



Product name: VORANATE* T-80 Type I TDI

Issue Date: 07/09/2017 **Print Date:** 07/09/2017

Sadara Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: VORANATE* T-80 Type I TDI

Recommended use of the chemical and restrictions on use Identified uses: Component(s) for the manufacture of urethane polymers. For industrial use.

COMPANY IDENTIFICATION

SADARA CHEMICAL COMPANY P.O. BOX 11811 JUBAIL INDUSTRIAL CITY 31961 KINGDOM OF SAUDI ARABIA

Customer Information Number:

+966 13 345 8888 cig@sadara.com +966 13 868 8097

EMERGENCY TELEPHONE NUMBER

Fax:

24-Hour Emergency Contact: +966 13 345 7222 Local Emergency Contact: +966 13 345 7222

2. HAZARDS IDENTIFICATION

Hazard classification

Very toxic by inhalation.

Irritating to eyes, respiratory system and skin.

Limited evidence of a carcinogenic effect.

May cause sensitisation by inhalation and skin contact.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a substance.

CASRN / EC-No. / Index-No.	Concentration	Component	Classification
CASRN 26471-62-5 EC-No. 247-722-4 Index-No. 615-006-00-4	100.0%	Toluene-diisocyanate, mixture of toluene-2,4-di-isocyanate and toluene-2,6-di-isocyanate	Carc.Cat.3 - R40 T+ - R26 Xi - R36/37/38 R42/43 R52 - R53

The full text of each R phrase is listed in section 16.

Note

Toluene-diisocyanate (TDI) with CAS#26471-62-5 describes a mixture of toluene-2,4-di-isocyanate and toluene-2,6-di-isocyanate

4. FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. This may also apply to other isocyanates. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be immediately available.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives

may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen cyanide. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas. Spilled material may cause a slipping hazard. Keep upwind of spill. Ventilate area of leak or spill. If available, use foam to smother or suppress. Refer to section 7, Handling, for additional precautionary measures. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Absorb with materials such as: Dirt. Vermiculite. Sand. Clay. Do NOT use absorbent materials such as: Cement powder (Note: may generate heat). Collect in suitable and properly labeled open containers. Do not place in sealed containers. Suitable containers include: Metal drums. Plastic drums. Polylined fiber pacs. Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure. Contact your supplier for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Use with adequate ventilation. This material is hygroscopic in nature. Keep container tightly closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in a dry place. Protect from atmospheric moisture. Do not store product contaminated with water to prevent potential hazardous reaction. Avoid moisture. See Section 10 for more specific information. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability:	Storage Period:
Storage temperature:	
18 - 40 °C	12 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Toluene-diisocyanate, mixture of toluene-2,4-di- isocyanate and toluene-2,6- di-isocyanate	Dow IHG	TWA	0.005 ppm

Dow IHG	TWA	Skin and respiratory
		sensitiser
Dow IHG		0.02 ppm
Dow IHG		Skin and respiratory
		sensitiser

Exposure controls

Engineering controls: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure.

Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator. **Skin protection**

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Polyethylene. Chlorinated polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Viton. Neoprene. Polyvinyl chloride ("PVC" or "vinyl"). Nitrile/butadiene rubber ("nitrile" or "NBR"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Remove contaminated clothing immediately, wash skin area with soap and water. Contaminated clothing should be disposed of properly or decontaminated and laundered before reuse. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved airpurifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply.

Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	liquid
Color	Colorless to yellow
Odor	Sharp
Odor Threshold	0.05 - 0.2 ppm <i>Based on Literature for TDI.</i> Odor is inadequate warning of excessive exposure.
рН	Not applicable
Melting point/range	9.5 - 10 °C EU Method A.1 (Melting / Freezing Temperature)
Freezing point	9.5 - 10 °C EU Method A.1 (Melting / Freezing Temperature)
Boiling point (760 mmHg)	252 - 254 °C at 1.013 hPa EU Method A.2 (Boiling Temperature)
Flash point	closed cup 126 °C ASTM D 93
Evaporation Rate (Butyl Acetate = 1)	<1 Literature
Flammability (solid, gas)	No
Lower explosion limit	0.9 % vol Literature (2,4 isomer of TDI)
Upper explosion limit	9.5 % vol Literature
Vapor Pressure	0.015 hPa at 20 °C <i>Calculated.</i> 0.01 mmHg at 20 °C <i>Literature</i>
Relative Vapor Density (air = 1)	6.0 Literature
Relative Density (water = 1)	1.22 at 20 °C / 20 °C EU Method A.3 (Relative Density)
Water solubility	insoluble, reacts, evolution of CO2
Partition coefficient: n- octanol/water	No data available
Auto-ignition temperature	> 595 °C EC Method A15
Decomposition temperature	No data available
Dynamic Viscosity	3 mPa.s at 25 °C Literature
Kinematic Viscosity	2.221 mm2/s at 20 °C Literature
Explosive properties	Not explosive
Oxidizing properties	No
Liquid Density	1.22 g/cm3 at 20 °C Literature
Molecular weight	No test data available
Percent volatility	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water

and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Polymerization can be catalyzed by: Strong bases. Water.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid. Avoid moisture. Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction.

Incompatible materials: Avoid contact with: Acids Alcohols. Amines Water. Ammonia Metal compounds. Moist air. Strong oxidizers. Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat. Avoid contact with metals such as: Aluminum. Zinc. Brass. Tin. Copper. Galvanized metals. Avoid contact with absorbent materials such as: Moist organic absorbents. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Swallowing may result in gastrointestinal irritation or ulceration.

LD50. Rat. 4.130 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50. Rabbit. > 9.400 mg/kg

Acute inhalation toxicity

Easily attainable vapor concentrations may cause serious adverse effects, even death. Excessive exposure to TDI may cause severe irritation of the upper respiratory tract and lungs, fluid in the lungs, permanent decrease of lung function, neurologic disorders, cholinesterase depression and gastrointestinal distress.

LC50. Rat. 1 Hour. vapour. 0.47 mg/l LC50. Mouse. 6 Hour. dust/mist. 0.1 mg/l

Skin corrosion/irritation

Prolonged contact may cause severe skin irritation with local redness and discomfort.

Serious eye damage/eye irritation

May cause severe eye irritation. May cause moderate corneal injury. Vapor may cause eye irritation experienced as mild discomfort and redness.

Sensitization

Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

May cause allergic respiratory reaction.

Reexposure to extremely low isocyanate concentrations may cause allergic respiratory reactions in individuals already sensitized.

Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening. Effects may be delayed.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause respiratory irritation. Route of Exposure: Inhalation Target Organs: Respiratory Tract

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Carcinogenicity

An oral study in which high doses of TDI were reported to cause cancer in animals has been found to contain numerous deficiencies which compromise the validity of the study. TDI did not cause cancer in laboratory animals exposed by inhalation, the most likely route of exposure.

Teratogenicity

TDI did not cause birth defects in laboratory animals. Slight effects were observed in the fetus but only at doses which caused toxic effects to the mother.

Reproductive toxicity

In animal studies, TDI has been shown not to interfere with reproduction.

Mutagenicity

In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative. Results of a Drosophila study were reported to be weakly positive; however, these positive findings are believed to be due to degradation of TDI in the solvent delivery vehicle.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

LC50. Oncorhynchus mykiss (rainbow trout). static test. 96 Hour. 133 mg/l. OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50. Daphnia magna (Water flea). static test. 48 Hour. 12.5 mg/l. OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50. Skeletonema costatum (marine diatom). static test. 96 Hour. 3,230 mg/l. OECD Test Guideline 201 or Equivalent

EC50. Chlorella vulgaris (Fresh water algae). static test. 96 Hour. 4,300 mg/l. OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50. activated sludge. Respiration inhibition. 3 Hour. > 100 mg/l. OECD 209 Test

Chronic aquatic toxicity

Chronic toxicity to aquatic invertebrates

NOEC. Daphnia magna (Water flea). static test. 21 d. number of offspring. 1.1 mg/l

LOEC. Daphnia magna (Water flea). static test. 21 d. number of offspring. 2.2 mg/l

Persistence and degradability

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Bioaccumulative potential

Toluene-diisocyanate, mixture of toluene-2,4-di-isocyanate and toluene-2,6-di-isocyanate

Bioaccumulation: Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Mobility in soil

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Other adverse effects

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water. Incineration under approved, controlled conditions using incinerators suitable or designed for the disposal of hazardous chemical wastes, is the preferred method for disposal. Small quantities of waste may be pretreated for example with polyol, to neutralise prior to disposal. Empty drums should be decontaminated (see Section 6) and either punctured and scrapped or given to an approved drum reconditioner.

14. TRANSPORT INFORMATION

Classification for ROAD and Rail tr	ansport:
Proper shipping name UN number	TOLUENE DIISOCYANATE UN 2078
Class	6.1
Packing group	II
Classification for SEA transport (IM	IO-IMDG):
Proper shipping name	TOLUENE DIISOCYANATE
UN number	UN 2078
Class	6.1
Packing group	
Transport in bulk	Consult IMO regulations before transporting ocean bulk
according to Annex I or II	
of MARPOL 73/78 and the	
IBC or IGC Code	
Classification for AIR transport (IA	ΓΑ/ΙCAO):
Proper shipping name	Toluene diisocyanate
UN number	UN 2078
Class	6.1
Packing group	II
-	

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Label

Classification and labeling have been performed according to regulations.

Hazard symbol and Indication of danger

T+ Very toxic Chemical name: 2,4-Diisocyanato-1-methylbenzene 247-722-4

R-phrase(s)

R26	Very toxic by inhalation.
R36/37/38	Irritating to eyes, respiratory system and skin.
R40	Limited evidence of a carcinogenic effect.
R42/43	May cause sensitisation by inhalation and skin contact.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase(s)	
S23	Do not breathe vapour.
S28	After contact with skin, wash immediately with plenty of water.
S35	This material and its container must be disposed of in a safe way.
S36/37	Wear suitable protective clothing and gloves.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Contains isocyanates. See information supplied by the manufacturer.

16. OTHER INFORMATION

Full text of the R-phrases given in Section 3

Very toxic by inhalation.
Irritating to eyes, respiratory system and skin.
Limited evidence of a carcinogenic effect.
May cause sensitisation by inhalation and skin contact.
Harmful to aquatic organisms.
May cause long-term adverse effects in the aquatic environment.

Revision

Identification Number: 2976 / S100 / Issue Date: 07/09/2017 / Version: 0.0 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

C: Ceiling Limit

Dow IHG	Dow Industrial Hygiene Guideline
TWA	8-hour Time Weighted Average

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal reference within our company.

Sadara Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDS obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.