# SAFETY DATA SHEET

## 1. Identification

**Material name:** Vulkem® 191 Primer
**Material:** 191191IP817

**Recommended use and restriction on use**

**Recommended use:** Coatings
**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor Information**
Tremco Canadian Sealants
220 Wicksteed Ave
Toronto ON M4H 1G7
CA

| | |
|---|---|
| **Contact person:** | EH&S Department |
| **Telephone:** | 1-800-263-6046 |
| **Emergency telephone number:** | 1-800-424-9300 (US); 1-613-996-6666 (Canada) |

## 2. Hazard(s) identification

**Hazard Classification**

**Physical Hazards**

| | |
|---|---|
| Flammable liquids | Category 3 |

**Health Hazards**

| | |
|---|---|
| Acute toxicity (Oral) | Category 4 |
| Respiratory sensitizer | Category 1 |
| Skin sensitizer | Category 1 |
| Carcinogenicity | Category 1B |

**Unknown toxicity - Health**

| | |
|---|---|
| Acute toxicity, oral | 8.33 % |
| Acute toxicity, dermal | 62.28 % |
| Acute toxicity, inhalation, vapor | 99.96 % |
| Acute toxicity, inhalation, dust or mist | 100 % |

**Label Elements**

**Hazard Symbol:**

**Signal Word:** Danger

**Hazard Statement:** Flammable liquid and vapor.
Harmful if swallowed.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause cancer.

**Precautionary Statements**

**Prevention:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/…] equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. 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 victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor/… IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. If skin irritation or rash occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTRE/doctor/… if you feel unwell. Rinse mouth. IF exposed or concerned: Get medical advice/attention. Specific treatment (see on this label). Wash contaminated clothing before reuse. In case of fire: Use… to extinguish.

**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

**Mixtures**

| Chemical Identity | CAS number | Content in percent (%)* |
|---|---|---|
| P-chlorobenzotrifluoride | 98-56-6 | 50 - <100% |
| 2,4-Toluene diisocyanate | 584-84-9 | 5 - <10% |
| 4,4'-Methylene bis(phenylisocyanate) | 101-68-8 | 5 - <10% |
| Xylene | 1330-20-7 | 1 - <5% |
| Toluene-2,6-Diisocyanate | 91-08-7 | 1 - <5% |
| Ethylbenzene | 100-41-4 | 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:** Take off immediately all contaminated clothing. 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:** Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. 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:** Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

**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:** Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. 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.

## 7. Handling and storage

**Precautions for safe handling:** Do not taste or swallow. 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. Ground and bond container and receiving equipment. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities:** Store locked up. Store in a well-ventilated place. Store in a cool place.

## 8. Exposure controls/personal protection

**Control Parameters**

**Occupational Exposure Limits**

| Chemical Identity | Type | Exposure Limit Values | | Source |
|---|---|---|---|---|
| 2,4-Toluene diisocyanate - Inhalable fraction and vapor. | STEL | 0.005 ppm | | US. ACGIH Threshold Limit Values (03 2016) |
| | TWA | 0.001 ppm | | US. ACGIH Threshold Limit Values (03 2016) |
| 2,4-Toluene diisocyanate | Ceiling | 0.02 ppm | 0.14 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| 4,4'-Methylene bis(phenylisocyanate) | TWA | 0.005 ppm | | US. ACGIH Threshold Limit Values (2011) |
| | Ceiling | 0.02 ppm | 0.2 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| Xylene | STEL | 150 ppm | 655 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | REL | 100 ppm | 435 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | STEL | 150 ppm | 655 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | REL | 100 ppm | 435 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | STEL | 150 ppm | 655 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | REL | 100 ppm | 435 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | STEL | 150 ppm | 655 mg/m3 | US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) |
| | TWA | 100 ppm | 435 mg/m3 | US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) |
| | TWA | 100 ppm | 435 mg/m3 | US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008) |
| | STEL | 150 ppm | 655 mg/m3 | US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008) |
| | ST ESL | | 350 µg/m3 | US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011) |
| | ST ESL | | 80 ppb | US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011) |
| | AN ESL | | 42 ppb | US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011) |
| | AN ESL | | 180 µg/m3 | US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011) |
| | STEL | 150 ppm | 655 mg/m3 | US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010) |
| | Ceiling | 300 ppm | | US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010) |
| | TWA PEL | 100 ppm | 435 mg/m3 | US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010) |
| | TWA | 100 ppm | | US. ACGIH Threshold Limit Values (2011) |
| | STEL | 150 ppm | | US. ACGIH Threshold Limit Values (2011) |
| | PEL | 100 ppm | 435 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| Toluene-2,6-Diisocyanate - Inhalable fraction and vapor. | STEL | 0.005 ppm | | US. ACGIH Threshold Limit Values (03 2016) |
| | TWA | 0.001 ppm | | US. ACGIH Threshold Limit Values (03 2016) |
| Ethylbenzene | TWA | 20 ppm | | US. ACGIH Threshold Limit Values (2011) |
| | PEL | 100 ppm | 435 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |

| Chemical name | Type | Exposure Limit Values | | Source |
|---|---|---|---|---|
| 2,4-Toluene diisocyanate | CEILING | 0.01 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | TWA | 0.005 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| 2,4-Toluene diisocyanate | TWA | 0.005 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| | CEV | 0.02 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| 2,4-Toluene diisocyanate | TWA | 0.005 ppm | 0.036 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| | STEL | 0.02 ppm | 0.14 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| 4,4'-Methylene bis(phenylisocyanate) | CEILING | 0.01 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | TWA | 0.005 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| 4,4'-Methylene bis(phenylisocyanate) | TWA | 0.005 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| | CEV | 0.02 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| 4,4'-Methylene bis(phenylisocyanate) | TWA | 0.005 ppm | 0.051 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Polymethylene polyphenyl isocyanate | TWA | 0.005 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | CEILING | 0.01 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Xylene | TWA | 100 ppm | 434 mg/m3 | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009) |
| | STEL | 150 ppm | 651 mg/m3 | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009) |
| Xylene | TWA | 100 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | STEL | 150 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Xylene | TWA | 100 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| | STEL | 150 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Xylene | STEL | 150 ppm | 651 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| | TWA | 100 ppm | 434 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |

| | | | | |
|---|---|---|---|---|
| Toluene-2,6-Diisocyanate | CEILING | 0.01 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | TWA | 0.005 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Toluene-2,6-Diisocyanate | TWA | 0.005 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| | CEV | 0.02 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Toluene-2,6-Diisocyanate | TWA | 0.005 ppm | 0.036 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| | STEL | 0.02 ppm | 0.14 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Ethylbenzene | TWA | 20 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011) |
| Ethylbenzene | TWA | 20 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Ethylbenzene | STEL | 125 ppm | 543 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| | TWA | 100 ppm | 434 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Toluene | TWA | 20 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Toluene | TWA | 20 ppm | | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Toluene | TWA | 50 ppm | 188 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Phosphoric acid | TWA | | 1 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | STEL | | 3 mg/m3 | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Phosphoric acid | TWA | | 1 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| | STEL | | 3 mg/m3 | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010) |
| Phosphoric acid | STEL | | 3 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| | TWA | | 1 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| Benzene | STEL | 2.5 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | TWA | 0.5 ppm | | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |

| | | | |
|---|---|---|---|
| Benzene | TWA | 0.5 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| | STEL | 2.5 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015) |
| Benzene | TWA | 1 ppm 3 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |
| | STEL | 5 ppm 15.5 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017) |

**Biological Limit Values**

| Chemical Identity | Exposure Limit Values | Source |
|---|---|---|
| 2,4-Toluene diisocyanate (Toluene diamine (sum of 2,4- and 2,6-isomers), with hydrolysis: Sampling time: End of shift.) | 5 µg/g (Creatinine in urine) | ACGIH BEI (03 2018) |
| Xylene (Methylhippuric acids: Sampling time: End of shift.) | 1.5 g/g (Creatinine in urine) | ACGIH BEI (03 2013) |
| Toluene-2,6-Diisocyanate (Toluene diamine (sum of 2,4- and 2,6-isomers), with hydrolysis: Sampling time: End of shift.) | 5 µg/g (Creatinine in urine) | ACGIH BEI (03 2018) |
| Ethylbenzene (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.) | 0.15 g/g (Creatinine in urine) | ACGIH BEI (02 2014) |

**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 explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Eye/face protection:**

Wear safety glasses with side shields (or goggles).

**Skin Protection**

**Hand Protection:**

Use suitable protective gloves if risk of skin contact.

**Other:**

Wear suitable protective clothing. 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. Do not eat, drink or smoke when using the product. Wash hands after handling. 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:** | Amber |
| **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:** | 35 °C 95 °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:** | 1.23 |
| **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.

**Incompatible Materials:** Alcohols. Amines. Strong acids. 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:** May be harmful in contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.

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

**Ingestion:** 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: 708.14 mg/kg

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

**Specified substance(s):**

| | |
|---|---|
| 2,4-Toluene diisocyanate | LD 50 (Rat): > 2,000 mg/kg |
| 4,4'-Methylene bis(phenylisocyanate) | LD 50 (Rabbit): > 9,400 mg/kg |
| Xylene | LD 50 (Rabbit): 12,126 mg/kg |
| Ethylbenzene | LD 50 (Rabbit): 17,800 mg/kg |

**Inhalation**

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

**Specified substance(s):**

| | |
|---|---|
| 2,4-Toluene diisocyanate | LC 50 (Rat): 14 mg/l |

**Repeated dose toxicity**

**Product:** No data available.

**Skin Corrosion/Irritation**

**Product:** No data available.

**Specified substance(s):**

| | |
|---|---|
| P-chlorobenzotrifluoride | in vivo (Rabbit): Not irritant (unspecified classification) 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 |
| Xylene | in vivo (Rabbit): Moderate irritant Experimental result, Weight of Evidence study |

**Serious Eye Damage/Eye Irritation**

**Product:** No data available.

**Specified substance(s):**

| | |
|---|---|
| 2,4-Toluene diisocyanate | Rabbit, 24 - 72 hrs: Category 2 |
| Xylene | Rabbit, 24 hrs: Moderately irritating |

| | |
|---|---|
| Ethylbenzene | Rabbit, 7 d: Slightly irritating |

**Respiratory or Skin Sensitization**

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

**Carcinogenicity**

**Product:** May cause cancer. Suspected of causing cancer.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

| | |
|---|---|
| 2,4-Toluene diisocyanate | Overall evaluation: Possibly carcinogenic to humans. |
| Toluene-2,6-Diisocyanate | Overall evaluation: Possibly carcinogenic to humans. |
| Ethylbenzene | Overall evaluation: Possibly carcinogenic to humans. |

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

| | |
|---|---|
| 2,4-Toluene diisocyanate | Reasonably Anticipated to be a Human Carcinogen. |
| Toluene-2,6-Diisocyanate | Reasonably Anticipated to be a Human Carcinogen. |

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ Cell Mutagenicity**

**In vitro**

**Product:** No data available.

**In vivo**

**Product:** No data available.

**Reproductive toxicity**

**Product:** No data available.

**Specific Target Organ Toxicity - Single Exposure**

**Product:** No data available.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** No data available.

**Aspiration Hazard**

**Product:** No data available.

**Other effects:** No data available.

## 12. Ecological information

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

| | |
|---|---|
| 2,4-Toluene diisocyanate | LC 50 (Fathead minnow (Pimephales promelas), 96 h): 108.8 - 240.4 mg/l Mortality |
| Xylene | LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13.41 mg/l Mortality |
| Ethylbenzene | LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 4.2 mg/l Mortality |

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s):**

| | |
|---|---|
| Ethylbenzene | EC 50 (Water flea (Daphnia magna), 48 h): 1.37 - 4.4 mg/l Intoxication |

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and Degradability**

**Biodegradation**

**Product:** No data available.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration Factor (BCF)**
**Product:** No data available.

**Partition Coefficient n-octanol / water (log Kow)**
**Product:** No data available.

**Specified substance(s):**

| | |
|---|---|
| Xylene | Log Kow: 3.12 - 3.20 |
| Ethylbenzene | Log Kow: 3.15 |

**Mobility in soil:** No data available.

**Other adverse effects:** No data available.

## 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:**

UN1133, ADHESIVES, 3, PG III

**CFR / DOT:**

UN1133, Adhesives, 3, PG III

**IMDG:**

UN1133, ADHESIVES, 3, PG III

**Further Information:**
The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

## 15. Regulatory information

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

| Chemical Identity | Reportable quantity |
|---|---|
| P-chlorobenzotrifluoride | De minimis concentration: TSCA 4% One-Time Export Notification only. |
| 2,4-Toluene diisocyanate | De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only. |
| Toluene-2,6-Diisocyanate | De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only. |

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

| Chemical Identity | OSHA hazard(s) |
|---|---|
| Benzene | Blood<br>respiratory tract irritation<br>Central nervous system<br>Flammability<br>Cancer<br>Skin<br>Aspiration<br>Eye |

**CERCLA Hazardous Substance List (40 CFR 302.4):**

| Chemical Identity | Reportable quantity |
|---|---|
| 2,4-Toluene diisocyanate | 100 lbs. |
| 4,4'-Methylene bis(phenylisocyanate) | 5000 lbs. |
| Xylene | 100 lbs. |
| Toluene-2,6-Diisocyanate | 100 lbs. |
| Ethylbenzene | 1000 lbs. |
| Toluene | 1000 lbs. |
| Phosphoric acid | 5000 lbs. |
| Benzene | 10 lbs. |

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route or exposure)
Respiratory or Skin Sensitization
Carcinogenicity
Hazards Not Otherwise Classified (HNOC)

**SARA 302 Extremely Hazardous Substance**

| Chemical Identity | Reportable quantity | Threshold Planning Quantity |
|---|---|---|
| 2,4-Toluene diisocyanate | 100 lbs. | 500 lbs. |
| Toluene-2,6-Diisocyanate | 100 lbs. | 100 lbs. |

**SARA 304 Emergency Release Notification**

| Chemical Identity | Reportable quantity |
|---|---|
| 2,4-Toluene diisocyanate | 100 lbs. |
| 4,4'-Methylene bis(phenylisocyanate) | 5000 lbs. |
| Xylene | 100 lbs. |
| Toluene-2,6-Diisocyanate | 100 lbs. |
| Ethylbenzene | 1000 lbs. |
| Toluene | 1000 lbs. |
| Phosphoric acid | 5000 lbs. |
| Benzene | 10 lbs. |

**SARA 311/312 Hazardous Chemical**

| Chemical Identity | Threshold Planning Quantity |
|---|---|
| 2,4-Toluene diisocyanate | 500lbs |
| Toluene-2,6-Diisocyanate | 100lbs |
| P-chlorobenzotrifluoride | 10000 lbs |
| 4,4'-Methylene bis(phenylisocyanate) | 10000 lbs |
| Xylene | 10000 lbs |
| Ethylbenzene | 10000 lbs |

**SARA 313 (TRI Reporting)**

| Chemical Identity |
|---|
| 2,4-Toluene diisocyanate |
| 4,4'-Methylene bis(phenylisocyanate) |
| Polymethylene polyphenyl isocyanate |
| Xylene |
| Toluene-2,6-Diisocyanate |
| Ethylbenzene |

**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 |

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

| Chemical Identity | Reportable quantity |
|---|---|
| Xylene | Reportable quantity: lbs. |

**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 |
|---|
| P-chlorobenzotrifluoride |
| 2,4-Toluene diisocyanate |
| 4,4'-Methylene bis(phenylisocyanate) |
| Polymethylene polyphenyl isocyanate |
| Xylene |
| Toluene-2,6-Diisocyanate |
| Ethylbenzene |

**US. Massachusetts RTK - Substance List**

| Chemical Identity |
|---|
| 2,4-Toluene diisocyanate |
| 4,4'-Methylene bis(phenylisocyanate) |
| Xylene |
| Toluene-2,6-Diisocyanate |

**US. Pennsylvania RTK - Hazardous Substances**

**Chemical Identity**
2,4-Toluene diisocyanate
4,4'-Methylene bis(phenylisocyanate)
Xylene
Toluene-2,6-Diisocyanate

**US. Rhode Island RTK**

**Chemical Identity**
2,4-Toluene diisocyanate
4,4'-Methylene bis(phenylisocyanate)
Xylene

**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) | : | 97 g/l |
| VOC Method 310 | : | 3.99 % |

**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. |
| Mexico INSQ: | One or more components in this product are not listed on or exempt from the Inventory. |
| Ontario Inventory: | One or more components in this product are not listed on or exempt from the Inventory. |
| Taiwan Chemical Substance Inventory: | 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:** | 01/23/2019 |
| **Version #:** | 1.0 |
| **Further Information:** | No data available. |
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