



# SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY\*

**Product name:** ADCOTE™ 811B

**Issue Date:** 04/17/2015

**Print Date:** 09/18/2015

THE DOW 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.

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## 1. IDENTIFICATION

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**Product name:** ADCOTE™ 811B

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Component of an adhesive

### COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY\*  
Agent for Rohm and Haas Chemicals LLC  
100 INDEPENDENCE MALL WEST  
PHILADELPHIA PA 19106-2399  
UNITED STATES

**Customer Information Number:**

215-592-3000  
SDSQuestion@dow.com

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 1 800 424 9300

**Local Emergency Contact:** 800-424-9300

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## 2. HAZARDS IDENTIFICATION

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### Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Flammable liquids - Category 2

Respiratory sensitisation - Category 1

Skin sensitisation - Category 1

Specific target organ toxicity - single exposure - Category 3

### Label elements

**Hazard pictograms**



Signal word: **DANGER!**

**Hazards**

Highly flammable liquid and vapour.  
May cause an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause drowsiness or dizziness.

**Precautionary statements****Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves/ eye protection/ face protection.  
In case of inadequate ventilation wear respiratory protection.

**Response**

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
If skin irritation or rash occurs: Get medical advice/ attention.  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.  
Wash contaminated clothing before reuse.  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage**

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

**Disposal**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

no data available

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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**Chemical nature:** Polyurethane resin solvent based

This product is a mixture.

Component	CASRN	Concentration
Polymeric isocyanate	Trade Secret	74.0 - 76.0 %
Xylene diisocyanate	25854-16-4	<= 0.5 %
Ethyl acetate	141-78-6	24.0 - 26.0 %

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#### 4. FIRST AID MEASURES

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**Description of first aid measures**

**Inhalation:** Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

**Skin contact:** Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

**Eye contact:** Flush eyes with water as a precaution. If eye irritation persists, consult a specialist.

**Ingestion:** Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Do NOT induce vomiting. Rinse mouth. Immediately give large quantities of water to drink. Call a physician immediately.

**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:** Bronchial constriction may develop after extensive exposure to isocyanates, even in individuals who have not been shown to be previously sensitized.

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#### 5. FIREFIGHTING MEASURES

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**Suitable extinguishing media:** Foam Carbon dioxide (CO2) Dry powder

**Unsuitable extinguishing media:** no data available

**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. Hydrogen cyanide. Isocyanates. Carbon dioxide. Carbon monoxide.

**Unusual Fire and Explosion Hazards:** Vapors can travel to a source of ignition and flash back. Heated material can form flammable or explosive vapors with air. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.

**Advice for firefighters**

**Fire Fighting Procedures:** For safety reasons in case of fire, containers should be stored separately in closed containments. Cool closed containers exposed to fire with water spray. **EXPLOSION HAZARD.** Fight advanced fires from a protected location. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus and protective suit.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Refer to protective measures listed in sections 7 and 8. **MATERIAL IS A POTENTIAL SENSITIZER.** If exposed to material during clean-up operations, **IMMEDIATELY** remove all contaminated clothing and wash exposed skin areas with soap and water. See SECTION 4, First Aid Measures, for further information.

**Environmental precautions:** Do not flush into surface water or sanitary sewer system.

**Methods and materials for containment and cleaning up:** Evacuate personnel to safe areas. Remove all sources of ignition. Ensure adequate ventilation. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Provide sufficient air exchange and/or exhaust in work rooms. Avoid exceeding the given occupational exposure limits (see section 8). In case of insufficient ventilation, wear suitable respiratory equipment. Do not breathe vapours or spray mist. Wear personal protective equipment. For personal protection see section 8. Keep away from heat and sources of ignition. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Ensure all equipment is electrically grounded before beginning transfer operations. May cause sensitisation of susceptible persons by skin contact. **CONTAINERS MAY BE HAZARDOUS WHEN EMPTY.** Since emptied containers retain product residue follow all MSDS and label warnings even after container is emptied.

**Conditions for safe storage:** Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Electrical installations / working materials must comply with the technological safety standards.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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**Control parameters**

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Ethyl acetate	Rohm and Haas	TWA	150 ppm
	Rohm and Haas	STEL	300 ppm

ACGIH  
OSHA Z-1TWA  
TWA 1,400 mg/m3 400 ppm**Exposure controls**

**Engineering controls:** Use explosion-proof local exhaust ventilation with a minimum capture velocity of 100 ft/min (0.5 m/sec) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

**Hygiene measures:** Wash hands before breaks and immediately after handling the product.

**Protective measures:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Individual protection measures**

**Eye/face protection:** Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.

**Skin protection**

**Hand protection:** Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): 4H Glove (Trademark of Safety 4 A/S of Denmark) Butyl-rubber. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Before removing gloves clean them with soap and water.

NOTE: Material is a possible skin sensitizer.

**Other protection:** Avoid all skin contact. Selection of specific personal protective equipment such as long sleeves, safety glasses with side shields, face shield, safety shoes, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Above the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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**Appearance****Physical state**

liquid clear

**Color**

Pale yellow

**Odor**

Sweet odor

**Odor Threshold**

no data available

**pH**

Not applicable

**Melting point/range**

-84.00 °C ( -119.20 °F) Ethyl acetate

**Freezing point**

no data available

**Boiling point (760 mmHg)**

77.00 °C ( 170.60 °F) Ethyl acetate

**Flash point****closed cup** -3.00 °C ( 26.60 °F) *Tag closed cup*

Evaporation Rate (Butyl Acetate = 1)	6.20 Ethyl acetate
Flammability (solid, gas)	Not Applicable
Lower explosion limit	2.20 % vol Ethyl acetate
Upper explosion limit	11.50 % vol Ethyl acetate
Vapor Pressure	73.0000000 mmHg at 20.00 °C (68.00 °F) Ethyl acetate
Relative Vapor Density (air = 1)	3.0400 Ethyl acetate
Relative Density (water = 1)	no data available
Water solubility	insoluble
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	426.00 °C (798.80 °F) Ethyl acetate
Decomposition temperature	no data available
Dynamic Viscosity	200 - 600 mPa.s at 25.00 °C (77.00 °F)
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Liquid Density	1.1 g/cm3
Molecular weight	no data available
Percent volatility	23.00 - 27.00 %

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

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** no data available

**Chemical stability:** no data available

**Possibility of hazardous reactions:** Stable under recommended storage conditions. Avoid moisture. Hazardous polymerization will also occur if contaminated with the following: - water (moisture)

**Conditions to avoid:** Heat, flames and sparks. Exposure to water vapour.

**Incompatible materials:** Strong oxidizing agents Water

**Hazardous decomposition products:** Heating or fire conditions liberates toxic gas.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information on this product or its components appear in this section when such data is available.*

**Acute toxicity**

**Acute oral toxicity**

Product test data not available.

**Acute dermal toxicity**

Product test data not available.

**Acute inhalation toxicity**

Product test data not available.

**Skin corrosion/irritation**

Product test data not available.

**Serious eye damage/eye irritation**

Product test data not available.

**Sensitization**

Product test data not available.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Product test data not available.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Product test data not available.

**Carcinogenicity**

Product test data not available.

**Teratogenicity**

Product test data not available.

**Reproductive toxicity**

Product test data not available.

**Mutagenicity**

Product test data not available.

**Aspiration Hazard**

Product test data not available.

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Xylene diisocyanate**

**Acute oral toxicity**

Single dose oral LD50 has not been determined.

**Acute dermal toxicity**

The dermal LD50 has not been determined.

**Acute inhalation toxicity**

LC50, Rat, 4 Hour, vapour, 0.1818 mg/l

**Skin corrosion/irritation**

Brief contact may cause moderate skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause severe eye irritation.

May cause corneal injury.

Vapor or mist may cause eye irritation.

**Sensitization**

May cause sensitisation by skin contact.

May cause sensitisation by inhalation.

**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)**

No relevant data found.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

No relevant data found.

**Reproductive toxicity**

No relevant data found.

**Mutagenicity**

No relevant data found.

**Aspiration Hazard**

Based on available information, aspiration hazard could not be determined.

**Ethyl acetate****Acute oral toxicity**

LD50, Rabbit, 4,934 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, > 17,900 mg/kg

**Acute inhalation toxicity**

Prolonged excessive exposure may cause adverse effects. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.

May cause respiratory irritation and central nervous system depression.

LC50, Rat, 4 Hour, vapour, > 28.6 mg/l

**Skin corrosion/irritation**

Essentially nonirritating to skin.

May cause drying and flaking of the skin.

**Serious eye damage/eye irritation**



May cause slight eye irritation.  
May cause slight temporary corneal injury.  
Vapor may cause eye irritation experienced as mild discomfort and redness.

**Sensitization**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:  
No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

May cause drowsiness or dizziness.  
Route of Exposure: Inhalation  
Target Organs: Nervous system

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.  
In animals, effects have been reported on the following organs:  
Liver.  
Respiratory tract.

**Carcinogenicity**

For the hydrolysis product: Ethanol when not consumed in an alcoholic beverage is not classifiable as a human carcinogen.

**Teratogenicity**

Relevant data not available.

**Reproductive toxicity**

Relevant data not available.

**Mutagenicity**

In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.

**Aspiration Hazard**

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

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**12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information on this product or its components appear in this section when such data is available.*

**General Information**

There is no data available for this product.

**Toxicity****Xylene diisocyanate****Acute toxicity to fish**

No relevant data found.

**Ethyl acetate****Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
LC50, Pimephales promelas (fathead minnow), 96 Hour, 230 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 24 Hour, 3,090 mg/l, DIN 38412

**Acute toxicity to algae/aquatic plants**

NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201  
EbC50, alga Scenedesmus sp., static test, 48 Hour, Biomass, 3,300 mg/l

**Chronic toxicity to fish**

NOEC, Pimephales promelas (fathead minnow), 32 d, < 9.65 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 2.4 mg/l

**Persistence and degradability****Xylene diisocyanate**

**Biodegradability:** No relevant data found.

**Ethyl acetate**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** 100 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301D or Equivalent

**Theoretical Oxygen Demand:** 1.82 mg/mg

**Bioaccumulative potential****Xylene diisocyanate**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 3 Estimated.

**Bioconcentration factor (BCF):** 44 Fish. Estimated.

**Ethyl acetate**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0.68 Measured

**Bioconcentration factor (BCF):** 30 Fish. Measured

**Mobility in soil****Xylene diisocyanate**

Expected to be relatively immobile in soil (Koc > 5000).

**Partition coefficient(Koc):** 15060 Estimated.

**Ethyl acetate**

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient(Koc):** 3 Estimated.

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**13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** For disposal, incinerate this material at a facility that complies with local, state, and federal regulations. (See 40 CFR 268)

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**14. TRANSPORT INFORMATION**

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**DOT**

<b>Proper shipping name</b>	Resin solution
<b>UN number</b>	UN 1866
<b>Class</b>	3
<b>Packing group</b>	II
<b>Reportable Quantity</b>	Ethyl acetate

**Classification for SEA transport (IMO-IMDG):**

<b>Proper shipping name</b>	RESIN SOLUTION
<b>UN number</b>	UN 1866
<b>Class</b>	3
<b>Packing group</b>	II
<b>Marine pollutant</b>	No
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

<b>Proper shipping name</b>	Resin solution
<b>UN number</b>	UN 1866
<b>Class</b>	3
<b>Packing group</b>	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.

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## 15. REGULATORY INFORMATION

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### OSHA Hazard Communication Standard

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Fire Hazard  
Acute Health Hazard  
Chronic Health Hazard

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

### Pennsylvania

Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

### United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

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## 16. OTHER INFORMATION

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### Hazard Rating System

#### HMIS

Health	Flammability	Physical Hazard
2*	3	0

\* = Chronic Effects (See Hazards Identification)

### Revision

Identification Number: 101105706 / 1001 / Issue Date: 04/17/2015 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Rohm and Haas	Rohm and Haas OEL's
STEL	Short term exposure limit
TWA	Time weighted average

### Information Source and References

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

THE DOW 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)SDSs 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.