SAFETY DATA SHEET

1. Identification

Material name: Vulkem® 350NF-SL
Material: 850712LV805

Recommended use and restriction on use

Recommended use: Coatings
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

Physical Hazards
- Flammable liquids Category 4

Health Hazards
- Respiratory sensitizer Category 1
- Skin sensitizer Category 1
- Germ Cell Mutagenicity Category 1B
- Carcinogenicity Category 1A

Unknown toxicity - Health
- Acute toxicity, oral 36.43 %
- Acute toxicity, dermal 38.6 %
- Acute toxicity, inhalation, vapor 100 %
- Acute toxicity, inhalation, dust or mist 99.65 %

Environmental Hazards
- Acute hazards to the aquatic environment Category 2

Unknown toxicity - Environment
- Acute hazards to the aquatic environment 97.21 %
Chronic hazards to the aquatic environment 100 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: Combustible liquid.
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:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response:
If inhaled: If breathing is difficult, 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. IF exposed or concerned: Get medical advice/attention. Specific treatment (see on this label). Wash contaminated clothing before reuse. In case of fire: Use...

Storage:
Store in a well-ventilated place. Keep cool. 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):
Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

000000014190
Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate (Limestone)</td>
<td>1317-65-3</td>
<td>30 - 60%</td>
</tr>
<tr>
<td>Hydrotreated heavy naphtha</td>
<td>64742-48-9</td>
<td>3 - 7%</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>1305-78-8</td>
<td>1 - 5%</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>1 - 5%</td>
</tr>
<tr>
<td>Isophorone Dilsocyanate</td>
<td>4098-71-9</td>
<td>0.5 - 1.5%</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand</td>
<td>14808-60-7</td>
<td>0.1 - 1%</td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>64742-52-5</td>
<td>0.1 - 1%</td>
</tr>
<tr>
<td>Tosyl isocyanate</td>
<td>4083-64-1</td>
<td>0.1 - 1%</td>
</tr>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>584-84-9</td>
<td>0.1 - 1%</td>
</tr>
<tr>
<td>4,4’-Methylene bis(phenylisocyanate)</td>
<td>101-68-8</td>
<td>0.1 - 1%</td>
</tr>
<tr>
<td>Amorphous silica</td>
<td>7631-86-9</td>
<td>0.1 - 1%</td>
</tr>
</tbody>
</table>

* 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: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Move containers from fire area if you can do so without risk.
Suitable (and unsuitable) extinguishing media

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** Avoid water in straight hose stream; will scatter and spread 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:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). 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:** Dam and absorb spillages with sand, earth or other non-combustible material. 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:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

**Precautions for safe handling:** Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing.
8. Exposure controls/personal protection

### Occupational Exposure Limits

<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)</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)</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>Calcium oxide</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Titanium dioxide - 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>Titanium dioxide - Respirable</td>
<td>TWA</td>
<td>15 millions of particles per cubic foot of air</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>TWA</td>
<td>0.05 mg/m³</td>
<td>US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)</td>
</tr>
<tr>
<td>Isophorone Diisocyanate</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate - Inhalable fraction</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (03 2014)</td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>PEL</td>
<td>500 ppm</td>
<td>2,000 mg/m³</td>
</tr>
<tr>
<td>2,4-Toluene disocyanate - Inhalable fraction and vapor.</td>
<td>STEL</td>
<td>0.005 ppm</td>
<td>US. ACGIH Threshold Limit Values (03 2016)</td>
</tr>
<tr>
<td>2,4-Toluene disocyanate</td>
<td>Ceiling</td>
<td>0.02 ppm</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>4,4'-Methylene bis(phenylisocyanate)</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>4,4'-Methylene bis(phenylisocyanate)</td>
<td>Ceiling</td>
<td>0.02 ppm</td>
<td>0.2 mg/m³</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>Amorphous silica</td>
<td>TWA</td>
<td>20 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>0.8 mg/m³</td>
<td>US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<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>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) (09 2017)</td>
</tr>
<tr>
<td>Hydrotreated heavy naphtha</td>
<td>TWA</td>
<td>525 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>TWA</td>
<td>2 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 oxide</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)</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) (09 2017)</td>
</tr>
<tr>
<td>Isophorone Diisocyanate</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>Isophorone Diisocyanate</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>Isophorone Diisocyanate</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)</td>
</tr>
<tr>
<td></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>Type</td>
<td>Value 1</td>
<td>Value 2</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>--------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Isophorone Diisocyanate</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td>0.045 mg/m³</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate - Mist.</td>
<td>TWA</td>
<td>0.2 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate - Inhalable fraction.</td>
<td>TWA</td>
<td>1 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate - Mist.</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate - Mist.</td>
<td>STEL</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate - Mist.</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>CEILING</td>
<td>0.01 ppm</td>
<td></td>
</tr>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td></td>
</tr>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td></td>
</tr>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>CEV</td>
<td>0.02 ppm</td>
<td></td>
</tr>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td>0.036 mg/m³</td>
</tr>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>STEL</td>
<td>0.02 ppm</td>
<td>0.14 mg/m³</td>
</tr>
<tr>
<td>4,4’-Methylene bis(phenylisocyanate)</td>
<td>CEILING</td>
<td>0.01 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>4,4’-Methylene bis(phenylisocyanate)</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td></td>
</tr>
<tr>
<td>4,4’-Methylene bis(phenylisocyanate)</td>
<td>CEV</td>
<td>0.02 ppm</td>
<td></td>
</tr>
<tr>
<td>4,4’-Methylene bis(phenylisocyanate)</td>
<td>TWA</td>
<td>0.005 ppm</td>
<td>0.051 mg/m³</td>
</tr>
</tbody>
</table>
Biological Limit Values

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Toluene diisocyanate (Toluene diamine (sum of 2,4- and 2,6-isomers), with hydrolysis: Sampling time: End of shift.)</td>
<td>5 µg/g (Creatinine in urine)</td>
<td>ACGIH BEI (03 2016)</td>
</tr>
</tbody>
</table>

Appropriate Engineering Controls

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

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. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

- Physical state: liquid
- Form: liquid
- Color: Gray
- Odor: Mild petroleum/solvent
- 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: 75 °C 167 °F (Setaflash Closed Cup)
- Evaporation rate: Slower than Ether
- 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: 1.38

Solubility(ies)
- Solubility in water: Practically Insoluble
- 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: Heat, sparks, flames.


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 harmful if swallowed.

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: 4,624.37 mg/kg

Dermal
Product: ATEmix: 61,025.51 mg/kg

Inhalation
Product: Not classified for acute toxicity based on available data.

Specified substance(s):
Hydrotreated heavy naphtha LC 50 (Rat): > 8,530 mg/m3
Calcium oxide LC 50 (Rat): 40 mg/m3
Titanium dioxide LC 50 (Rat): 3.43 mg/l
Isophorone Diisocyanate LC 50 (Rat): 135 - 160 mg/m3
Hydrotreated heavy naphthenic distillate LC 50 (Rat): 9.6 mg/l
2,4-Toluene diisocyanate LC 50 (Rat): 14 mg/l
Amorphous silica LC 50 (Rat): > 2.08 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):
Hydrotreated heavy naphtha: Study design not appropriate to classify skin irritation. Experimental result, Supporting study

Calcium oxide: In vivo (Rabbit): Irritating. Read-across from supporting substance (structural analogue or surrogate), Key study

Titanium dioxide: In vivo (Rabbit): Not irritant. Experimental result, Supporting study

Hydrotreated heavy naphthenic distillate: In vivo (Rabbit): Not irritant. Experimental result, Key study

2,4-Toluene diisocyanate: In vivo (Rabbit): Moderately irritating. Experimental result, Supporting study

4,4’-Methylene bis(phenylisocyanate): In vivo (Rabbit): Irritating. Read-across based on grouping of substances (category approach), Key study

Amorphous silica: In vivo (Rabbit): Not irritant. Experimental result, Key study

**Serious Eye Damage/Eye Irritation**

*Product:* No data available.

*Specified substance(s):*

Hydrotreated heavy naphtha: Rabbit, 24 - 72 hrs: Not irritating

Titanium dioxide: Rabbit, 24 hrs: Not irritating

Hydrotreated heavy naphthenic distillate: Rabbit, 24 hrs: Not irritating

2,4-Toluene diisocyanate: Rabbit, 24 - 72 hrs: Category 2

Amorphous silica: 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:

- **Titanium dioxide**: Overall evaluation: Possibly carcinogenic to humans.
- **Crystalline Silica (Quartz)/ Silica Sand**: Overall evaluation: Carcinogenic to humans.
- **Hydrotreated heavy naphthenic distillate**: Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Carcinogenic to humans.
- **2,4-Toluene diisocyanate**: Overall evaluation: Possibly carcinogenic to humans.

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

- **Crystalline Silica (Quartz)/ Silica Sand**: Known To Be Human Carcinogen.
- **Hydrotreated heavy naphthenic distillate**: Known To Be Human Carcinogen.
- **2,4-Toluene diisocyanate**: Reasonably Anticipated to be a 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): 2,4-Toluene diisocyanate
LC 50 (Fathead minnow (Pimephales promelas), 96 h): 108.8 - 240.4 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): Hydrotreated heavy naphtha
LL 50 (Pimephales promelas, 14 d): 5.2 mg/l Experimental result, Supporting study
NOAEL (Pimephales promelas, 14 d): 2.6 mg/l Experimental result, Supporting study
NOAEL (Daphnia magna, 21 d): 2.6 mg/l Other, Key study
EC 50 (Daphnia magna, 21 d): 10 mg/l Other, Key study

Hydrotreated heavy naphthenic distillate
NOAEL (Onchorhynchus mykiss, 14 d): >= 1,000 mg/l QSAR QSAR, Supporting 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>2,4-Toluene diisocyanate</td>
<td>De minimis concentration: TSCA 5(a)(2)% 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>2,4-Toluene diisocyanate</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>4,4’-Methylene bis(phenylisocyanate)</td>
<td>5000 lbs.</td>
</tr>
<tr>
<td>Toluene-2,6-Diisocyanate</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Propylene oxide</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Methanol</td>
<td>5000 lbs.</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>1000 lbs.</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Fire Hazard
- Delayed (Chronic) Health Hazard
- Immediate (Acute) Health Hazards

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>Isophorone Diisocyanate</td>
<td>500 lbs.</td>
<td>500 lbs.</td>
</tr>
<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>
<tr>
<td>Propylene oxide</td>
<td>100 lbs.</td>
<td>10000 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>Isophorone Diisocyanate</td>
<td></td>
</tr>
<tr>
<td>Diisodecyl phthalate</td>
<td></td>
</tr>
<tr>
<td>2,4-Toluene diisocyanate</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>4,4’-Methylene bis(phenylisocyanate)</td>
<td>5000 lbs.</td>
</tr>
<tr>
<td>Polymethylene polyphenyl isocyanate</td>
<td></td>
</tr>
<tr>
<td>Toluene-2,6-Diisocyanate</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Diisodecyl phthalate (mixed Is)</td>
<td></td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Propylene oxide</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Methanol</td>
<td>5000 lbs.</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>1000 lbs.</td>
</tr>
</tbody>
</table>
SARA 311/312 Hazardous Chemicals

**Chemical Identity** | **Threshold Planning Quantity**
--- | ---
Isophorone Diisocyanate | 500lbs
2,4-Toluene diisocyanate | 500lbs
Toluene-2,6-Diisocyanate | 100lbs
Propylene oxide | 500lbs
Calcium Carbonate (Limestone) | 10000 lbs
Hydrotreated heavy naphtha | 10000 lbs
Calcium oxide | 10000 lbs
Titanium dioxide | 10000 lbs
Crystalline Silica (Quartz)/Silica Sand | 10000 lbs
Hydrotreated heavy naphthenic distillate | 10000 lbs
Tosyl isocyanate | 10000 lbs
4,4'-Methylene bis(phenylisocyanate) | 10000 lbs
Amorphous silica | 10000 lbs

SARA 313 (TRI Reporting)

**Chemical Identity**
2,4-Toluene diisocyanate

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

**Chemical Identity** | **Reportable Quantity**
--- | ---
2,4-Toluene diisocyanate | lbs
Toluene-2,6-Diisocyanate | lbs
Propylene oxide | lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

US State Regulations

**US. California Proposition 65**

**WARNING**
Cancer and Reproductive Harm - www.P65Warnings.ca.gov

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

**Chemical Identity**
Calcium Carbonate (Limestone)
Calcium oxide
Titanium dioxide
Crystalline Silica (Quartz)/Silica Sand
Hydrotreated heavy naphthenic distillate
2,4-Toluene diisocyanate
**US. Massachusetts RTK - Substance List**

**Chemical Identity**
- Calcium Carbonate (Limestone)
- Calcium oxide
- Titanium dioxide
- Isophorone Diisocyanate
- Crystalline Silica (Quartz)/ Silica Sand
- 2,4-Toluene diisocyanate
- Toluene-2,6-Diisocyanate
- Propylene oxide

**US. Pennsylvania RTK - Hazardous Substances**

**Chemical Identity**
- Calcium Carbonate (Limestone)
- Hydrotreated heavy naphtha
- Calcium oxide
- Titanium dioxide
- 2,4-Toluene diisocyanate

**US. Rhode Island RTK**

**Chemical Identity**
- Calcium Carbonate (Limestone)
- Calcium oxide
- Titanium dioxide

**International regulations**

- **Montreal protocol**
  Not applicable

- **Stockholm convention**
  Not applicable

- **Rotterdam convention**
  Not applicable

- **Kyoto protocol**
  Not applicable

**VOC:**
- Regulatory VOC (less water and exempt solvent) : 85 g/l
- VOC Method 310 : 6.15 %
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: One or more components in this product are not 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

Revision Date: 07/21/2018
Version #: 1.1
Further Information: No data available.
Disclaimer: 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.