

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** REAGENT ALCOHOL

**Other means of identification**

**Product No.:** 7284, 7019, 6183, A478, 9401, 9229

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Physical hazards**

Flammable liquids Category 2

**Health hazards**

Acute toxicity (Oral) Category 4  
Acute toxicity (Dermal) Category 4  
Acute toxicity (Inhalation - vapor) Category 4  
Serious eye damage/eye irritation Category 2A  
Toxic to reproduction Category 2  
Specific target organ toxicity - single exposure Category 1  
Specific target organ toxicity - single exposure Category 3

**Label elements**

**Hazard symbol:**



**Signal word:** Danger

**Hazard statement:** Highly flammable liquid and vapor.  
Harmful if swallowed.  
Harmful in contact with skin.  
Harmful if inhaled.  
Causes serious eye irritation.  
May cause respiratory irritation.  
Suspected of damaging fertility.  
May cause damage to organs.

**Precautionary statement**

**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. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

**Response:** In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction. IF exposed: Call a POISON CENTER or doctor/physician. 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 ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

**Storage:** Store locked up. Store in a well-ventilated place. Keep container tightly closed.

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in GHS classification:** Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

**3. Composition/information on ingredients**

**Mixtures**

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
ETHANOL		64-17-5	88 - 92%
ISOPROPYL ALCOHOL		67-63-0	4 - 6%
METHYL ALCOHOL		67-56-1	2.5 - 10%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**4. First-aid measures**

<b>General information:</b>	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
<b>Ingestion:</b>	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Inhalation:</b>	Move to fresh air. Get medical attention if symptoms occur.
<b>Skin contact:</b>	Wash skin thoroughly with soap and water. Get medical attention if symptoms occur. Wash contaminated clothing before reuse.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

**Most important symptoms/effects, acute and delayed**

<b>Symptoms:</b>	Harmful if inhaled. Harmful if swallowed. Irritating to eyes, respiratory system and skin.
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**Indication of immediate medical attention and special treatment needed**

<b>Treatment:</b>	Symptoms may be delayed. Treat symptomatically.
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**5. Fire-fighting measures**

<b>General fire hazards:</b>	In case of fire and/or explosion do not breathe fumes. Vapors may cause a flash fire or ignite explosively.
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**Suitable (and unsuitable) extinguishing media**

<b>Suitable extinguishing media:</b>	Water spray, foam, dry powder or carbon dioxide.
<b>Unsuitable extinguishing media:</b>	Avoid water in straight hose stream; will scatter and spread fire.

<b>Specific hazards arising from the chemical:</b>	Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.
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**Special protective equipment and precautions for firefighters**

<b>Special fire fighting procedures:</b>	Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.
<b>Special protective equipment for fire-fighters:</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**6. Accidental release measures**

<b>Personal precautions, protective equipment and emergency procedures:</b>	Use personal protective equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
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<b>Methods and material for containment and cleaning up:</b>	Eliminate all ignition sources if safe to do so. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Collect in a non-combustible container for prompt disposal. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
<b>Notification Procedures:</b>	Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.
<b>Environmental precautions:</b>	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling:</b>	DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Use personal protective equipment as required. Avoid inhalation of vapors and spray mists. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.
<b>Conditions for safe storage, including any incompatibilities:</b>	Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
ETHANOL	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (2011)
	REL	1,000 ppm 1,900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	1,000 ppm 1,900 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	1,000 ppm 1,900 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
ISOPROPYL ALCOHOL	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	400 ppm	US. ACGIH Threshold Limit Values (2011)
	REL	400 ppm 980 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	500 ppm 1,225 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	400 ppm 980 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	400 ppm 980 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	500 ppm 1,225 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	METHYL ALCOHOL	TWA	200 ppm
METHYL ALCOHOL	STEL	250 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	250 ppm 325 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	200 ppm 260 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	200 ppm 260 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	200 ppm 260 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	250 ppm 325 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

#### Biological limit values

Chemical identity	Exposure Limit values	Source
ISOPROPYL ALCOHOL (acetone: Sampling time: End of shift at end of work week.)	40 mg/l (Urine)	ACGIH BEL (2011)
METHYL ALCOHOL (methanol: Sampling time: End of shift.)	15 mg/l (Urine)	ACGIH BEL (2011)

#### Appropriate engineering controls

No data available.

#### Individual protection measures, such as personal protective equipment

**General information:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

**Eye/face protection:** Wear safety glasses with side shields (or goggles). Wear face shield if there is risk of splashes.

#### Skin protection

**Hand protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing.

<b>Respiratory protection:</b>	In case of inadequate ventilation use suitable respirator.
<b>Hygiene measures:</b>	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

## 9. Physical and chemical properties

### Appearance

<b>Physical state:</b>	Liquid
<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Mild pleasant odor
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	No data available.
<b>Melting point/freezing point:</b>	-114 °C
<b>Initial boiling point and boiling range:</b>	78 °C
<b>Flash Point:</b>	13 °C
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	19 %(V)
<b>Flammability limit - lower (%):</b>	3.3 %(V)
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	8.1 kPa
<b>Vapor density:</b>	No data available.
<b>Relative density:</b>	0.79 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Soluble
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	422 °C
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Heat, sparks, flames. Contact with incompatible materials.
<b>Incompatible materials:</b>	Strong oxidizing agents. Alkali metals. Inorganic salts. Organic - organometallic. Inorganic hydrides.
<b>Hazardous decomposition products:</b>	Thermal decomposition may release oxides of carbon.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion:</b>	Harmful if swallowed.
<b>Inhalation:</b>	Harmful if inhaled. May cause irritation to the respiratory system.
<b>Skin contact:</b>	Harmful if absorbed through skin. Causes mild skin irritation.
<b>Eye contact:</b>	Causes serious eye irritation.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

##### Oral

<b>Product:</b>	No data available.
<b>Specified substance(s):</b> ETHANOL	LD 50 (Rat): 6,200 mg/kg
<b>Specified substance(s):</b> ISOPROPYL ALCOHOL	LD 50 (Rat): 5,045 mg/kg
<b>Specified substance(s):</b> METHYL ALCOHOL	LD 50 (Rat): 5,628 mg/kg LD 50 (Rabbit): 14,400 mg/kg

##### Dermal

<b>Product:</b>	No data available.
<b>Specified substance(s):</b> ISOPROPYL ALCOHOL	LD 50 (Rabbit): 12,800 mg/kg
<b>Specified substance(s):</b> METHYL ALCOHOL	LD 50 (Rabbit): 15,800 mg/kg

##### Inhalation

<b>Product:</b>	No data available.
<b>Specified substance(s):</b> ETHANOL	LC 50 (Rat, 10 h): 20,000 mg/l
<b>Specified substance(s):</b> ISOPROPYL ALCOHOL	No data available.
<b>Specified substance(s):</b> METHYL ALCOHOL	LC 50 (Rat, 6 h): 87.5 mg/l

##### Repeated dose toxicity

<b>Product:</b>	No data available.
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##### Skin corrosion/irritation

<b>Product:</b>	Causes mild skin irritation.
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##### Serious eye damage/eye irritation

<b>Product:</b>	Causes serious eye irritation.
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##### Respiratory or skin sensitization

<b>Product:</b>	Not a skin sensitizer.
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##### Carcinogenicity

<b>Product:</b>	This substance has no evidence of carcinogenic properties.
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**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

ETHANOL	Overall evaluation: 1. Carcinogenic to humans. Overall evaluation: 1. Carcinogenic to humans.
ISOPROPYL ALCOHOL	Overall evaluation: 1. Carcinogenic to humans. Overall evaluation: 3. Not classifiable as to carcinogenicity to humans.

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

ETHANOL Known To Be Human Carcinogen.

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

No carcinogenic components identified

**Germ cell mutagenicity**

**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**Reproductive toxicity**

**Product:** May damage fertility or the unborn child.

**Specific target organ toxicity - single exposure**

**Product:** Central nervous system. Eyes. Respiratory tract irritation.

**Specific target organ toxicity - repeated exposure**

**Product:** None known.

**Aspiration hazard**

**Product:** Not classified

**Other effects:** None known.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

ETHANOL	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 12,000 - 16,000 mg/l Mortality LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13,480 mg/l Mortality LC 50 (Carp (Leuciscus idus melanotus), 48 h): 8,140 mg/l Mortality
ISOPROPYL ALCOHOL	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 5,770 - 7,450 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 96 h): > 1,400 mg/l Mortality LC 50 (Western mosquitofish (Gambusia affinis), 96 h): > 1,400 mg/l Mortality
METHYL ALCOHOL	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 18,000 - 20,000 mg/l Mortality LC 50 (Fathead minnow (Pimephales promelas), 96 h): 28,200 mg/l Mortality



**Aquatic invertebrates**

<b>Product:</b>	No data available.
<b>Specified substance(s):</b>	
ETHANOL	EC 50 (Water flea (Daphnia obtusa), 48 h): 10,100 - 11,200 mg/l Intoxication LC 50 (Brine shrimp (Artemia franchiscana), 48 h): 25.5 mg/l Mortality LC 50 (Water flea (Daphnia magna), 48 h): 7,560 - 12,600 mg/l Mortality
ISOPROPYL ALCOHOL	LC 50 (Brine shrimp (Artemia salina), 24 h): > 10,000 mg/l Mortality LC 50 (Water flea (Daphnia magna), 24 h): > 10,000 mg/l Mortality LC 50 (Common shrimp, sand shrimp (Crangon crangon), 96 h): 750 - 1,650 mg/l Mortality
METHYL ALCOHOL	EC 50 (Water flea (Daphnia magna), 48 h): 20,450 - 29,350 mg/l Intoxication LC 50 (Water flea (Daphnia magna), 48 h): 2,461 - 4,395 mg/l Mortality

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and degradability**

**Biodegradation**

**Product:** Expected to be readily biodegradable.

**BOD/COD ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Specified substance(s):**

ETHANOL Log Kow: -0.31

ISOPROPYL ALCOHOL Log Kow: 0.05

METHYL ALCOHOL Log Kow: -0.77

**Mobility in soil:**

The product is water soluble and may spread in water systems.

**Other adverse effects:**

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**13. Disposal considerations**

**Disposal instructions:**

Discharge, treatment, or disposal may be subject to national, state, or local laws. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.

**Contaminated packaging:**

Since emptied containers retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

### DOT

UN number: UN 1987  
 UN proper shipping name: Alcohols, n.o.s.(ETHANOL, METHANOL, ISOPROPANOL)  
 Transport hazard class(es)  
   Class(es): 3  
   Label(s): 3  
 Packing group: II  
 Marine Pollutant: No

### IMDG

UN number: UN 1987  
 UN proper shipping name: ALCOHOLS, N.O.S.(ETHANOL, METHANOL, ISOPROPANOL)  
 Transport hazard class(es)  
   Class(es): 3  
   Label(s): 3  
   EmS No.: F-E, S-D  
 Packing group: II  
 Marine Pollutant: No

### IATA

UN number: UN 1987  
 Proper Shipping Name: Alcohols, n.o.s.(ETHANOL, METHANOL, ISOPROPANOL)  
 Transport hazard class(es):  
   Class(es): 3  
   Label(s): 3  
 Marine Pollutant: No  
 Packing group: II

## 15. Regulatory information

### US federal regulations

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

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

None present or none present in regulated quantities.

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

METHYL ALCOHOL Reportable quantity: 5000 lbs.

#### Superfund amendments and reauthorization act of 1986 (SARA)

##### Hazard categories

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

#### SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

#### SARA 304 Emergency release notification

Chemical identity	RQ
ETHANOL	100 lbs.
ISOPROPYL ALCOHOL	100 lbs.
METHYL ALCOHOL	5000 lbs.

**SARA 311/312 Hazardous chemical**

<b>Chemical identity</b>	<b>Threshold Planning Quantity</b>
ETHANOL	500 lbs
ISOPROPYL ALCOHOL	500 lbs
METHYL ALCOHOL	500 lbs

**SARA 313 (TRI reporting)**

<b>Chemical identity</b>	<b>Reporting threshold for other users</b>	<b>Reporting threshold for manufacturing and processing</b>
METHYL ALCOHOL	10000 lbs	25000 lbs.

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

None present or none present in regulated quantities.

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

None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**

METHYL ALCOHOL	Developmental toxin. WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
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**US. New Jersey Worker and Community Right-to-Know Act**

ETHANOL	Listed
ISOPROPYL ALCOHOL	Listed
METHYL ALCOHOL	Listed

**US. Massachusetts RTK - Substance List**

ETHANOL	Listed
ISOPROPYL ALCOHOL	Listed
METHYL ALCOHOL	Listed

**US. Pennsylvania RTK - Hazardous Substances**

ETHANOL	Listed
ISOPROPYL ALCOHOL	Listed
METHYL ALCOHOL	Listed

**US. Rhode Island RTK**

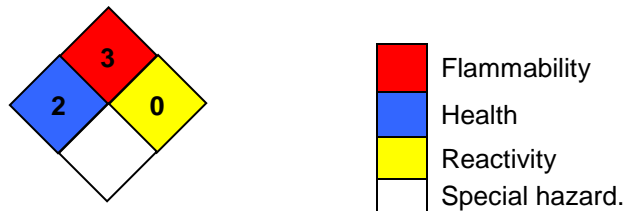
ETHANOL	Listed
ISOPROPYL ALCOHOL	Listed
METHYL ALCOHOL	Listed

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
EU ELINCS List:	Not in compliance with the inventory.
Japan (ENCS) List:	On or in compliance with the inventory
EU No Longer Polymers List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Switzerland Consolidated Inventory:	Not in compliance with the inventory.
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

<b>Issue date:</b>	06-17-2014
<b>Revision date:</b>	No data available.
<b>Version #:</b>	1.0
<b>Further information:</b>	No data available.

**Disclaimer:**

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