



# SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY\*

**Product name:** PARALOID™ F-10 Resin Solution

**Issue Date:** 05/21/2015

**Print Date:** 05/26/2016

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:** PARALOID™ F-10 Resin Solution

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

**Identified uses:** Coatings product

### 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 3

Skin sensitisation - Category 1

Carcinogenicity - Category 2

Specific target organ toxicity - repeated exposure - Category 1 - Inhalation

Aspiration hazard - Category 1

### Label elements

**Hazard pictograms**



Signal word: **DANGER!**

### Hazards

Flammable liquid and vapour.

May be fatal if swallowed and enters airways.

May cause an allergic skin reaction.

Suspected of causing cancer.

Causes damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

### Precautionary statements

#### Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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.

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/ eye protection/ face protection.

Use personal protective equipment as required.

#### Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

IF exposed or concerned: Get medical advice/ attention.

Do NOT induce vomiting.

If skin irritation or rash occurs: Get medical advice/ attention.

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 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:** Acrylic polymer solvent based  
This product is a mixture.

Component	CASRN	Concentration
Acrylic polymer(s)	Not hazardous	>= 39.0 - 41.0 %
Mineral Spirits	8052-41-3	>= 53.0 - 54.0 %
Individual residual monomers	Not Required	< 1.0 %
Solvent naphtha, petroleum, heavy arom.	64742-94-5	>= 5.0 - 7.0 %
Naphthalene	91-20-3	<= 0.7 %
Toluene	108-88-3	< 1.0 %
Ethylbenzene	100-41-4	< 0.3 %
1,2,4-Trimethylbenzene	95-63-6	>= 1.0 - < 5.0 %
Nonane	111-84-2	>= 1.0 - < 5.0 %
Butyl methacrylate	97-88-1	< 0.95 %

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### 4. FIRST AID MEASURES

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**Description of first aid measures**

**Inhalation:** Move to fresh air. Give artificial respiration if breathing has stopped. In case of shortness of breath, give oxygen. Consult a physician.

**Skin contact:** Remove contaminated clothing. Wash off with soap and plenty of water. If symptoms persist, call a physician. Do not take clothing home to be laundered.

**Eye contact:** Rinse with plenty of water. If eye irritation persists, consult a specialist.

**Ingestion:** Do NOT induce vomiting. Drink 1 or 2 glasses of water. IMMEDIATELY see a physician. If vomiting occurs spontaneously, keep airway clear. Never give anything by mouth to an unconscious person.

**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:** In acute cases of naphtha overexposure or ingestion, patients should be evaluated for signs of respiratory distress.

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## 5. FIREFIGHTING MEASURES

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**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable extinguishing media:** no data available

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** no data available

**Unusual Fire and Explosion Hazards:** Vapors can travel to a source of ignition and flash back. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat. During a fire, irritating and highly toxic gases and/or fumes may be generated during combustion or decomposition.

**Advice for firefighters**

**Fire Fighting Procedures:** Move containers promptly out of fire zone. If removal is impossible, cool containers with water spray. Remain upwind. Avoid breathing smoke.

**Special protective equipment for firefighters:** In the event of fire, wear self-contained breathing apparatus.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations. If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

**Environmental precautions:** CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

**Methods and materials for containment and cleaning up:** Eliminate all ignition sources. Evacuate personnel to safe areas. Ventilate the area. Floor may be slippery; use care to avoid falling. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid breathing vapor. NOTE: Spills on porous surfaces can contaminate groundwater.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Vapors can be evolved when material is heated during processing operations. See SECTION 8, Exposure Controls/Personal Protection, for types of ventilation required. Use non-sparking tools and grounding cables when transferring. Wash after handling and shower at end of work period. 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:** Avoid temperature extremes during storage; ambient temperature preferred. Store away from excessive heat (e.g. steampipes, radiators), from sources of ignition and from reactive materials. Store out of direct sunlight in a cool place. Keep tightly closed in a dry, cool and well-ventilated place. Avoid all ignition sources. Ground all metal containers during storage and handling.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Mineral Spirits	Rohm and Haas	TWA	100 ppm
	Rohm and Haas	STEL	200 ppm
	ACGIH	TWA	100 ppm
	OSHA Z-1	TWA	2,900 mg/m <sup>3</sup> 500 ppm
	OSHA P0	TWA	525 mg/m <sup>3</sup> 100 ppm
Solvent naphtha, petroleum, heavy arom.	Rohm and Haas	TWA	100 mg/m <sup>3</sup>
	Rohm and Haas	STEL	300 mg/m <sup>3</sup>
Naphthalene	Dow IHG	TWA	10 ppm
	Dow IHG	TWA	Absorbed via skin
	Dow IHG	STEL	15 ppm
	Dow IHG	STEL	Absorbed via skin
	ACGIH	TWA	10 ppm
	ACGIH	TWA	Absorbed via skin
	OSHA Z-1	TWA	50 mg/m <sup>3</sup> 10 ppm
Toluene	ACGIH	TWA	20 ppm
	OSHA Z-2	TWA	200 ppm
	ACGIH	TWA	BEI
	OSHA Z-2	CEIL	300 ppm
	OSHA Z-2	Peak	500 ppm
Ethylbenzene	Rohm and Haas	TWA	25 ppm
	Rohm and Haas	STEL	75 ppm
	ACGIH	TWA	20 ppm
	ACGIH	TWA	BEI
1,2,4-Trimethylbenzene	OSHA Z-1	TWA	435 mg/m <sup>3</sup> 100 ppm
	ACGIH	TWA	25 ppm
Nonane	ACGIH	TWA	200 ppm
Butyl methacrylate	Rohm and Haas	TWA	50 ppm
	Rohm and Haas	STEL	75 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.

**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:** Chemical resistant goggles must be worn. 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): Nitrile rubber. Butyl-rubber. Solvent-resistant gloves. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

**Other protection:** Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact. Where splashing is possible, full chemically resistant protective clothing (e.g. acid suit) and boots are required.

**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. Up to 10 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Up to 1000 ppm organic vapor: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full-facepiece, airline respirator in the pressure demand mode. Above 1000 ppm organic vapor or Unknown: 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. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance**

Physical state	liquid
Color	yellow Hazy
Odor	Petroleum odor
Odor Threshold	no data available
pH	Not Applicable
Melting point/range	no data available
Freezing point	no data available
Boiling point (760 mmHg)	157.00 - 203.00 °C ( 314.60 - 397.40 °F) Mineral spirits
Flash point	<b>closed cup</b> 42.00 °C ( 107.60 °F) <i>PENSKY MARTENS CLOSED CUP</i>
Evaporation Rate (Butyl Acetate = 1)	0.10 Mineral spirits
Flammability (solid, gas)	Not Applicable
Lower explosion limit	0.90 % vol Mineral spirits
Upper explosion limit	7.00 % vol Mineral spirits
Vapor Pressure	2.000000 mmHg at 16.00 °C (60.80 °F) Mineral spirits
Relative Vapor Density (air = 1)	4.9000 Mineral spirits
Relative Density (water = 1)	0.8900
Water solubility	practically insoluble

<b>Partition coefficient: n-octanol/water</b>	no data available
<b>Auto-ignition temperature</b>	254.00 °C (489.20 °F) Mineral spirits
<b>Decomposition temperature</b>	no data available
<b>Dynamic Viscosity</b>	2,800.000 mPa.s maximum
<b>Kinematic Viscosity</b>	no data available
<b>Explosive properties</b>	no data available
<b>Oxidizing properties</b>	no data available
<b>Molecular weight</b>	no data available
<b>Percent volatility</b>	58.00 - 62.00 %

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:** This material is considered stable. However, avoid contact with ignition sources (e.g. sparks, open flame, heated surfaces).  
Product will not undergo hazardous polymerization.

**Conditions to avoid:** no data available

**Incompatible materials:** Avoid contact with the following: Strong oxidizing agents Strong acids and strong bases

**Hazardous decomposition products:** There are no known hazardous decomposition products for this material.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears 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:**

**Acrylic polymer(s)**

**Acute oral toxicity**

Single dose oral LD50 has not been determined.

**Acute dermal toxicity**

The dermal LD50 has not been determined.

**Acute inhalation toxicity**

The LC50 has not been determined.

**Mineral Spirits**

**Acute oral toxicity**

LD50, Rat, > 5,000 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, > 2,000 mg/kg

**Acute inhalation toxicity**



Prolonged excessive exposure may cause adverse effects. Excessive exposure may cause irritation to upper respiratory tract (nose and throat). May cause central nervous system effects.

LC50, Rat, vapour, > 14 mg/l

**Skin corrosion/irritation**

Prolonged contact may cause slight skin irritation with local redness. Repeated contact may cause skin irritation with local redness. May cause drying and flaking of the skin.

**Serious eye damage/eye irritation**

Essentially nonirritating to eyes.

**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)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

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

In humans, effects have been reported on the following organs:

Bone Marrow

Liver

In animals, effects have been reported on the following organs:

central nervous system damage

Kidney.

Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.

**Carcinogenicity**

No specific, relevant data available for assessment.

**Teratogenicity**

For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive toxicity**

For similar material(s): In animal studies, did not interfere with reproduction.

**Mutagenicity**

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

**Aspiration Hazard**

May be fatal if swallowed and enters airways.

**Solvent naphtha, petroleum, heavy arom.**

**Acute oral toxicity**

LD50, Rat, > 5,000 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

**Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, vapour, > 5.68 mg/l

**Skin corrosion/irritation**

Prolonged contact may cause slight skin irritation with local redness.  
May cause drying and flaking of the skin.

**Serious eye damage/eye irritation**

May cause slight eye irritation.  
Corneal injury is unlikely.  
Vapor may cause eye irritation experienced as mild discomfort and redness.

**Sensitization**

Did not cause allergic skin reactions when tested in humans.

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: Central nervous system

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

In animals, effects have been reported on the following organs:  
Lung.  
Gastrointestinal tract.  
Thyroid.  
Urinary tract.  
Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.  
Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

**Reproductive toxicity**

In animal studies, did not interfere with reproduction.

**Aspiration Hazard**

May be fatal if swallowed and enters airways.

**Naphthalene**

**Acute oral toxicity**

LD50, Rat, > 2,000 mg/kg

Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen. Ingestion of naphthalene by humans has caused hemolytic anemia. Toxicity from swallowing may be greater in humans than in animals. In humans, symptoms may include: Confusion. Convulsions. Muscle spasms or twitches. Lethargy. Coma. Lethal Dose, Humans, 5 - 15 grams

**Acute dermal toxicity**

Human case reports suggest Naphthalene may be absorbed through the skin in toxic amounts, especially in children. LD50, Rat, > 2,500 mg/kg

**Acute inhalation toxicity**

Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Excessive exposure may cause lung injury. Signs and symptoms of excessive exposure may include: Headache. Confusion. Sweating. Nausea and/or vomiting.

LC50, Rat, 4 Hour, vapour, > 0.41 mg/l The LC50 value is greater than the Maximum Attainable Concentration.

**Skin corrosion/irritation**

Prolonged contact may cause skin irritation with local redness. Repeated contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

**Serious eye damage/eye irritation**

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

**Sensitization**

For skin sensitization:  
Skin contact may cause an allergic skin reaction in a small proportion of individuals. 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)**

Available data are inadequate to determine single exposure specific target organ toxicity.

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

Observations in animals include:  
Respiratory effects.  
Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen.  
Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.  
Ingestion of naphthalene by humans has caused hemolytic anemia.

**Carcinogenicity**

Has caused cancer in some laboratory animals. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

**Teratogenicity**

Did not cause birth defects in laboratory animals.

**Reproductive toxicity**

Available data are inadequate to determine effects on reproduction.

**Mutagenicity**

In vitro genetic toxicity studies were negative in some cases and positive in other cases.

**Aspiration Hazard**

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

**Toluene**

**Acute oral toxicity**

LD50, Rat, 5,580 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, 12,267 mg/kg

**Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, vapour, > 20 mg/l

**Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.

Prolonged contact may cause moderate skin irritation with local redness.

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.

Vapor may cause lacrimation (tears).

**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: Central nervous system

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

In animals, effects have been reported on the following organs:

central nervous system (CNS) effects

Excessive exposure may cause neurologic signs and symptoms.

Toluene has caused hearing loss in laboratory animals upon exposure to high concentrations.

Intentional misuse by deliberately inhaling toluene may cause nervous system damage,

hearing loss, liver and kidney effects and death.

**Carcinogenicity**

Did not cause cancer in laboratory animals.

**Teratogenicity**

In laboratory animals, toluene has been toxic to the fetus at doses toxic to the mother; it has

caused birth defects in mice when administered orally, but not by inhalation.

**Reproductive toxicity**

In animal studies, did not interfere with reproduction.

**Mutagenicity**

The majority and most reliable of the many genetic toxicity studies on toluene, both in vitro and in animals, indicate that it is not genetically toxic.

**Aspiration Hazard**

May be fatal if swallowed and enters airways.

**Ethylbenzene**

**Acute oral toxicity**

LD50, Rat, 3,500 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, 15,500 mg/kg

**Acute inhalation toxicity**

LC50, Rat, 4 Hour, vapour, 17.2 mg/l/4000 ppm

**Skin corrosion/irritation**

Brief contact may cause moderate skin irritation with local redness.

Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

May cause drying and flaking of the skin.

**Serious eye damage/eye irritation**

May cause moderate eye irritation.

Vapor may cause lacrimation (tears).

**Sensitization**

Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:

No relevant data found.

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

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

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

In animals, effects have been reported on the following organs:

May cause hearing loss based on animal data.

Kidney.

Liver.

Lung.

Although one early inhalation study on ethylbenzene reported an adverse effect on the testes, recent, more comprehensive studies have not shown this effect.

**Carcinogenicity**

Ethylbenzene has been shown to cause cancer in laboratory animals. There is no evidence that these findings are relevant to humans.

**Teratogenicity**

Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in lab animals at doses nontoxic to the mother.

**Reproductive toxicity**

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

**Mutagenicity**

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

**Aspiration Hazard**

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia. May be fatal if swallowed and enters airways.

**1,2,4-Trimethylbenzene****Acute oral toxicity**

LD50, Rat, > 3,400 mg/kg

**Acute dermal toxicity**

LD50, Rabbit, > 3,160 mg/kg

**Acute inhalation toxicity**

Prolonged excessive exposure may cause serious adverse effects, even death. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause central nervous system effects. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

LC50, Rat, 4 Hour, vapour, 18 mg/l

**Skin corrosion/irritation**

Brief contact may cause moderate skin irritation with local redness. May cause drying and flaking of the skin.

**Serious eye damage/eye irritation**

May cause eye irritation.

Vapor may cause eye irritation experienced as mild discomfort and redness.

**Sensitization**

For similar material(s):

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 respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

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

In animals, effects have been reported on the following organs:

Respiratory tract.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

**Reproductive toxicity**

For similar material(s): In animal studies, did not interfere with reproduction.

**Mutagenicity**

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

**Aspiration Hazard**

May be fatal if swallowed and enters airways.

**Nonane**

**Acute oral toxicity**

For similar material(s): LD50, Rat, male and female, > 5,000 mg/kg No deaths occurred at this concentration.

**Acute dermal toxicity**

For similar material(s): LD50, Rabbit, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

**Acute inhalation toxicity**

In confined or poorly ventilated areas, vapor can readily accumulate and can cause unconsciousness and death. Vapor may cause irritation of the upper respiratory tract (nose and throat). In humans, symptoms may include: Lethargy.

LC50, Rat, male, 4 Hour, 17 mg/l

**Skin corrosion/irritation**

Brief contact may cause moderate skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause eye irritation.  
Corneal injury is unlikely.

**Sensitization**

For similar material(s):  
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)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

No relevant data found.

**Reproductive toxicity**

No relevant data found.

**Mutagenicity**

No relevant data found.

**Aspiration Hazard**

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

**Butyl methacrylate**

**Acute oral toxicity**

LD50, Rat, > 2,000 mg/kg OECD Test Guideline 401 No deaths occurred at this concentration.

**Acute dermal toxicity**

LD50, Rabbit, > 2,000 mg/kg OECD Test Guideline 402

**Acute inhalation toxicity**

Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.

LC50, Rat, 4 Hour, dust/mist, 29 mg/l OECD Test Guideline 403

**Skin corrosion/irritation**

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause skin irritation with local redness.

May cause more severe response if skin is abraded (scratched or cut).

**Serious eye damage/eye irritation**

May cause slight eye irritation.

Vapor may cause eye irritation experienced as mild discomfort and redness.

**Sensitization**

Skin contact may cause an allergic skin reaction.

For respiratory sensitization:

No relevant data found.

**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**

Animal testing did not show any carcinogenic effects.

**Teratogenicity**

Has caused birth defects in laboratory animals. Has been toxic to the fetus in laboratory animal tests.

**Reproductive toxicity**

In animal studies, a similar material has been shown not to interfere with reproduction.



**Mutagenicity**

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

**Aspiration Hazard**

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

**Carcinogenicity****Component****Naphthalene****List**

IARC

US NTP

ACGIH

**Classification**

Group 2B: Possibly carcinogenic to humans

Reasonably anticipated to be a human carcinogen

A3: Confirmed animal carcinogen with unknown relevance to humans.

**Ethylbenzene**

IARC

ACGIH

Group 2B: Possibly carcinogenic to humans

A3: Confirmed animal carcinogen with unknown relevance to humans.

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**12. ECOLOGICAL INFORMATION**


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

**General Information**

There is no data available for this product.

**Toxicity****Acrylic polymer(s)****Acute toxicity to fish**

No relevant data found.

**Mineral Spirits****Acute toxicity to aquatic invertebrates**

LC50, crustacean Chaetogammarus marinus, 96 Hour, 3.5 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 1.2 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, 0.1 mg/l

**Solvent naphtha, petroleum, heavy arom.****Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Freshwater fish, 96 Hour, 10 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, 3 - 10 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

ErC50, Marine algae (Skeletonema costatum), 72 Hour, Cell Density, 2.5 mg/l

**Naphthalene**

**Acute toxicity to fish**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 0.11 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna, static test, 48 Hour, 1.6 - 24.1 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, Skeletonema costatum, Growth rate inhibition, 72 Hour, 0.4 mg/l

**Chronic toxicity to fish**

NOEC, Other, flow-through, 40 d, mortality, 0.37 mg/l

**Toluene**

**Acute toxicity to fish**

Material is moderately toxic to fish on an acute basis (LC50 between 1 and 10 mg/L).

LC50, Rainbow trout (Oncorhynchus mykiss), semi-static test, 96 Hour, 5.8 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 24 Hour, 7 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

EbC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth inhibition, 12.5 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

IC50, Bacteria, 16 Hour, 29 mg/l

**Chronic toxicity to fish**

NOEC, Fish., flow-through, 40 day, growth, 1.4 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 day, number of offspring, 2 mg/l

NOEC, Ceriodaphnia dubia (water flea), 7 d, number of offspring, 0.74 mg/l

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), 150 - 280 mg/kg

**Ethylbenzene**

**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 4.2 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), Static, 1 d, 2.2 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth inhibition (cell density reduction), 3.6 - 4.6 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

EC50, Bacteria, 16 Hour, > 12 mg/l

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), 2 d, survival, 0.047 mg/cm<sup>2</sup>

**1,2,4-Trimethylbenzene**

**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 7.7 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, 3.6 mg/l

**Nonane**

**Acute toxicity to fish**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), Static, 48 Hour, 0.2 mg/l

**Butyl methacrylate**

**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

LC50, Oryzias latipes (Orange-red killifish), semi-static test, 96 Hour, 5.57 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, 25.4 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, 31.2 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia (water flea), semi-static test, 21 d, 1.1 mg/l

LOEC, Daphnia (water flea), semi-static test, 21 d, 3.35 mg/l

NOEC, Daphnia (water flea), flow-through test, 21 d, 2.6 mg/l

LOEC, Daphnia (water flea), flow-through test, 21 d, 4.9 mg/l

**Persistence and degradability**

**Acrylic polymer(s)**

**Biodegradability:** No relevant data found.

**Mineral Spirits**

**Biodegradability:** Material is expected to be readily biodegradable.

**Solvent naphtha, petroleum, heavy arom.**

**Biodegradability:** Biodegradation may occur under aerobic conditions (in the presence of oxygen). Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

**Biodegradation:** 30 - 41 %

**Exposure time:** 28 d

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

**Naphthalene**

**Biodegradability:** Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

**Theoretical Oxygen Demand:** 3.00 mg/mg

**Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	57.000 %
10 d	71.000 %
20 d	71.000 %

**Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitizer:** OH radicals

**Atmospheric half-life:** 5.9 Hour

**Method:** Estimated.

**Toluene**

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

**Biodegradation:** 100 %

**Exposure time:** 14 d

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

**Theoretical Oxygen Demand:** 3.13 mg/mg Calculated.

**Ethylbenzene**

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

10-day Window: Pass

**Biodegradation:** 100 %

**Exposure time:** 6 d

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

**Theoretical Oxygen Demand:** 3.17 mg/mg Estimated.

**Chemical Oxygen Demand:** 2.62 mg/mg Dichromate

**Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	31.5 %
10 d	38.5 %
20 d	45.4 %

**Photodegradation**

**Sensitizer:** OH radicals

**Atmospheric half-life:** 55 Hour

**Method:** Estimated.

#### **1,2,4-Trimethylbenzene**

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Not applicable

**Biodegradation:** 4 - 18 %

**Exposure time:** 28 d

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

**Theoretical Oxygen Demand:** 3.19 mg/mg

**Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitizer:** OH radicals

**Atmospheric half-life:** 0.641 d

**Method:** Estimated.

#### **Nonane**

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

10-day Window: Not applicable

**Biodegradation:** 100 %

**Exposure time:** 25 d

**Method:** Other guidelines

#### **Butyl methacrylate**

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

10-day Window: Not applicable

**Biodegradation:** 88 %

**Exposure time:** 28 d

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

**Bioaccumulative potential**

#### **Acrylic polymer(s)**

**Bioaccumulation:** No relevant data found.

#### Mineral Spirits

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 5.01 Measured

#### Solvent naphtha, petroleum, heavy arom.

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Partition coefficient: n-octanol/water(log Pow):** 2.9 - 6.1 OECD Test Guideline 117 or Equivalent

**Bioconcentration factor (BCF):** 61 - 115 Oncorhynchus mykiss (rainbow trout) Estimated.

#### Naphthalene

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 3.3 Measured

**Bioconcentration factor (BCF):** 40 - 300 Fish. 28 d Measured

#### Toluene

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

**Partition coefficient: n-octanol/water(log Pow):** 2.73 Measured

**Bioconcentration factor (BCF):** 13.2 - 90 Freshwater fish Measured

#### Ethylbenzene

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

**Partition coefficient: n-octanol/water(log Pow):** 3.15 Measured

**Bioconcentration factor (BCF):** 15 Fish. Measured

#### 1,2,4-Trimethylbenzene

**Partition coefficient: n-octanol/water(log Pow):** Pow: 3.63

**Bioconcentration factor (BCF):** 33 - 275 Cyprinus carpio (Carp) 56 d Measured

#### Nonane

**Partition coefficient: n-octanol/water(log Pow):** 5.46 Method Not Specified.

**Bioconcentration factor (BCF):** 105 Estimated.

#### Butyl methacrylate

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

**Partition coefficient: n-octanol/water(log Pow):** 2.88 Estimated.

**Bioconcentration factor (BCF):** 70 Calculated.

#### **Mobility in soil**

##### Mineral Spirits

Potential for mobility in soil is low (Koc between 500 and 2000).

**Partition coefficient(Koc):** 1700 Estimated.

##### Solvent naphtha, petroleum, heavy arom.

No relevant data found.

##### Naphthalene

Potential for mobility in soil is medium (Koc between 150 and 500).

**Partition coefficient(Koc):** 240 - 1300 Measured

#### **Toluene**

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

**Partition coefficient(Koc):** 37 - 178 Estimated.

#### **Ethylbenzene**

Potential for mobility in soil is low (Koc between 500 and 2000).

**Partition coefficient(Koc):** 518 Estimated.

#### **Butyl methacrylate**

Potential for mobility in soil is low (Koc between 500 and 2000).

**Partition coefficient(Koc):** 878 Estimated.

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### **13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations.

(See 40 CFR 268)

**Contaminated packaging:** Empty containers should be taken to an approved waste handling site for recycling or disposal.

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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>	III

#### **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>	III
<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>	III

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

Acute Health Hazard  
Chronic Health Hazard  
Fire 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.

### California (Proposition 65)

This product contains a component or components known to the state of California to cause birth defects or other reproductive harm:

Components	CASRN
Toluene	108-88-3

### California (Proposition 65)

This product contains a component or components known to the state of California to cause cancer:

Components	CASRN
Ethylbenzene	100-41-4
Naphthalene	91-20-3

### 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
1*	2	0

\* = Chronic Effects (See Hazards Identification)

### Revision

Identification Number: 101082608 / 1001 / Issue Date: 05/21/2015 / Version: 4.0

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

### Legend

Absorbed via skin	Absorbed via skin
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
BEI	Biological Exposure Indices
CEIL	Acceptable ceiling concentration
Dow IHG	Dow Industrial Hygiene Guideline
OSHA P0	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2	USA. Occupational Exposure Limits (OSHA) - Table Z-2
Peak	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
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.