

**1. Identification**

<b>Product identifier</b>	<b>Bis(2-chloroethyl)ether</b>	
<b>Other means of identification</b>		
<b>Item</b>	N-11213	
<b>Recommended use</b>	For Laboratory Use Only	
<b>Recommended restrictions</b>	None known.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	Chem Service, Inc.	
<b>Address</b>	660 Tower Lane West Chester, PA 19380 United States	
<b>Telephone</b>	Toll Free	800-452-9994
	Direct	610-692-3026
<b>Website</b>	www.chemservice.com	
<b>E-mail</b>	info@chemservice.com	
<b>Emergency phone number</b>	Chemtec US	800-424-9300
	Chemtec outside US	+1 703-527-3887

**2. Hazard(s) identification**

<b>Physical hazards</b>	Flammable liquids	Category 3
<b>Health hazards</b>	Acute toxicity, oral	Category 2
	Acute toxicity, dermal	Category 1
	Acute toxicity, inhalation	Category 1
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
<b>Environmental hazards</b>	Not classified.	
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		



<b>Signal word</b>	Danger
<b>Hazard statement</b>	Flammable liquid and vapor. Fatal if swallowed. Fatal in contact with skin. Causes serious eye irritation. Fatal if inhaled. Suspected of causing cancer.
<b>Precautionary statement</b>	
<b>Prevention</b>	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. Use only outdoors or in a well-ventilated area. 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 vapor. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.

<b>Response</b>	If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment is urgent (see this label). Rinse mouth. If eye irritation persists: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	Not applicable.

### 3. Composition/information on ingredients

#### Substances

Chemical name	Common name and synonyms	CAS number	%
Bis(2-chloroethyl)ether		111-44-4	100

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
<b>Most important symptoms/effects, acute and delayed</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Take off immediately all contaminated clothing. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse. Discard any shoes or clothing items that cannot be decontaminated.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Flammable liquid and vapor.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe vapor. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

### Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use water spray to reduce vapors or divert vapor cloud drift. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

### Environmental precautions

## 7. Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Vapors may form explosive mixtures with air. 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. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not taste or swallow. Avoid prolonged exposure. Do not get this material on clothing. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Wash contaminated clothing before reuse.

### Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep in an area equipped with sprinklers.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value
Bis(2-chloroethyl)ether (CAS 111-44-4)	Ceiling	90 mg/m <sup>3</sup>
		15 ppm

#### US. ACGIH Threshold Limit Values

Material	Type	Value
Bis(2-chloroethyl)ether (CAS 111-44-4)	STEL	10 ppm
	TWA	5 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
Bis(2-chloroethyl)ether (CAS 111-44-4)	STEL	60 mg/m <sup>3</sup>
		10 ppm
	TWA	30 mg/m <sup>3</sup>

Material	Type	Value
		5 ppm
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).	
<b>Exposure guidelines</b>		
<b>US - California OELs: Skin designation</b>		
Bis(2-chloroethyl)ether (CAS 111-44-4)		Can be absorbed through the skin.
<b>US - Minnesota Haz Subs: Skin designation applies</b>		
Bis(2-chloroethyl)ether (CAS 111-44-4)		Skin designation applies.
<b>US - Tennessee OELs: Skin designation</b>		
Bis(2-chloroethyl)ether (CAS 111-44-4)		Can be absorbed through the skin.
<b>US ACGIH Threshold Limit Values: Skin designation</b>		
Bis(2-chloroethyl)ether (CAS 111-44-4)		Can be absorbed through the skin.
<b>US NIOSH Pocket Guide to Chemical Hazards: Skin designation</b>		
Bis(2-chloroethyl)ether (CAS 111-44-4)		Can be absorbed through the skin.
<b>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)</b>		
Bis(2-chloroethyl)ether (CAS 111-44-4)		Can be absorbed through the skin.
<b>Appropriate engineering controls</b>	Explosion-proof general and local exhaust ventilation. 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. Provide eyewash station.	
<b>Individual protection measures, such as personal protective equipment</b>		
<b>Eye/face protection</b>	Wear eye/face protection. Wear safety glasses with side shields (or goggles).	
<b>Skin protection</b>		
<b>Hand protection</b>	Wear protective gloves.	
<b>Other</b>	Wear appropriate chemical resistant clothing.	
<b>Respiratory protection</b>	Wear positive pressure self-contained breathing apparatus (SCBA).	
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.	
<b>General hygiene considerations</b>	When using, do not eat, drink or smoke. Do not get this material on clothing. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.	
<b>9. Physical and chemical properties</b>		
<b>Appearance</b>		
<b>Physical state</b>	Liquid.	
<b>Form</b>	Liquid	
<b>Color</b>	Colorless	
<b>Odor</b>	Not available.	
<b>Odor threshold</b>	Not available.	
<b>pH</b>	Not available.	
<b>Melting point/freezing point</b>	-61.42 °F (-51.9 °C)	
<b>Initial boiling point and boiling range</b>	353.3 °F (178.5 °C)	
<b>Flash point</b>	145.4 °F (63.0 °C) Closed Cup	
<b>Evaporation rate</b>	Not available.	
<b>Flammability (solid, gas)</b>	Not available.	
<b>Upper/lower flammability or explosive limits</b>		
<b>Flammability limit - lower (%)</b>	Not available.	
<b>Flammability limit - upper (%)</b>	Not available.	
<b>Explosive limit - lower (%)</b>	Not available.	

<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	0.21 kPa at 25 °C
<b>Vapor density</b>	4.93
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	10 g/l
<b>Partition coefficient (n-octanol/water)</b>	1.29
<b>Auto-ignition temperature</b>	696.2 °F (369 °C)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

#### Other information

<b>Density</b>	1.2199 g/cm <sup>3</sup> estimated
<b>Dynamic viscosity</b>	2.07 mPa.s
<b>Dynamic viscosity temperature</b>	77 °F (25 °C)
<b>Flammability class</b>	Combustible IIIA estimated
<b>Kinematic viscosity</b>	1.692761 mm <sup>2</sup> /s estimated
<b>Molecular formula</b>	C <sub>4</sub> -H <sub>8</sub> -Cl <sub>2</sub> -O
<b>Molecular weight</b>	143.01 g/mol
<b>Percent volatile</b>	100 %
<b>Specific gravity</b>	1.22 at 20 °C
<b>VOC (Weight %)</b>	100 %

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<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>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Fatal if inhaled.
<b>Skin contact</b>	Fatal in contact with skin.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Fatal if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

### Information on toxicological effects

**Acute toxicity** Fatal if inhaled. Fatal in contact with skin. Fatal if swallowed. Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Product	Species	Test Results
Bis(2-chloroethyl)ether (CAS 111-44-4)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Guinea pig	300 mg/kg

Product	Species	Test Results
	Rabbit	9 mg/kg
<b>Inhalation</b>		
LC100	Rat	700 mg/l, 6 Hours
LC50	Guinea pig	35 - 105 ppm, 13 Hours
	Rat	1462 mg/m <sup>3</sup> , 4 Hours
		1000 mg/l, 45 Minutes
		250 ppm, 4 Hours
		0.33 mg/l, 4 Hours
<b>Oral</b>		
LD50	Mouse	136 mg/kg
	Rabbit	126 mg/kg
	Rat	75 mg/kg
<b>Other</b>		
LD50	Rabbit	0.3 ml/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Causes serious eye irritation.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not available.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Suspected of causing cancer.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Bis(2-chloroethyl)ether (CAS 111-44-4) 3 Not classifiable as to carcinogenicity to humans.

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

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not available.

**Chronic effects** Prolonged inhalation may be harmful.

**12. Ecological information**

**Ecotoxicity** The product is 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.

Product	Species	Test Results
Bis(2-chloroethyl)ether (CAS 111-44-4)		
<b>Aquatic</b>		
Fish	LC50 Bluegill (Lepomis macrochirus)	600 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** Not available.

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

1.29

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

#### US RCRA Hazardous Waste U List: Reference

Bis(2-chloroethyl)ether (CAS 111-44-4)

U025

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

#### DOT

**UN number** UN1916  
**UN proper shipping name** 2,2'-Dichlorodiethyl ether, MARINE POLLUTANT  
**Transport hazard class(es)**  
**Class** 6.1(PGI, II)  
**Subsidiary risk** 3  
**Label(s)** 6.1, 3  
**Packing group** II  
**Environmental hazards**  
**Marine pollutant** Yes  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Special provisions** IB2, N33, N34, T7, TP2  
**Packaging exceptions** 153  
**Packaging non bulk** 202  
**Packaging bulk** 243

#### IATA

**UN number** UN1916  
**UN proper shipping name** 2,2'-Dichlorodiethyl ether  
**Transport hazard class(es)**  
**Class** 6.1(PGI, II)  
**Subsidiary risk** 3  
**Packing group** II  
**Environmental hazards** No.  
**ERG Code** 6F  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Other information**

**Passenger and cargo aircraft** Allowed.

**Cargo aircraft only** Allowed.

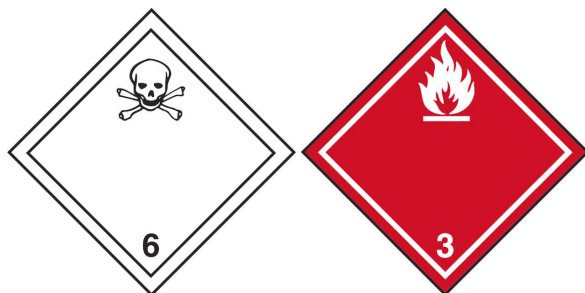
#### IMDG

**UN number** UN1916  
**UN proper shipping name** 2,2'-DICHLORODIETHYL ETHER  
**Transport hazard class(es)**  
**Class** 6.1(PGI, II)  
**Subsidiary risk** 3  
**Packing group** II  
**Environmental hazards**  
**Marine pollutant** No.  
**EmS** F-E, S-D

**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.  
**DOT**



**IATA; IMDG**



**Marine pollutant**



**General information**

DOT Regulated Marine Pollutant.

## 15. Regulatory information

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

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

Bis(2-chloroethyl)ether (CAS 111-44-4) 1.0 % One-Time Export Notification only.

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

Bis(2-chloroethyl)ether (CAS 111-44-4) Listed.

### **SARA 304 Emergency release notification**

Bis(2-chloroethyl)ether (CAS 111-44-4) 10 LBS

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

Not listed.

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

**Hazard categories**

Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - Yes  
Pressure Hazard - No  
Reactivity Hazard - No



**SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
Bis(2-chloroethyl)ether	111-44-4	10	10000 lbs		
<b>SARA 311/312 Hazardous chemical</b>					
Yes					
<b>SARA 313 (TRI reporting)</b>					
Chemical name	CAS number	% by wt.			
Bis(2-chloroethyl)ether	111-44-4	100			

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Bis(2-chloroethyl)ether (CAS 111-44-4)

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

Not regulated.

**Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)**  
 Priority pollutant  
 Toxic pollutant

**Safe Drinking Water Act (SDWA)**  
 Not regulated.

**US state regulations****US - New Jersey RTK - Substances: Listed substance**

Bis(2-chloroethyl)ether (CAS 111-44-4)

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Bis(2-chloroethyl)ether (CAS 111-44-4)

**US. Massachusetts RTK - Substance List**

Bis(2-chloroethyl)ether (CAS 111-44-4)

**US. New Jersey Worker and Community Right-to-Know Act**

Bis(2-chloroethyl)ether (CAS 111-44-4)

**US. Pennsylvania RTK - Hazardous Substances**

Bis(2-chloroethyl)ether (CAS 111-44-4)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Bis(2-chloroethyl)ether (CAS 111-44-4)

**US. Rhode Island RTK**

Bis(2-chloroethyl)ether (CAS 111-44-4)

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Bis(2-chloroethyl)ether (CAS 111-44-4) Listed: April 1, 1988

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

<b>Issue date</b>	01-12-2015
<b>Revision date</b>	11-27-2015
<b>Version #</b>	02
<b>Disclaimer</b>	The above information is believed to be correct on the date it was last revised and must not be considered all inclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. OSHA regulations require that if other hazards become evident, an upgraded SDS must be made available to the employee within three months. RESPONSIBILITY for updates lies with the employer and not with CHEM SERVICE, Inc.

Persons not specifically and properly trained should not handle this chemical or its container. This product is furnished FOR LABORATORY USE ONLY! Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticide products, food additives or as household chemicals.

This Safety Data Sheet (SDS) is intended only for use with Chem Service, Inc. products and should not be relied on for use with materials from any other supplier even if the chemical name(s) on the product are identical! Whenever using an SDS for a solution or mixture the user should refer to the SDS for every component of the solution or mixture. Chem Service warrants that this SDS is based upon the most current information available to Chem Service at the time it was last revised. THIS WARRANTY IS EXCLUSIVE, AND CHEM SERVICE, INC. MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. This SDS is provided gratis and CHEM SERVICE, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR CONTINGENT DAMAGES.

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