SAFETY DATA SHEET

1. Identification

Material name: VULKEM 116 LV HARTFORD GREEN 30 CTG/CS
Material: 426824L 323

Recommended use and restriction on use
- Recommended use: Sealant
- Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person: EH&S Department
Telephone: 216-292-5000
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards
- Acute toxicity (Inhalation - vapor) Category 4
- Respiratory sensitizer Category 1
- Skin sensitizer Category 1
- Germ Cell Mutagenicity Category 1B
- Carcinogenicity Category 1A

Unknown toxicity - Health
- Acute toxicity, oral 38.38 %
- Acute toxicity, dermal 42.5 %
- Acute toxicity, inhalation, vapor 97.39 %
- Acute toxicity, inhalation, dust or mist 99.99 %

Environmental Hazards
- Acute hazards to the aquatic environment Category 2

Unknown toxicity - Environment
- Acute hazards to the aquatic environment 77.38 %
- Chronic hazards to the aquatic environment 100 %
Hazard Symbol:  
[Image of hazard symbols]

Signal Word: Danger

Hazard Statement: Harmful if inhaled.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
May cause genetic defects.  
May cause cancer.  
Toxic to aquatic life.

Precautionary Statements

Prevention: Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see this label). Wash contaminated clothing before reuse.

Storage: Store locked up.

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

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)</th>
</tr>
</thead>
</table>

000000024099
Calcium Carbonate  1317-65-3  15 - 40%
(Limestone)
Polyethylene  9002-88-4  3 - 7%
Heavy aromatic naphtha  64742-94-5  1 - 5%
Aromatic petroleum distillates  64742-95-6  1 - 5%
1,2,4-Trimethylbenzene  95-63-6  0.5 - 1.5%
4,4’-Methylene bis(phenylisocyanate)  101-68-8  0.5 - 1.5%
1,3,5-Trimethylbenzene  108-67-8  0.1 - 1%
Polyethylene polyphenyl isocyanate  9016-87-9  0.1 - 1%
Crystalline Silica (Quartz)/Silica Sand  14808-60-7  0.1 - 1%
Copper phthalocyanine  147-14-8  0.1 - 1%
Titanium dioxide  13463-67-7  0.1 - 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:  Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.
Skin Contact:  If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye contact:  Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms:  May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment:  Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards:  No unusual fire or explosion hazards noted.

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: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep upwind. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.

Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection

Control Parameters

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate (Limestone) - Total dust.</td>
<td>PEL</td>
<td>15 mg/m3</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Respirable fraction.</td>
<td>PEL</td>
<td>5 mg/m3</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Polyethylene - Inhalable particles.</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>US. ACGIH Threshold Limit Values (03 2015)</td>
</tr>
<tr>
<td>Substance</td>
<td>Exposure Parameter</td>
<td>Limit Value</td>
<td>Source Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------------------</td>
<td>-------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Polyethylene - Respirable particles.</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (03 2015)</td>
</tr>
<tr>
<td>Polyethylene - Respirable fraction.</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Polyethylene - Total dust.</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>15 mg/m³</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>50 millions of particles per cubic foot of air</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)</td>
</tr>
<tr>
<td>Polyethylene - Respirable fraction.</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)</td>
</tr>
<tr>
<td>Heavy aromatic naphtha - Non-aerosol. - as total hydrocarbon vapor</td>
<td>TWA</td>
<td>200 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (03 2014)</td>
</tr>
<tr>
<td>Heavy aromatic naphtha</td>
<td>PEL</td>
<td>100 ppm</td>
<td>400 mg/m³</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>REL</td>
<td>25 ppm</td>
<td>125 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>25 ppm</td>
<td>125 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>25 ppm</td>
<td>125 mg/m³</td>
</tr>
<tr>
<td></td>
<td>AN ESL</td>
<td>25 ppb</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ST ESL</td>
<td>140 ppb</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ST ESL</td>
<td>700 µg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AN ESL</td>
<td>125 µg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA PEL</td>
<td>25 ppm</td>
<td>125 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>25 ppm</td>
<td></td>
</tr>
<tr>
<td>4,4'-Methylene bis(phenylisocyanate)</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ceiling</td>
<td>0.02 ppm</td>
<td>0.2 mg/m³</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
<td></td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand</td>
<td>PEL</td>
<td>0.05 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable.</td>
<td>TWA</td>
<td>2.4 millions of particles per cubic foot of air</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Copper phthalocyanine - Fume. - as Cu</td>
<td>TWA</td>
<td>0.2 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Copper phthalocyanine - Dust and mist. - as Cu</td>
<td>TWA</td>
<td>1 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide - Respirable</td>
<td>TWA</td>
<td>15 millions of</td>
<td></td>
</tr>
<tr>
<td>Chemical name</td>
<td>type</td>
<td>Exposure Limit Values</td>
<td>Source</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----------</td>
<td>----------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Diisodecyl phthalate</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Total dust.</td>
<td>STEL</td>
<td>20 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Compound</td>
<td>Measure</td>
<td>Value</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------</td>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Respirable fraction.</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Polyethylene - Respirable fraction.</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)</td>
</tr>
<tr>
<td>Polyethylene - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)</td>
</tr>
<tr>
<td>Polyethylene - Inhalable fraction.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)</td>
</tr>
<tr>
<td>Polyethylene - Respirable fraction.</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)</td>
</tr>
<tr>
<td>Polyethylene - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (11 2011)</td>
</tr>
<tr>
<td>Heavy aromatic naphtha - Non-aerosol. - as total hydrocarbon vapor</td>
<td>TWA</td>
<td>200 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
<td>Canada. Alberta OELs (Occupational Health &amp; Safety Code, Schedule 1, Table 2) (07 2009)</td>
</tr>
<tr>
<td>1,4-Methylene bis(phenylisocyanate)</td>
<td>CEILING</td>
<td>0.01 ppm</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>1,2,4-Methylene bis(phenylisocyanate)</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>1,2,4-Methylene bis(phenylisocyanate)</td>
<td>CEV</td>
<td>0.02 ppm</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)</td>
</tr>
<tr>
<td>Substance</td>
<td>TWA</td>
<td>Limit</td>
<td>Source</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------</td>
<td>------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4,4’-Methylene bis(phenylisocyanate)</td>
<td>TWA</td>
<td>0.005 ppm 0.051 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm 123 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Polymethylene polyphenyl isocyanate</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td></td>
<td>CEILING</td>
<td>0.01 ppm</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.10 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable dust.</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2015)</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Titanium dioxide - Respirable fraction.</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Titanium dioxide - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
</tbody>
</table>

**Appropriate Engineering Controls**

Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

**Individual protection measures, such as personal protective equipment**

**General information:**

Use personal protective equipment as required.

**Eye/face protection:**

Wear goggles/face shield.

**Skin Protection**

**Hand Protection:**

Use suitable protective gloves if risk of skin contact.

**Other:**

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state: solid
Form: Paste
Color: Dark green
Odor: Mild
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: > 93 °C > 200 °F (ISO 3679 (seta closed))
Evaporation rate: Slower than n-Butyl Acetate
Flammability (solid, gas): No
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: No data available.
Vapor density: Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density: 1.16
Solubility(ies)

Solubility in water: Insoluble in water
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: Alcohols. Amines. Strong acids. Avoid contact with oxidizing agents (e.g. nitric acid, peroxides and chromates). Strong bases. Water, moisture.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Causes mild skin irritation. May cause an allergic skin reaction.

Eye contact: Eye contact is possible and should be avoided.

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

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: 16,435.91 mg/kg

Dermal Product: ATEmix: 17,431.41 mg/kg

Inhalation Product: ATEmix: 17.97 mg/l

Repeated dose toxicity Product: No data available.
Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):
- Heavy aromatic naphtha
  - in vivo (Rabbit): Irritating Experimental result, Key study
- Aromatic petroleum distillates
  - in vivo (Rabbit): Irritating Experimental result, Key study
- 1,2,4-Trimethylbenzene
  - in vivo (Rabbit): Irritating Read-across from supporting substance (structural analogue or surrogate), Key study
- 4,4’-Methylene bis(phenylisocyanate)
  - in vivo (Rabbit): Irritating Read-across based on grouping of substances (category approach), Key study
- 1,3,5-Trimethylbenzene
  - in vivo (Rabbit): Irritating Experimental result, Key study
- Copper phthalocyanine
  - in vivo (Rabbit): Not irritant Experimental result, Key study
- Titanium dioxide
  - in vivo (Rabbit): Not irritant Experimental result, Supporting study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):
- Heavy aromatic naphtha
  - Rabbit, 24 - 72 hrs: Not irritating
- Aromatic petroleum distillates
  - Rabbit, 24 - 72 hrs: Not irritating
- 1,2,4-Trimethylbenzene
  - Rabbit, 30 min: Not irritating
- 1,3,5-Trimethylbenzene
  - Rabbit, 30 min: Not irritating
- Titanium dioxide
  - Rabbit, 24 hrs: Not irritating

Respiratory or Skin Sensitization

Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity

Product: No data available.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

- Crystalline Silica (Quartz)/ Silica Sand
  Overall evaluation: Carcinogenic to humans.

- Titanium dioxide
  Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

- Crystalline Silica (Quartz)/ Silica Sand
  Known To Be Human Carcinogen.


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.

Specified substance(s):
1,2,4-Trimethylbenzene LC 50 (Fathead minnow (Pimephales promelas), 96 h): 7.19 - 8.28 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
Titanium dioxide EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
Heavy aromatic naphtha NOAEL (Oncorhynchus mykiss, 28 d): 0.098 mg/l QSAR QSAR, Key study

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.

Other adverse effects: Toxic to aquatic organisms.

13. Disposal considerations
Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG: Not Regulated

CFR / DOT: Not Regulated

IMDG: Not Regulated

15. Regulatory information

US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-chlorobenzotrifluoride</td>
<td>De minimis concentration: TSCA 4% One-Time Export Notification only.</td>
</tr>
</tbody>
</table>

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):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-Methylene</td>
<td>5000 lbs.</td>
</tr>
<tr>
<td>bis(phenylisocyanate)</td>
<td>5000 lbs.</td>
</tr>
<tr>
<td>Cumene</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>2,4-Toluene disocyanate</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Xylene</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Toluene-2,6-Diisocyanate</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>1000 lbs.</td>
</tr>
<tr>
<td>Diocyl phthalate</td>
<td>100 lbs.</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
SARA 302 Extremely Hazardous Substance

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>100 lbs.</td>
<td>500 lbs.</td>
</tr>
<tr>
<td>Toluene-2,6-Diisocyanate</td>
<td>100 lbs.</td>
<td>100 lbs.</td>
</tr>
</tbody>
</table>

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diisodecyl phthalate</td>
<td>5000 lbs.</td>
</tr>
<tr>
<td>4,4'-Methylene bis(phenylisocyanate)</td>
<td></td>
</tr>
<tr>
<td>Polymethylene</td>
<td></td>
</tr>
<tr>
<td>polyphenyl isocyanate</td>
<td></td>
</tr>
<tr>
<td>Copper phthalocyanine</td>
<td></td>
</tr>
<tr>
<td>Cumene</td>
<td>5000 lbs.</td>
</tr>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Xylene</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Diisodecyl phthalate (mixed Is)</td>
<td></td>
</tr>
<tr>
<td>Toluene-2,6-Diisocyanate</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>10000 lbs.</td>
</tr>
<tr>
<td>Dioctyl phthalate</td>
<td>100 lbs.</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Toluene-2,6-Diisocyanate</td>
<td>100 lbs</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone)</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Polyethylene</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Heavy aromatic naphtha</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Aromatic petroleum distillates</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>4,4'-Methylene bis(phenylisocyanate)</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Polymethylene polyphenyl isocyanate</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Copper phthalocyanine</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>10000 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>lbs</td>
</tr>
<tr>
<td>Toluene-2,6-Diisocyanate</td>
<td>lbs</td>
</tr>
</tbody>
</table>

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>Reportable quantity: lbs.</td>
</tr>
</tbody>
</table>
US State Regulations

US. California Proposition 65
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.
- Crystalline Silica (Quartz)/Silica Sand: Carcinogenic. 09 2011
- Titanium dioxide: Carcinogenic. 09 2011
- Carbon Black: Carcinogenic. 09 2011
- Cumene: Carcinogenic. 09 2011
- 2,4-Toluene diisocyanate: Carcinogenic. 09 2011
- Toluene-2,6-Diisocyanate: Carcinogenic. 09 2011
- Ethylbenzene: Carcinogenic. 09 2011
- Diocyl phthalate: Carcinogenic. 09 2011
- Diocyl phthalate: Developmental toxin. 09 2011
- Diocyl phthalate: Male reproductive toxin. 09 2011

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
- Calcium Carbonate (Limestone)
- P-chlorobenzotri fluoride
- Heavy aromatic naphtha
- Crystalline Silica (Quartz)/Silica Sand

US. Massachusetts RTK - Substance List

Chemical Identity
- Calcium Carbonate (Limestone)
- Heavy aromatic naphtha
- Crystalline Silica (Quartz)/Silica Sand
- 2,4-Toluene diisocyanate
- Toluene-2,6-Diisocyanate
- Diocyl phthalate

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
- Diisodecyl phthalate
- Calcium Carbonate (Limestone)
- Heavy aromatic naphtha

US. Rhode Island RTK

Chemical Identity
- Diisodecyl phthalate

International regulations

Montreal protocol
not applicable

Stockholm convention
not applicable

Rotterdam convention
not applicable

Kyoto protocol
VOC:
Regulatory VOC (less water and exempt solvent) : 47 g/l
VOC Method 310 : 3.91 %

Inventory Status:
Australia AICS: One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List: All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP: One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List: One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances: One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI): One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory: One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS: One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory: All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals: One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing: One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing: One or more components in this product are not listed on or exempt from the Inventory.
**16. Other information, including date of preparation or last revision**

<table>
<thead>
<tr>
<th><strong>Revision Date:</strong></th>
<th>01/31/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Version #:</strong></td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Further Information:</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Disclaimer:</strong></td>
<td>For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.</td>
</tr>
</tbody>
</table>