAH). Trace amounts of these materials may be present in asphalts and can be generated upon excessive heating. Some PAHs have been identified as causing carcinogenic and reproductive effects. Currently, epidemiological evidence does not support a link between asphalt exposure and human skin cancer.
Repeated breathing of asphalt emissions has not resulted in a carcinogenic response in laboratory animal testing. Although epidemiological studies on asphalt workers have suggested a possible link between asphalt fumes and certain types of cancer, confounding factors such as smoking and concomitant exposure to other agents in the workplace may have influenced the results of these studies. Asphalt is not listed as a carcinogen by the National Toxicology Program (NTP) or the Occupational Safety and Health Administration (OSHA). IARC states that there is sufficient evidence that extracts (asphalts dissolved in hydrocarbon solvents) are carcinogenic to laboratory animals and recently the agency determined that occupational exposures to oxidized asphalt and their emissions during roofing applications are "probably carcinogenic to humans "(Group 2A). They also determined that occupation exposures to hard asphalts and their emissions during mastic asphalt work and occupational exposures to straight-run asphalts and their emissions during paving operations are "possibly carcinogenic to humans" (Group 2B)
This material contains heavy vacuum distillates/aromatic extract oils. IARC has determined that there is sufficient evidence in experimental animals for their carcinogenicity, and has classified these oils as Group 1, or human carcinogens.

<u>The following information applies to the dried product if it is subjected to mechanical forces (such as demolition or asphalt recycling work), which may generate crystalline silica-containing dust particles:</u>
Epidemiology studies on the association between respirable crystalline silica exposure and lung cancer have had both positive and negative results. There is some speculation that the source, type, and level of exposure of respirable crystalline silica may play a role. Studies of persons with silicosis indicate an increased risk of developing lung cancer, a risk that increases with the level and duration of exposure. It is not clear whether lung cancer develops in non-silicotic patients. Several studies of silicotics do not account for lung cancer confounders, especially smoking, which have been shown to increase the risk of developing lung disorders, including emphysema and lung cancer.
In October 1996, an IARC Working Group designated respirable crystalline silica as carcinogenic (Group 1). In 2012, an IARC Working Group re-affirmed that inhalation of crystalline silica was a known human carcinogen. The NTP's Report on Carcinogens, 9th edition, lists respirable crystalline silica as a "known human carcinogen." In the year 2000, the

American Conference of Governmental Industrial Hygienists (ACGIH) listed respirable crystalline silica (quartz) as a suspected human carcinogen (A-2). These classifications are based on sufficient evidence of carcinogenicity in certain experimental animals and on selected epidemiological studies of workers exposed to respirable crystalline silica.

Additional information on toxicological-effects:

Acute toxicity: Not classified

No specific data on product. Based on components, not expected to be classified for acute toxicity.

Asphalt:
Acute Oral, rat: LD50 >5000 mg/kg
Acute Dermal, rat: LD50 >2000 mg/kg

Skin corrosion/irritation: Not classified

Serious eye damage/eye irritation: Not classified

Respiratory sensitization: Not classified.

Skin sensitization: May cause photosensitization (contact), but not classified as a skin sensitizer.

Germ cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer (Inhalation).

Reproductive toxicity: Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure: Not classified

Specific target organ- toxicity – repeated exposure: Causes damage to organs (lungs, respiratory system, adrenals, bone marrow, liver, lymph nodes, kidney, stomach and thymus) through prolonged or repeated exposure (inhalation)

Aspiration toxicity: Not classified (not applicable- solid material)

12. Ecological information

Ecotoxicity (aquatic and terrestrial, where available):

No specific data on this product. Large spills may cause damage to aquatic organisms though fouling of the shoreline.

Persistence and degradability:

Expected to be resistant to biodegradation.

Bioaccumulative potential.

Significant migration into the environment and bioaccumulation are unlikely.

Mobility in soil.

Not determined

Other adverse effects.

Not determined

13. Disposal considerations

Safe handling and disposal of waste:

Place contaminated materials in appropriate containers and dispose of in a manner consistent with applicable federal, state, and local regulations. Prevent from entering drainage, sewer systems, and unintended bodies of water. It is the responsibility of the user to determine, at the time of disposal, whether product meets criteria for hazardous waste. Product uses, transformations, mixture and processes, may render the resulting material hazardous.

14. Transport information

UN Number:
Not regulated.

UN Proper shipping name:
Not regulated.

Transport Hazard class:
Not applicable.

Packing group, if applicable:
Not applicable.

Marine pollutant (Yes/No):
Not applicable.

15. Regulatory information

Toxic Substances Control Act (TSCA):
The components in this product are listed on the TSCA Inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
Releases of this material to water may be reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act. (See Section 6)

Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III:
Section 302 extremely hazardous substances: None
Section 311/312 hazard categories: Delayed Health
Section 313 reportable ingredients at or above de minimus concentrations: None

California Proposition 65:
This product contains a chemical (crystalline silica, bitumen, various aromatic hydrocarbons) known to the State of California to cause cancer and birth defects or other reproductive harm.

State Regulatory Lists:
Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list or all state regulations. Therefore, the user should review the components listed in Section 2 and consult state or local authorities for specific regulations that apply.

16. Other information

Disclaimer

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

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3/01/2017

Vulcan Materials Company and its subsidiaries and affiliates
1200 Urban Center Drive
Birmingham, AL 35242

Safety Data Sheet
California CARB Compliant

1 - Identification

Product Name: WD-40 Multi-Use Product Aerosol **Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion** **Restrictions on Use: None identified** **SDS Date Of Preparation: August 2, 2021**	**Manufacturer: WD-40 Company** **Address: 9715 Businesspark Avenue San Diego, California, USA 92131** **Telephone:** **Emergency: 1-888-324-7596** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Aerosol Category 1
Gas Under Pressure: Compressed Gas
Aspiration Toxicity Category 1
Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label Elements:

DANGER!
Extremely Flammable Aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Prevention
Keep away from heat, sparks, open flames, hot surfaces. – No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing vapors or mists.
Use only outdoors or in a well-ventilated area.

Response
IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.

Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	US Hazcom 2012/ GHS Classification
LVP Aliphatic Hydrocarbon	64742-47-8	45-50%	Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<35%	Not Hazardous
Aliphatic Hydrocarbon	64742-47-8	<25%	Flammable Liquid Category 3 Aspiration Toxicity Category 1 Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)
Carbon Dioxide	124-38-9	2-3%	Simple Asphyxiant Gas Under Pressure, Compressed Gas

Note: The specific chemical identity and exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: Harmful or fatal if swallowed. Aspiration of liquid into the lungs during swallowing or vomiting may cause lung damage. May cause eye and respiratory irritation. Inhalation of mists or vapors may cause drowsiness, dizziness and other nervous system effects. Skin contact may cause drying of the skin.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Extremely flammable aerosol. Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.
Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials. Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol. Store away from oxidizers.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA (Inhalable) ACGIH TLV (as Mineral oil) 5 mg/m3 TWA OSHA PEL (as Oil mist, mineral)
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA, 30,000 ppm STEL ACGIH TLV 5000 ppm TWA OSHA PEL

The Following Controls are Recommended for Normal Consumer Use of this Product
Appropriate Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Always spray away from your face.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Appropriate Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Light green to amber liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8%
Odor:	Mild petroleum odor	Vapor Pressure:	95-115 PSI @ 70°F
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point:	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	138°F (59°C) Tag Closed Cup (liquid)	Autoignition Temperature:	Not established
Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas):	Flammable Aerosol	Viscosity:	2.79-2.96 cSt @ 100°F
VOC:	24.1%	Pour Point:	-63°C (-81.4°F) ASTM

	MIR=0.43gO3/gVOC		D-97

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions
Chemical Stability: Stable
Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:
Acute Toxicity Estimates: Oral > 5,000 mg/kg; Dermal >2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available; however components of this product are not expected to be harmful to aquatic organisms
Persistence and Degradability: Components are readily biodegradable.
Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: UN1950, Aerosols, 2.1 Ltd. Qty
(Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)
IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY
ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1

NOTE: WD-40 Company does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Refer to Section 2 for the OSHA Hazard Classification.
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not require a California Proposition 65 warning.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List or exempt from notification

16 – Other Information

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Physical Hazard – 0 (minimal hazard)

Revision Date: August 2, 2021 Supersedes: March 5, 2019

Revision Summary: Section 9: Appearance

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

Reviewed by: I. Kowalski Regulatory Affairs Dept.

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