



BUILDING TRUST



Sika Emseal Safety Data Sheet Product Package

Thermaflex[®]

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EMSEAL Joint Systems, Ltd.

25 Bridle Lane, Westborough, MA 01581 USA

www.emseal.com

Preparation Date September 3, 2015 Rev. March 14, 2019

Safety Data Sheet THERMAFLEX

1. Identification of the Substance / Preparation

Product identifier	THERMAFLEX
Other identifier or names	None
UN ID number	None
Manufacturer Address	EMSEAL Joint Systems, Ltd. 25 Bridle Lane Westborough, MA 01581
Company Phone	(508) 836-0280 M-F 9am - 5pm
Emergency Phone	CHEMTREC (800) 424-9300 (24 Hours)

2. Hazardous Identification

Hazardous Classification	This product is not classified as hazardous when used as intended.
Signal Word	None
Pictograms	None
Emergency Overview:	No emergency requirements.

3. Composition / Information on Ingredients

THERMAFLEX is comprised of extruded thermoplastic Santoprene® rubber. THERMAFLEX is considered an "ARTICLE". It contains no hazardous materials and is sold as a solid product. No Safety Data Sheet is necessary for this product.

These ingredients are not classified as hazardous as comprised in THERMAFLEX.

4. First Aid Measures

4.1 EYES:	None required with normal handling.
4.2 SKIN:	None required with normal handling.
4.3 INGESTION:	None required with normal handling.



5. Fire-fighting Measures

5.2 FLAMMABILITY:	Inherently fire-resistant
5.2 FLASH POINT:	Unknown.
5.3 AUTO-IGNITION TEMPERATURE:	Unknown.
5.4 EXTINGUISHING MEDIA:	Water, foam, powder.
5.5 HAZARDOUS DECOMPOSITION PRODUCTS:	None

6. Accidental Release Measures

If material is unusable pick up pieces and dispose of in accordance with local regulations; material and all components are non-toxic and normal landfill will most often be acceptable.

7. Handling and Storage

There are no special handling instructions.

8. Exposure Controls / Personal Protection

8.1 RESPIRATORY PROTECTION:	Not required
8.2 EYE PROTECTION:	Not required
8.3 SKIN PROTECTION:	Not required

9. Physical and Chemical Properties

9.1 APPEARANCE:	Black
9.2 ODOR:	None
9.3 PERCENT SOLIDS BY WEIGHT:	100%
9.4 PHYSICAL STATE:	Solid
9.5 PERCENT VOLATILE:	NA
9.6 DENSITY:	NA
9.7 DECOMPOSITION:	NA
9.8 SOLUBILITY IN WATER:	NA



10. Stability and Reactivity

Stable under normal conditions – avoid temperatures in excess of 320°F (120°C) and open flame.

11. Toxicological Information

Unknown.

12. Ecological Information

Unknown

13. Disposal Considerations

No known hazard. Dispose of in accordance with local regulations; material and all components are non-toxic and disposal in normal landfill will most often be acceptable.

14. Transportation Information

Not hazardous – safe for non-hazardous shipping.

15. Regulatory Information

Unknown.

16. Other Information

No other information provided.



EMSEAL

EMSEAL Joint Systems, Ltd.

25 Bridle Lane, Westborough, MA 01581

www.emseal.com



Safety Data Sheet

Version 3b

Issue Date 19-Jan-2015

Revision Date 31-Jul-2015

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Identifier

Product name EMCRETE A

Other Means of Identification

Product Code EMCRETE A

UN/ID no UN3082

None

FOR INDUSTRIAL USE ONLY. This product contains isocyanates.

Restrictions on use: Do not use this product for any use other than intended

Manufacturer Address

EMSEAL Joint Systems, Ltd.

25 Bridle Lane

Westborough, MA 01581 USA

Company Phone Number

508-836-0280 (9AM - 5PM EST) (M-F)

Emergency Telephone

Chemtrec 1-800-424-9300 (24 Hours)

2. Hazards Identification

Classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

EMERGENCY OVERVIEW

DANGER

Hazard Statements Harmful if inhaled

Causes skin irritation
 Causes serious eye irritation
 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 May cause an allergic skin reaction
 May cause respiratory irritation
 May cause damage to organs through prolonged or repeated exposure



Appearance Viscous Dark brown

Physical State Liquid

Odor Musty/earthy

Precautionary Statements - Prevention

Use only outdoors or in a well-ventilated area
 Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves, protective clothing, eye protection, face protection
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing should not be allowed out of the workplace
 Do not breathe dust, fumes, or vapors

Precautionary Statements - Response

Get medical advice/attention if you feel unwell
 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
 IF ON SKIN: Wash with plenty of soap and water
 Take off contaminated clothing and wash before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/regional/international regulations

Hazards Not Otherwise Classified (HNOC)

Other Information

No information available

3. Composition/Information on Ingredients

Chemical Name	CAS No	Weight-%	Trade secret
Polymethylene polyphenyl polyisocyanate	9016-87-9	30 - 70	*
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers)	26447-40-5	30 - 70	*

* The exact percentage (concentration) of composition may have been withheld as a trade secret.

4. First Aid Measures

FIRST AID MEASURES

General Advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area. Immediate medical attention is required.
Skin Contact	Remove material from skin immediately. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.
Ingestion	If swallowed, call a poison control center or physician immediately. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Self-Protection of the First Aider	First Aider: Pay attention to self-protection. Use personal protective equipment as required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Avoid contact with skin, eyes or clothing.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms	Respiratory tract irritation and mucous membrane irritation. Symptoms include eye and nose irritation, dry or sore throat, runny nose, shortness of breath, wheezing and laryngitis. Coughing and chest pain or tightness may also occur, frequently at night. These symptoms may occur during exposure or may be delayed several hours. Exposure to isocyanates can cause difficulty breathing or asthmatic reaction. Irritation to eye tissue. Tingling, irritation or redness of the skin. If ingested, irritation of the tissues of the mouth, throat and digestive tract. Other symptoms include headache, shortness of breath, nausea, vomiting, burning sensation in the mouth, abdominal pain and vomiting. Onset of symptoms may be delayed.
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Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to Physicians	May cause sensitization by inhalation and skin contact. Treat symptomatically. SYMPTOMS MAY BE DELAYED.
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5. Fire-Fighting Measures**Suitable Extinguishing Media**

Carbon dioxide, dry chemical powder, foam, water fog or fine spray. Alcohol resistant foams are preferred for large fires. Use water spray to cool fire-exposed containers

Unsuitable Extinguishing Media Exercise caution when using water; water contamination of product will generate CO₂ gas.

Specific Hazards Arising From the Chemical

During a fire products of combustion be toxic or irritating. See Section 10 for more information. Reacts vigorously with water above 50°C. Closed containers may rupture when heated. Polymeric MDI decomposes rapidly above 204°C.

Hazardous Combustion Products Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous Decomposition Products for additional information.

Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

Firefighters should wear full protective gear including self-contained breathing apparatus when fighting chemical fires. Fight fire from protected location or a safe distance. When using water care must be taken since the reaction between water and hot isocyanates can be vigorous.

6. Accidental Release Measures**Personal Precautions, Protective Equipment and Emergency Procedures**

Personal Precautions Use personal protection recommended in Section 8. Do not touch or walk through spilled material. Ensure adequate ventilation, especially in confined areas. Extremely slippery when spilled. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Environmental Precautions

Environmental Precautions Do not allow into any sewer, on the ground or into any body of water. See Section 12 for additional Ecological Information.

Methods and Material for Containment and Cleaning Up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and Storage**Precautions for Safe Handling**

Advice on Safe Handling Do not breathe dust, fumes, or vapors. Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Do not use with incompatible materials such as amines, alcohols, acids, bases, metal compounds, surfactants and water which may react vigorously and/or violently. Do not eat, drink or smoke when using this product. Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Protect from direct sunlight. Protect from moisture. Do not reuse container.

Incompatible Materials Water - Reacts slowly, forming carbon dioxide and inert material comprised of polyureas which could rupture closed containers. Toxic intermediate chemicals can be formed in this reaction. Amines, Alcohols, Acids, Bases, - May react violently with generation of heat. Metal compounds may polymerize with the generation of heat and pressure. Amides, phenols, mercaptans, urethanes, ureas and surface active compounds - May react vigorously or violently with the generation of heat.

8. Exposure Controls/Personal Protection**Control Parameters**

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	-	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	-

Appropriate Engineering Controls

Engineering Controls Local exhaust ventilation may be necessary when operations generate airborne concentrations of this material. If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Individual Protection Measures, Such As Personal Protective Equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles). Face protection shield.

Skin and Body Protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear protective nitrile rubber gloves.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Wash face, hands and any exposed skin thoroughly after handling. Take off all contaminated clothing and wash it before reuse.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical State	Liquid	Odor	Musty/earthy
Appearance	Viscous	Odor Threshold	No information available
Color	Dark brown		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting Point/Freezing Point	No information available	
Boiling Point/Boiling Range	> 200 °C	
Flash Point	> 220 °C	
Evaporation Rate	No information available	
Flammability (Solid, Gas)	No information available	
Flammability Limits in Air		
Upper Flammability Limits	No information available	
Lower Flammability Limit	No information available	
Vapor Pressure	10-4 mmHg @ 40°C	
Vapor Density	No information available	
Specific Gravity	1.25	
Water Solubility	Insoluble in water	
Solubility in Other Solvents	No information available	
Partition Coefficient	No information available	
Autoignition Temperature	No information available	
Decomposition Temperature	>300°C	
Kinematic Viscosity	160 cSt	
Dynamic Viscosity	200 cP @ 25°C	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Other Information

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Density	10.25 pounds/gallon
Bulk Density	No information available

10. Stability and Reactivity

Reactivity

No data available

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Polymeric MDI may undergo uncontrolled exothermic polymerization upon contact with incompatible materials or if heated above 170-204°C. The resulting pressure build up could rupture closed containers. May cause some corrosion to copper alloys and aluminum.

Conditions to Avoid

Avoid moisture. Heat, flames and sparks. Extremes of temperature and direct sunlight.

Incompatible Materials

Water - Reacts slowly, forming carbon dioxide and inert material comprised of polyureas which could rupture closed containers. Toxic intermediate chemicals can be formed in this reaction. Amines, Alcohols, Acids, Bases, - May react violently with generation of heat. Metal compounds may polymerize with the generation of heat and pressure. Amides, phenols, mercaptans, urethanes, ureas and surface active compounds - May react vigorously or violently with the generation of heat.

Hazardous Decomposition Products

Carbon monoxide, Carbon Dioxide (CO₂), Nitrogen oxides (NO_x), Hydrogen cyanide, 4,4'-Methylene dianiline can be formed by reaction of MDI with water. Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

11. Toxicological Information

Information on Likely Routes of Exposure**Inhalation**

Airborne exposures are unlikely to occur unless product is heated or forms an aerosol or mist during pouring, frothing or spraying operations. Polymeric MDI has an extremely low vapor pressure and it is difficult to achieve vapor concentrations necessary for inhalation toxicity testing. The desired vapor concentrations can only be obtained by heating the Polymeric MDI source. Some people may become sensitized to MDI, causing allergy or asthma symptoms or breathing difficulties if inhaled. High aerosol concentrations could cause inflammation of the lung tissue (chemical pneumonitis), chemical bronchitis with severe asthma-like wheezing, severe coughing spasms and accumulation of fluid in the lungs (pulmonary edema), which could be fatal. Symptoms of pulmonary edema may not appear until several hours after exposure and are aggravated by physical exertion.

Eye Contact

May cause irritation.

Skin Contact

May cause irritation. Isocyanates can cause skin discoloration (staining) and hardening of the skin after repeated exposures. Skin sensitization, resulting in dermatitis, may occur in some individuals. Cured material may be difficult to remove from skin.

Ingestion

Not an expected route of exposure. Swallowing may result in irritation and corrosion of the mouth, throat and digestive tract.

Chemical Name	Oral LD50 (Rat)	Dermal LD50 (Rabbit)	Inhalation LC50
Polymethylene polyphenyl polyisocyanate 9016-87-9	= 49 g/kg (Rat)	> 9400 mg/kg (Rabbit)	= 490 mg/m ³ (Rat) 4 h
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	> 7400 mg/kg (Rat)	> 6200 mg/kg (Rabbit)	= 0.369 mg/L (Rat) 4 h

Information on toxicological effects

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Sensitization**

May cause sensitization by inhalation and skin contact. Isocyanates are known to be strong sensitizers.

Germ Cell Mutagenicity
Carcinogenicity

No information available.
This material does not contain any component that is considered a human carcinogen by IARC (International Agency for Research on Cancer), ACGIH (American Conference of Governmental Industrial Hygienists), OSHA or NTP (National Toxicology Program). IARC has concluded that Polymeric MDI and MDI are not classifiable as to their carcinogenicity to humans (Group 3).

Chemical Name	ACGIH	IARC	NTP	OSHA
Polymethylene polyphenyl polyisocyanate 9016-87-9		Group 3		
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5		Group 3		

IARC (International Agency for Research on Cancer)

Group 3 - Not classifiable as to its carcinogenicity to humans

Reproductive Toxicity
STOT - Single Exposure
STOT - Repeated Exposure

No information available.
No information available.
Causes damage to organs through prolonged or repeated exposure if inhaled. May cause disorder and damage to the. Respiratory System.

Chronic Toxicity

Polymeric MDI is a severe respiratory irritant. Long-term, low-level exposure could cause severe, permanent respiratory impairment. Respiratory sensitization can develop in people working with Polymeric MDI or its main component Methylene diphenyl diisocyanate (MDI). Sensitized people react to very low levels of MDI (as low as 0.0014 ppm) that have no effect on unsensitized people. Symptoms mimic a cold, hay fever or the flu and may occur immediately upon exposure or may be delayed. MDI and other isocyanates may also cause hypersensitivity pneumonitis, another allergic lung disease, which is characterized by symptoms such as shortness of breath, fever, tiredness, non-productive cough, and chills.

Target Organ Effects

Respiratory System, Long-term, low-level exposure may cause severe, permanent respiratory impairment.

Aspiration Hazard

No information available.

Numerical Measures of Toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 18253 mg/kg

ATEmix (dermal) 8148 mg/kg

ATEmix (inhalation-dust/mist) 0.1 mg/l

ATEmix (inhalation-vapor) 0.446 mg/l

Inhalation LC50

NOTE: The substance was tested in a form (i.e. specific particle size distribution) that is different from the forms in which the substance is placed on the market and in which it can reasonably be expected to be used. Therefore a modified classification for acute inhalation toxicity is justified.

12. Ecological Information

Ecotoxicity

No information available

100% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	3230: 96 h Skeletonema costatum mg/L EC50			1000: 24 h Daphnia magna mg/L EC50

Persistence and Degradability

No information available

Chemical Name	Partition Coefficient
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	4.5

Other Adverse Effects

No information available

13. Disposal Considerations**Waste Treatment Methods**

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Do not reuse container.

14. Transport Information

DOT	Not regulated (If shipped in NON BULK packaging by ground transport)
UNID no	UN3082
Proper Shipping Name	Environmentally Hazardous Substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate)
Hazard Class	9
Packing group	III
ICAO (air)	Not regulated
IATA	Not regulated
IMDG	Not regulated

Special precautions Bulk containers (>5000 lbs)

15. Regulatory Information**International Inventories**

TSCA All components of this product are either exempt or included on the TSCA Inventory in compliance with the Toxic Substances Control Act.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Polymethylene polyphenyl polyisocyanate - 9016-87-9	9016-87-9	30 - 70	1.0
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) - 26447-40-5	26447-40-5	30 - 70	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard Yes

Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Polymethylene polyphenyl polyisocyanate 9016-87-9	X		
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	X	X	

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other Information

HMIS Health Hazards 2* Flammability 1 Physical Hazards 1 Personal Protection X
Chronic Hazard Star Legend * = Chronic Health Hazard

Prepared by EMSEAL Compliance KP/sp
 Issue Date 19-Jan-2015
 Revision Date 31-Jul-2015

Revision note

No information available

Disclaimer

The information provided in this Material 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 a 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 combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



EMSEAL

EMSEAL Joint Systems, Ltd.

25 Bridle Lane, Westborough, MA 01581

www.emseal.com



Safety Data Sheet

Issue Date 25-Feb-2015

Revision Date 27-Feb-2015

Version 2

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Identifier

Product name EMCRETE B

Other Means of Identification

Product Code EMCRETE B

Product Technology Potting base

Document EMCRETE B

None

FOR INDUSTRIAL USE ONLY. Potting base.

Restrictions on use: Do not use this product for any use other than intended.

Manufacturer Address

EMSEAL Joint Systems, Ltd.

25 Bridle Lane

Westborough, MA 01581 USA

Company Phone Number

508-836-0280 (9AM - 5PM EST) (M-F)

Emergency Telephone

Chemtrec 1-800-424-9300 (24 Hours)

2. Hazards Identification

Classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Carcinogenicity	Category 2. Carbon Black (CAS 1333-86-4) poses extremely low respirable carcinogen risk when encapsulated in a polymeric liquid.

EMERGENCY OVERVIEW


WARNING

Hazard Statements

Harmful if swallowed

May cause an allergic skin reaction

Suspected of causing cancer



Appearance Opaque Black **Physical State** Liquid **Odor** Mild

Precautionary Statements - Prevention

Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Contaminated work clothing should not be allowed out of the workplace
 Avoid release to the environment
 Wear protective gloves, protective clothing, eye protection, face protection
 In case of inadequate ventilation wear respiratory protection

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 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
 If on skin: Wash with plenty of soap and water
 If skin irritation or rash occurs: Get medical advice/attention
 Wash contaminated clothing before reuse
 If inhaled, remove person to fresh air and keep comfortable for breathing
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
 If swallowed: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth

Precautionary Statements - Storage

Store locked up
 Store in tightly closed containers to prevent moisture contamination.
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/regional/international regulations

Hazards Not Otherwise Classified (HNOC)

Other Information

Harmful to aquatic life with long lasting effects, Harmful to aquatic life
 94.7352% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Chemical Family Potting base

Chemical Name	CAS No	Weight-%	Trade secret
Carbon Black	1333-86-4	1 - 3	*
Dimethylthiotoluenediamine	Proprietary	1 - 5	*

* The exact percentage (concentration) of composition may have been withheld as a trade secret.

4. First Aid Measures

FIRST AID MEASURES

General Advice	Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Ingestion	Not an expected route of exposure. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Never give anything by mouth to an unconscious person.
Self-Protection of the First Aider	First Aider: Pay attention to self-protection. Use personal protective equipment as required.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to Physicians Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media

Use CO₂, dry chemical, or foam

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising From the Chemical

Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water ways. Dike for water control.

Hazardous Combustion Products Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous Decomposition Products for additional information.

Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions Ventilate affected area. Extremely slippery when spilled.

Other Information Use personal protective equipment as required.

For Emergency Responders Use personal protective equipment as required.

Environmental Precautions

Environmental Precautions See Section 12 for additional Ecological Information. Do not allow into any sewer, on the ground or into any body of water.

Methods and Material for Containment and Cleaning Up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and Storage

Precautions for Safe Handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store and handle away from heat, flames and oxidizing materials. Protect from moisture.

Incompatible Materials Strong oxidizing agents. Strong acids. Strong bases. Water.

8. Exposure Controls/Personal Protection

Control Parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Carbon Black 1333-86-4	TWA: 3 mg/m ³ inhalable fraction	TWA: 3.5 mg/m ³ (vacated) TWA: 3.5 mg/m ³	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH

Appropriate Engineering Controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual Protection Measures, Such As Personal Protective Equipment

Eye/Face Protection Splash Goggles.

Skin and Body Protection Wear protective gloves and protective clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical State	Liquid	Odor	Mild
Appearance	Opaque	Odor Threshold	No information available
Color	Black		
Property	Values	Remarks • Method	
pH	No information available		
Melting Point/Freezing Point	< 0 °C		
Boiling Point/Boiling Range	> 300 °C		
Flash Point	> 150 °C	CC (closed cup)	
Evaporation Rate	< 1 (Butyl acetate = 1)		
Flammability (Solid, Gas)	No information available		
Flammability Limits in Air			
Upper Flammability Limits	No information available		
Lower Flammability Limit	No information available		
Vapor Pressure	< 1 mmHg @ 25°C		
Vapor Density	> 1 (air = 1)		
Specific Gravity	0.98		
Water Solubility	Slightly soluble		
Solubility in Other Solvents	No information available		
Partition Coefficient	No information available		
Autoignition Temperature	No information available		
Decomposition Temperature	No information available		
Kinematic Viscosity	1,887 cSt		
Dynamic Viscosity	1,850 cPs @ 25°C		
Explosive Properties	No information available		
Oxidizing Properties	No information available		
<u>Other Information</u>			
Softening Point	No information available		
Molecular Weight	No information available		
VOC Content (%)	0.0024 LBS/GAL 0.288 GRAMS/LITER		
Density	8.2 pounds/gallon		
Bulk Density	No information available		

10. Stability and Reactivity

Reactivity

No data available

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

hazardous polymerization None under normal processing.

Conditions to Avoid

Keep out of reach of children. Extremes of temperature and direct sunlight. Mixture with or exposure to incompatible materials. Avoid moisture.

Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases. Water.

Hazardous Decomposition Products

Carbon monoxide. Carbon Dioxide (CO₂). Aromatic hydrocarbons. May emit toxic fumes under fire conditions. Nitrogen oxides (NO_x). Sulfur oxides. Hydrocarbons. Formaldehyde.

11. Toxicological Information

Information on Likely Routes of Exposure

Product Information The product has not been tested

Inhalation Remove to fresh air.

Eye Contact Contact with eyes may cause irritation.

Skin Contact May cause irritation.

Ingestion Not an expected route of exposure. Harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Carbon Black 1333-86-4	> 15400 mg/kg (Rat)	> 3 g/kg (Rabbit)	-

Information on toxicological effects

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Serious eye damage/eye irritation Irritating to eyes.
Irritation Irritating to eyes, respiratory system and skin.
Sensitization May cause sensitization by skin contact.
Germ Cell Mutagenicity No information available.
Carcinogenicity Carbon Black (CAS 1333-86-4) poses extremely low respirable carcinogenic risk when encapsulated in a polymeric liquid.

Chemical Name	ACGIH	IARC	NTP	OSHA
Carbon Black 1333-86-4	A3	Group 2B		X

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive Toxicity No information available.
STOT - Single Exposure May cause gastric disturbances if swallowed. Experiments have shown liver and kidney effects in laboratory animals.
STOT - Repeated Exposure No information available.
Aspiration Hazard No information available.

Numerical Measures of Toxicity - Product Information

Unknown Acute Toxicity 94.7352% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 1723 mg/kg

ATEmix (dermal) 5501 mg/kg

12. Ecological Information

Ecotoxicity

No information available

98.0846% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Carbon Black 1333-86-4				5600: 24 h Daphnia magna mg/L EC50

Persistence and Degradability

No information available

Other Adverse Effects

No information available

13. Disposal Considerations**Waste Treatment Methods**

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Do not reuse container.

14. Transport Information

<u>DOT</u>	Not regulated
<u>ICAO (air)</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated

15. Regulatory Information**International Inventories**

TSCA All components of this product are either exempt or included on the TSCA Inventory in compliance with the Toxic Substances Control Act.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

The following chemicals may be contained in this product in de minimis amounts not required for listing in section 3. However, these chemicals do appear on some state Right-to-Know (RTK) and/or other hazardous substance lists. Please check your state's listings for more information.

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Carbon Black - 1333-86-4	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Carbon Black 1333-86-4	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other Information

HMIS **Health Hazards** 1 **Flammability** 1 **Physical Hazards** 0 **Personal Protection** X

Prepared by EMSEAL Compliance KP/sp
Issue Date 25-Feb-2015
Revision Date 27-Feb-2015

Revision note

No information available

Disclaimer

The information provided in this Material 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 a 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 combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



EMSEAL

EMSEAL Joint Systems, Ltd.

25 Bridle Lane, Westborough, MA 01581

www.emseal.com



Safety Data Sheet

Issue Date 20-Jul-2017

Rev. Date 14-May-2018

Version 2

Full Disclosure Statement - The Supplier did NOT fully disclose the formulation of this product

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Identifier

Product name EMPRIME

Other Means of Identification

Product Code EMPRIME

UN/ID no UN3082

None

FOR INDUSTRIAL USE ONLY. This product contains isocyanates.

Restrictions on use: Do not use this product for any use other than intended

Manufacturer Address

EMSEAL Joint Systems

25 Bridle Lane

Westboro, MA 01581, USA

Company Phone Number 508-836-0280 (8AM - 5PM EST) (M-F)

Emergency Telephone Chemtrec 1-800-424-9300 (24 Hours)

Chemtrec International Phone +1 703-527-3887

2. Hazards Identification

Classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

EMERGENCY OVERVIEW**Hazard Statements**

Causes skin irritation
Causes serious eye irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May cause damage to organs through prolonged or repeated exposure (lungs, skin)
Harmful if inhaled

May cause respiratory irritation



Appearance Viscous Clear Amber

Physical State Liquid

Odor Musty/earthy

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Keep container tightly closed
Wear protective gloves, protective clothing, eye protection, face protection
Do not breathe dust, fumes, or vapors
Do not eat, drink or smoke when using this product

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
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
If skin irritation or rash occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/regional/international regulations

Hazards Not Otherwise Classified (HNOC)

Other Information

May be harmful in contact with skin
No information available

3. Composition/Information on Ingredients

Chemical Name	CAS No	Weight-%	Trade secret
Polymethylene polyphenyl polyisocyanate	9016-87-9	15 - 50	*
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers)	26447-40-5	15 - 50	*

* The exact percentage (concentration) of composition may have been withheld as a trade secret.

4. First Aid Measures**FIRST AID MEASURES**

General Advice	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area. Immediate medical attention is required.
Skin Contact	Remove material from skin immediately. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.
Ingestion	If swallowed, call a poison control center or physician immediately. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Self-Protection of the First Aider	First Aider: Pay attention to self-protection. Use personal protective equipment as required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Avoid contact with skin, eyes or clothing.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms	Respiratory tract irritation and mucous membrane irritation. Symptoms include eye and nose irritation, dry or sore throat, runny nose, shortness of breath, wheezing and laryngitis. Coughing and chest pain or tightness may also occur, frequently at night. These symptoms may occur during exposure or may be delayed several hours. Exposure to isocyanates can cause difficulty breathing or asthmatic reaction. Irritation to eye tissue. Tingling, irritation or redness of the skin. If ingested, irritation of the tissues of the mouth, throat and digestive tract. Other symptoms include headache, shortness of breath, nausea, vomiting, burning sensation in the mouth, abdominal pain and vomiting. Onset of symptoms may be delayed.
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Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to Physicians	May cause sensitization by inhalation and skin contact. Treat symptomatically. SYMPTOMS MAY BE DELAYED.
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5. Fire-Fighting Measures**Suitable Extinguishing Media**

Carbon dioxide, dry chemical powder, foam, water fog or fine spray. Alcohol resistant foams are preferred for large fires. Use water spray to cool fire-exposed containers

Unsuitable Extinguishing Media Exercise caution when using water; water contamination of product will generate CO₂ gas.

Specific Hazards Arising From the Chemical

During a fire products of combustion be toxic or irritating. See Section 10 for more information. Reacts vigorously with water above 50°C. Closed containers may rupture when heated. Polymeric MDI decomposes rapidly above 204°C.

Hazardous Combustion Products Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous Decomposition Products for additional information.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

Firefighters should wear full protective gear including self-contained breathing apparatus when fighting chemical fires. Fight fire from protected location or a safe distance. When using water care must be taken since the reaction between water and hot Polymeric MDI can be vigorous.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions Use personal protection recommended in Section 8. Do not touch or walk through spilled material. Ensure adequate ventilation, especially in confined areas. Extremely slippery when spilled.

For Emergency Responders Remove all sources of ignition.

Environmental Precautions

Environmental Precautions Do not allow into any sewer, on the ground or into any body of water. See Section 12 for additional Ecological Information.

Methods and Material for Containment and Cleaning Up

Methods for Containment A vapor suppressing foam may be used to reduce vapors. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Wash area with liquid detergent in water. Allow material to stand for 48 hours to let carbon dioxide gas escape.

Prevention of Secondary Hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and Storage

Precautions for Safe Handling

Advice on Safe Handling Do not breathe dust, fumes, or vapors. Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Do not use with incompatible materials such as amines, alcohols, acids, bases, metal compounds, surfactants and water which may react vigorously and/or violently. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. Protect from moisture. Do not reuse container.
Incompatible Materials	Water - Reacts slowly, forming carbon dioxide and inert material comprised of polyureas which could rupture closed containers. Toxic intermediate chemicals can be formed in this reaction. Amines, Alcohols, Acids, Bases, - May react violently with generation of heat. Metal compounds may polymerize with the generation of heat and pressure. Amides, phenols, mercaptans, urethanes, ureas and surface active compounds - May react vigorously or violently with the generation of heat.

8. Exposure Controls/Personal Protection**Control Parameters**

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	-	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	-

Appropriate Engineering Controls

Engineering Controls Local exhaust ventilation may be necessary when operations generate airborne concentrations of this material. If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Individual Protection Measures, Such As Personal Protective Equipment

Eye/Face Protection	Wear safety glasses with side shields (or goggles). Face protection shield.
Skin and Body Protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear protective nitrile rubber gloves.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Wash face, hands and any exposed skin thoroughly after handling. Take off all contaminated clothing and wash it before reuse.

9. Physical and Chemical Properties**Information on Basic Physical and Chemical Properties**

Physical State	Liquid	Odor	Musty/earthy
Appearance	Viscous Clear	Odor Threshold	No information available
Color	Amber		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting Point/Freezing Point	No information available	
Boiling Point/Boiling Range	93 °C	
Flash Point	>130 °C	CC (closed cup)

Evaporation Rate	No information available
Flammability (Solid, Gas)	No information available
Flammability Limits in Air	
Upper Flammability Limits	No information available
Lower Flammability Limit	No information available
Vapor Pressure	No information available
Vapor Density	4.01
Specific Gravity	1.065
Water Solubility	partially soluble
Solubility in Other Solvents	No information available
Partition Coefficient	No information available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Kinematic Viscosity	No information available
Dynamic Viscosity	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available

Other Information

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Density	8.861 pounds/gallon
Bulk Density	No information available

10. Stability and Reactivity

Reactivity

No data available

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Polymeric MDI may undergo uncontrolled exothermic polymerization upon contact with incompatible materials or if heated above 170-204°C. The resulting pressure build up could rupture closed containers. May cause some corrosion to copper alloys and aluminum.

Conditions to Avoid

Avoid moisture, extremes of temperature and direct sunlight.

Incompatible Materials

Water - Reacts slowly, forming carbon dioxide and inert material comprised of polyureas which could rupture closed containers. Toxic intermediate chemicals can be formed in this reaction. Amines, Alcohols, Acids, Bases, - May react violently with generation of heat. Metal compounds may polymerize with the generation of heat and pressure. Amides, phenols, mercaptans, urethanes, ureas and surface active compounds - May react vigorously or violently with the generation of heat.

Hazardous Decomposition Products

Carbon monoxide, Carbon Dioxide (CO₂), Nitrogen oxides (NO_x), Hydrogen cyanide, 4,4'-Methylene dianiline can be formed by reaction of MDI with water. Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

11. Toxicological Information

Information on Likely Routes of Exposure**Inhalation**

Airborne exposures are unlikely to occur unless product is heated or forms an aerosol or mist during pouring, frothing or spraying operations. Polymeric MDI has an extremely low vapor pressure and it is difficult to achieve vapor concentrations necessary for inhalation toxicity testing. The desired vapor concentrations can only be obtained by heating the Polymeric MDI source. Some people may become sensitized to MDI, causing allergy or asthma symptoms or breathing difficulties if inhaled. High aerosol concentrations could cause inflammation of the lung tissue (chemical pneumonitis), chemical bronchitis with severe asthma-like wheezing, severe coughing spasms and accumulation of fluid in the lungs (pulmonary edema), which could be fatal. Symptoms of pulmonary edema may not

appear until several hours after exposure and are aggravated by physical exertion.

Eye Contact

May cause irritation.

Skin Contact

May cause irritation. Isocyanates can cause skin discoloration (staining) and hardening of the skin after repeated exposures. Skin sensitization, resulting in dermatitis, may occur in some individuals. Cured material may be difficult to remove from skin.

Ingestion

Not an expected route of exposure. Swallowing may result in irritation and corrosion of the mouth, throat and digestive tract.

Chemical Name	Oral LD50 (Rat)	Dermal LD50 (Rabbit)	Inhalation LC50
Polymethylene polyphenyl polyisocyanate 9016-87-9	= 49 g/kg (Rat)	> 9400 mg/kg (Rabbit)	= 490 mg/m ³ (Rat) 4 h
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	> 7400 mg/kg (Rat)	> 6200 mg/kg (Rabbit)	= 0.369 mg/L (Rat) 4 h

Information on toxicological effects

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Irritating to skin.

Serious eye damage/eye irritation

Risk of serious damage to eyes.

Irritation

Irritating to eyes, respiratory system and skin.

Sensitization

May cause sensitization by inhalation and skin contact. Isocyanates are known to be strong sensitizers.

Germ Cell Mutagenicity

No information available.

Carcinogenicity

No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Polymethylene polyphenyl polyisocyanate 9016-87-9		Group 3		
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5		Group 3		

IARC (International Agency for Research on Cancer)

Group 3 - Not classifiable as to its carcinogenicity to humans

Reproductive Toxicity

No information available.

STOT - Single Exposure

May cause disorder and damage to the Respiratory System.

STOT - Repeated Exposure

Causes damage to organs through prolonged or repeated exposure if inhaled. May cause disorder and damage to the Respiratory System.

Target Organ Effects

Respiratory System.

Aspiration Hazard

No information available.

Numerical Measures of Toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	6723 mg/kg
ATEmix (dermal)	3227 mg/kg
ATEmix (inhalation-dust/mist)	0.2 mg/l

12. Ecological Information

Ecotoxicity

50% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	3230: 96 h Skeletonema costatum mg/L EC50			1000: 24 h Daphnia magna mg/L EC50

Persistence and Degradability

No information available

Chemical Name	Partition Coefficient
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	4.5

Other Adverse Effects

No information available

13. Disposal Considerations

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Do not reuse container.

14. Transport Information

<u>DOT</u>	Not regulated (If shipped in NON BULK packaging by ground transport)
UN/ID no	UN3082
Proper Shipping Name	Environmentally Hazardous Substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate)
Hazard Class	9
Packing group	III
<u>ICAO (air)</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated
Special precautions	Bulk containers (>5000 lbs)

15. Regulatory Information

International Inventories

TSCA All components of this product are either exempt or included on the TSCA Inventory in compliance with the Toxic Substances Control Act.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Polymethylene polyphenyl polyisocyanate - 9016-87-9	9016-87-9	15 - 50	1.0
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) - 26447-40-5	26447-40-5	15 - 50	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Polymethylene polyphenyl polyisocyanate 9016-87-9	X		
4,4'-METHYLENEBIS(PHENYL ISOCYANATE)(mixed isomers) 26447-40-5	X	X	

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other Information

HMIS	Health Hazards 2*	Flammability 1	Physical Hazards 1	Personal Protection X
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Chronic Hazard Star Legend

* = Chronic Health Hazard

Prepared by	EMSEAL Compliance
Issue Date	20-Jul-2017
Revision Date	14-May-2018

Revision note

No information available

Disclaimer

The information provided in this Material 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 a 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 combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



EMSEAL

EMSEAL Joint Systems, Ltd.

25 Bridle Lane, Westborough, MA 01581

www.emseal.com

Safety Data Sheet

Version 1.1

Revision Date 04/15/2015

Print Date 04/15/2015

SECTION 0. GENERAL INFORMATION

This item meets the definition of article in the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

THIS PRODUCT IS A COMPONENT OF THE EMCRETE SYSTEM. IT HAS BEEN SOURCED FROM AN OEM. IT IS NOT INTENDED FOR ANY USE HEREIN OTHER THAN ITS EMCRETE APPLICATION. CONTENT IN THIS SHEET IS PROVIDED BY AND VERIFIED BY THE OEM SOURCE.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product name Continuous Filament Glass Fiber

Other Means of Identification

Product Code Filament Glass Fiber

This item meets the definition of article in the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Manufacturer Address

EMSEAL Joint Systems, Ltd.
25 Bridle Lane, Westborough,
MA 01581 USA

Company Phone Number 508-836-0280 (9AM - 5PM EST) (M-F)

Emergency Telephone Chemtrec 1-800-424-9300 (24 Hours)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Not a hazardous substance or mixture.

Other hazards

Temporary mechanical abrasion (itching) of skin, eyes and respiratory tract may occur upon exposure to particles during handling of this product and cannot occur unless there is direct contact. Abrasion effects should subside after cessation of exposure.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

CFGF products are typically made of an endless E-glass filament with a diameter of more than 8 μm and of parallel orientation. A surface treatment (sizing) is applied to the filaments which are gathered to form a strand. The strand is further processed into a specific product design. The sizing is a polymer based mixture consisting of i.e. film former(s), coupling agent(s) and other processing aids. The sizing content is generally below 2%.

Hazardous components

Non-hazardous according to 29 CFR 1910.1200, when used as intended.

SECTION 4. FIRST AID MEASURES

General advice : Get medical attention if symptoms occur.

Continuous Filament Glass Fiber

Version 1.1

Revision Date 04/15/2015

Print Date 04/15/2015

- | | | |
|-------------------------|---|---|
| If inhaled | : | Move to fresh air.
If symptoms persist, call a physician. |
| In case of skin contact | : | Take off all contaminated clothing immediately.
If on skin, rinse well with water.
Get medical attention if irritation develops and persists. |
| In case of eye contact | : | In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If eye irritation persists, consult a specialist. |
| If swallowed | : | If symptoms persist, call a physician.
Rinse mouth with water to remove dust or fibers and drink plenty of water to help reduce irritation. |

SECTION 5. FIREFIGHTING MEASURES

- | | | |
|---|---|---|
| Suitable extinguishing media | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Special protective equipment for firefighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|--|
| Personal precautions, protective equipment and emergency procedures | : | Avoid dust formation. |
| Methods and materials for containment and cleaning up | : | Take up mechanically.
Pick up and arrange disposal without creating dust. |

SECTION 7. HANDLING AND STORAGE

- | | | |
|-----------------------------|---|--|
| Advice on safe handling | : | For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area. |
| Conditions for safe storage | : | Keep in a dry, cool place. |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Nuisance dust	Not Assigned	TWA (Total particulate)	15 mg/m ³	OSHA

Continuous Filament Glass Fiber

Version 1.1

Revision Date 04/15/2015

Print Date 04/15/2015

		TWA (Respirable fraction)	5 mg/m ³	OSHA
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Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Hand protection
Remarks : For prolonged or repeated contact use protective gloves.
- Eye protection : Safety glasses
- Skin and body protection : Long sleeved clothing
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : solid
- Odour : slight

SECTION 10. STABILITY AND REACTIVITY

- Reactivity : No decomposition if stored and applied as directed.
- Chemical stability : No decomposition if stored and applied as directed.
- Possibility of hazardous reactions : Stable under recommended storage conditions.
No hazards to be specially mentioned.
- Conditions to avoid : No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Further information

During cutting, milling or other processing of these products, particles may be generated that does not represent a health hazard if below the recommended exposure limits for particles not otherwise regulated (PNOR) (inhalable and respirable fraction). Temporary mechanical abrasion (itching) of skin, eyes and respiratory tract may occur upon exposure to particles during handling of this product and cannot occur unless there is direct contact. Abrasion effects should subside after cessation of exposure. Continuous filament glass fibers do not possess cleavage planes which would allow them to split length-wise into fibers with smaller diameter; rather they break across the fiber, resulting in fibers which are of the same diameter as the original fiber. Microscopic examination of dust from highly chopped and pulverised glass demonstrated the presence of small amounts of respirable dust particles. Among these respirable particles, some

Continuous Filament Glass Fiber

Version 1.1

Revision Date 04/15/2015

Print Date 04/15/2015

were fiber-like in terms of length /diameter ratio (so-called "shards"). It can be clearly observed, however, that they are not regular shaped fibers but irregular shaped particles with fiber-like dimensions. To the best of our knowledge, the exposure levels of these fiber-like dust particles measured at our manufacturing plants are, on an order of magnitude, between 50 to 1000 times below existing occupational exposure limits. Exposures will vary according to environmental and process conditions and exposure duration.

SECTION 12. ECOLOGICAL INFORMATION

Further information

Due to the properties of the product, a hazard to the environment may not be expected.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Disposal of residual product : In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

These products are not classified as dangerous goods according to international transport regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

DSL : All components of this product are on the Canadian DSL.

Continuous Filament Glass Fiber

Version 1.1

Revision Date 04/15/2015

Print Date 04/15/2015

Other regulations

These products are considered articles under both U.S. and international products and as such, these products do not require registration or notification on the various country-specific inventories.

SECTION 16. OTHER INFORMATION

Further information

The information provided in this Safe Use Instruction is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a 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 combination with any other materials or in any process, unless specified in the text.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**Product Identifier****Product Name:** Nepheline Syenite – various grades**Synonyms:** Anhydrous sodium potassium alumino silicate, Inorganic feldspathic mineral**Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:****Product Use:** Various commercial and industrial uses**Supplier:****EMSEAL**

25 Bridle Lane

Westborough, MA 01581

Emergency Telephone Number
(508) 836-0280Telephone Number for Information
(508) 836-0280**SDS Date of Preparation/Revision:** April 2014**SECTION 2: HAZARDS IDENTIFICATION****GHS/ Hazcom 2012 Classification:**

Physical:	Health:	Environmental
Not Hazardous	Not Hazardous	Not Hazardous

GHS/Hazcom 2012 Label: Not hazardous in accordance with 29CFR 1910.1200 (Hazcom 2012) and the GHS.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CAS#	Component	Percentage
37244-96-5	Nepheline Syenite	100%

SECTION 4: FIRST AID MEASURES**Gross Inhalation:** Remove victim to fresh air. If breathing has stopped, perform artificial respiration. If breathing is difficult have qualified personnel administer oxygen. Get prompt medical attention.**Skin Contact:** No first aid should be needed since dermal contact with this product does not affect the skin. Wash exposed skin with soap and water before breaks and at the end of the shift.**Eye Contact:** Flush the eyes immediately with large amounts of running water, lifting the upper and lower lids occasionally. If irritation persists or for imbedded foreign body, get immediate medical attention.**Ingestion:** If large amounts are swallowed, get immediate medical attention.**Most Important Symptoms and Effects, Both Acute and Delayed:** May cause eye irritation with redness and tearing.**Indication of immediate medical attention and Special Treatment Needed:** None required.

SECTION 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media: This product will not burn but is compatible with all extinguishing media. Use any media that is appropriate for the surrounding fire.

Specific Hazards Arising from the Chemical:

Unusual Fire and Explosion Hazards: Not flammable or combustible. Dry powders may accumulate static charge in handling which can be a source of ignition for flammable atmospheres.

Hazardous Combustion Products: None.

Special Protective Equipment and Precautions for Fire-Fighters: None required with respect to this product. Firefighters should always wear self-contained breathing apparatus for fires indoors or in confined areas.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective equipment.

Environmental Precautions: Report spills and releases as required to appropriate authorities.

Methods and Material for Containment/Cleanup: If uncontaminated, collect using dustless method (HEPA vacuum or wet method) and place in appropriate container for use. If contaminated: a) use appropriate method for the nature of contamination, and b) consider possible toxic or fire hazards associated with the contaminating substances. Collect for appropriate disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: Avoid breathing dust. Use normal precautions against bag breakage or spills of bulk material. Avoid creation of respirable dust. Use good housekeeping in storage and use areas to prevent accumulation of dust in work area.

Use adequate ventilation and dust collection. Maintain, use, clean and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Launder clothing that has become dusty. Empty containers (bags, bulk containers, storage tanks, etc.) retain product residue and must be handled in accordance with the provisions of this Material Safety Data Sheet. **WARN and TRAIN** employees in accordance with state and federal regulations.

WARN YOUR EMPLOYEES (AND YOUR CUSTOMERS AND USERS IN CASE OF RESALE) BY POSTING, AND OTHER MEANS, OF THE HAZARDS AND OSHA PRECAUTIONS AND ANY OTHER APPLICABLE REGULATORY PRECAUTIONS TO BE USED. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT OSHA PRECAUTIONS.

Dust can accumulate electrostatic charges due to friction from transfer and mixing operations and cause an electrical spark (ignition source) which can ignite flammable liquids and atmospheres. Provide adequate precautions when adding this product to flammable and combustible mixtures like paints and coating, such as electrical grounding and bonding, inert atmosphere or non-sparking tools. However, bonding and grounds may not eliminate the hazard for static accumulation.

Conditions for Safe Storage, Including any Incompatibilities: Store in a dry location.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Guidelines:**Definitions:

NIOSH means National Institute for Occupational Safety and Health.

REL means the NIOSH Recommended Exposure Limit.

TLV means American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value.
 TWA means time-weighted average.

Ontario OEL – 10 mg/ m³ (total dust)
 PEL - 5 mg/m³ TWA (respirable fraction), 15 mg/m³ TWA (total dust) as Particulates not Otherwise Regulated
 TLV- None established (refer to ACGIH guidance for Particulates (insoluble or poorly soluble) Not Otherwise Specified)
 MSHA – 10 mg/m³ TWA as Nuisance Particulates

Appropriate Engineering Controls: Use local exhaust as required to maintain exposures as far as possible below applicable occupational exposure limits. See also ACGIH "Industrial Ventilation - A Manual for Recommended Practice" (current edition). Control of exposure to dust must be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general or local exhaust ventilation and substitution of less toxic materials).

Personal Protective Equipment:

Respiratory Protection: When effective engineering controls are not feasible, or while they are being implemented, appropriate respiratory protection must be used. Use appropriate respiratory protection for respirable particulates based on consideration of airborne workplace concentrations and duration of exposure arising from intended end use. Refer to the most recent government and local standards.

Gloves: Protective gloves recommended.

Eye Protection: Safety glasses or goggles recommended.

Other Protective Equipment/Clothing: As appropriate for the work environment. Dusty clothing should be laundered before reuse.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Form:	Solid	Appearance:	White powder
Viscosity:	Not applicable	Odor:	None
pH:	Not applicable	Odor Threshold:	Not applicable
Boiling Point/Range:	Not applicable	Vapor Density:	Not applicable
Melting point/freezing point:	1223°C / 2233°F	Evaporation Rate:	Not applicable
Flammability (solid, gas):	Fully oxidized, will not burn	Partition coefficient (n-octanol/water):	Not applicable
Decomposition Temperature:	Not applicable	Vapor Pressure:	Not applicable
Flash Point:	Not applicable	Relative Density:	2.61
Lower Explosion Limit:	Not applicable	Solubilities:	Insoluble in water
Upper Explosion Limit:	Not applicable	Autoignition Temperature:	Will not burn

SECTION 10: STABILITY AND REACTIVITY

Reactivity: This product is not reactive under normal conditions of storage and use.

Chemical Stability: This product is stable at normal temperatures.

Possibility of Hazardous Reactions: None known

Conditions to Avoid: None known.

Incompatible Materials: None known

Hazardous Decomposition Products: None known.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Potential Health Effects:

Inhalation: Inhalation of dust may cause irritation of the nose, throat and respiratory passages.

Skin Contact: No adverse effects expected.

Eye Contact: Contact may cause mechanical irritation and possible injury.

Ingestion: No adverse effects expected for normal, incidental ingestion.

Chronic Health Effects: Prolonged overexposure to any nuisance dust may cause lung injury. Symptoms include cough, shortness of breath, and reduced pulmonary function.

Signs and Symptoms of Exposure: Overexposure to nuisance dusts may cause mucous membrane and respiratory irritation, cough, sore throat, nasal congestion, sneezing and shortness of breath.

Acute Toxicity Values: No acute toxicity data is available for product.

Skin Sensitization: Not a skin sensitizer in animals or humans.

Repeated Dose Toxicity: No specific data is available, however, prolonged overexposure to nuisance dust may cause lung changes.

Carcinogenicity: None of the components of this product are listed as carcinogens or suspected carcinogens by IARC, NTP or OSHA.

Developmental / Reproductive Toxicity: No specific data is available, however, there is no evidence that nepheline syenite exposure has any effect on reproduction.

Genetic Toxicity: No specific data is available, however, there is no evidence that nepheline syenite is a germ cell mutagen.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity: No ecotoxicity data is available. This product is not expected to present an environmental hazard.

Persistence and Degradability: This product is not degradable but not hazardous to the environment.

Bioaccumulative Potential: Not expected to bioaccumulate.

Mobility in Soil: Not applicable.

Results of PBT and vPvB Assessment: None required.

Other Adverse Effects: None known

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods:

If uncontaminated, dispose as an inert, non-metallic mineral. If contaminated, dispose in accordance with all applicable local, state/provincial and national/ federal regulations in light of the contamination present. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations.

SECTION 14: TRANSPORT INFORMATION

Not regulated for transportation under IATA/ICAO, IMDG, US DOT, EU ADR, or Canadian TDG Regulations.
Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code: None

SECTION 15: REGULATORY INFORMATION

SARA 311/312: Hazard Categories for SARA Section 311/312 Reporting: Not Hazardous

SARA 313 This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under the SARA Section 313 (40 CFR 372): None

CERCLA Section 103 Reportable Quantity: None

California Proposition 65: This product does not contain substances regulated under California Proposition 65.

Toxic Substances Control Act: All of the components of this product are listed on the EPA TSCA Inventory or exempt from premanufacture notification requirements.

European Inventory of Commercial Chemical Substances: All of the components of this product are listed on the EINECS Inventory or exempt from notification requirements.

EU REACH Status: This substance is exempt from REACH registration.

Canadian Environmental Protection Act: All the components of this product are listed on the Canadian Domestic Substances List or exempt from notification requirements.

Canadian WHMIS Classification: Not a controlled product

This SDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the SDS contains all of the information required by the CPR.

Japan METI: All of the components of this product are existing chemical substances as defined in the Chemical Substance Control Law.

Australian Inventory of Chemical Substances: All of the components of this product are listed on the AICS inventory or exempt from notification requirements.

Australian National Occupational Health & Safety Commission Status: Not classified as hazardous according to the criteria of Australian National Occupational Health & Safety Commission.

Korea: All of the components of this product are listed on the ECL inventory or exempt from notification requirements.

Philippines: All of the components of this product are listed on the PICCS inventory or exempt from notification requirements.

New Zealand: All of the components of this product are listed on the HSNO inventory or exempt from notification requirements.

China: All of the components of this product are listed on the IECSC inventory or exempt from notification requirements.

Taiwan: All of the components of this product are listed on the CSNN inventory or exempt from notification requirements.

16: OTHER INFORMATION

NFPA Hazard Rating: Health: 0 Fire: 0 Reactivity: 0

HMIS Hazard Rating: Health: 0 Fire: 0 Reactivity: 0

References:

- Registry for Toxic Effects of Chemical Substances (RTECS), 2014
- Patty's Industrial Hygiene and Toxicology
- NIOSH Hazard Review – Health Effects of Occupational Exposure to Respirable Crystalline Silica, April 2002
- NTP Twelfth Report on Carcinogens, 2011
- Hazardous Substances Data Bank (HSDB), 2014
- Toxline: 2014

SDS Date of Preparation/Revision: April 2014

Revision Summary: Conversion to US Hazcom 2012 format – GHS Classification added.

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