

## 1. Identification

**Product identifier** **CIMSTAR® 60XLZ BLUE**  
METALWORKING FLUID

**Other means of identification**

**SDS number** Not applicable  
**Recommended use** METALWORKING FLUID  
**Recommended restrictions** None known.

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

**Manufacturer**

**Company name** CIMCOOL® Industrial Products LLC  
3000 Disney Street  
Cincinnati, Ohio 45209  
513-458-8199  
**Telephone (General Information)**  
**Emergency telephone number** 1-800-424-9300 (CHEMTREC)  
**Emergency telephone number (outside USA)** 1-703-527-3887 (CHEMTREC)

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Serious eye damage/eye irritation Category 2  
**Environmental hazards** Not classified.  
**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Warning  
**Hazard statement** Causes eye irritation. Causes mild skin irritation.

**Precautionary statement**

**Prevention** Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment.  
**Response** IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. 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 INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If swallowed: Call a poison center/doctor if you feel unwell. Take off contaminated clothing and wash before reuse.  
**Storage** Keep container tightly closed. Protect from sunlight. Store in a well-ventilated place. Store away from incompatible materials. Store in accordance with local/regional/national/international regulations.  
**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** Not applicable.

## 3. Composition/information on ingredients

**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES		64742-52-5	10 - 30

Chemical name	Common name and synonyms	CAS number	%
C14-C17 MEDIUM CHAIN CHLORINATED PARAFFIN		63449-39-8	5 - 10
ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED		68439-51-0	1 - 5
MONOETHANOLAMINE		141-43-5	1 - 5
MONOISOPROPANOLAMINE		78-96-6	1 - 5
3-iodo-2-propynyl butylcarbamate		55406-53-6	0.1 - 1
Other components below reportable levels			40 - 70

The exact percentages of hazardous ingredients have been withheld as a trade secret.

#### 4. First-aid measures

<b>Inhalation</b>	If symptoms are experienced, remove source of contamination or move victim to fresh air. Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
<b>Skin contact</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<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. Get medical attention immediately.
<b>Ingestion</b>	Rinse mouth thoroughly. Do not induce vomiting. Drink 1 or 2 glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Get medical advice/attention if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Mild skin irritation. Defatting of the skin.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
<b>General information</b>	If exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemicals. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	Not applicable, non-combustible.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Wear suitable protective equipment.
<b>Fire-fighting equipment/instructions</b>	Use standard firefighting procedures and consider the hazards of other involved materials. 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. In the event of fire and/or explosion do not breathe fumes. Move container from fire area if it can be done without risk.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Local authorities should be advised if significant spillages cannot be contained. This product is miscible in water.  Large Spills: Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations. 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.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination. Contact local authorities in case of spillage to drain/aquatic environment.

## 7. Handling and storage

**Precautions for safe handling** Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not breathe vapor. Do not ingest. Do not get this material on clothing. Avoid contact with skin and eyes. Avoid prolonged and repeated contact. Use only in well-ventilated areas. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash thoroughly after handling. Wash contaminated clothing before reuse. Practice good housekeeping. Handle and open container with care. Do not empty into drains.

**Conditions for safe storage, including any incompatibilities** To maintain product quality, do not store in heat or direct sunlight. Use care in handling/storage. Keep containers closed when not in use. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in a well-ventilated place. Room temperature - normal conditions. Do not allow material to freeze. If frozen, product may separate. Thaw completely at room temperature and stir thoroughly prior to use.

## 8. Exposure controls/personal protection

### Occupational exposure limits

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

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	PEL	6 mg/m <sup>3</sup>
		3 ppm

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

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	15 mg/m <sup>3</sup>
		6 ppm
	TWA	8 mg/m <sup>3</sup> 3 ppm

#### US. ACGIH Threshold Limit Values

	Type	Value
MONOETHANOLAMINE (CAS 141-43-5)	STEL	6 ppm
	TWA	3 ppm

**Appropriate engineering controls** Ensure compliance with applicable exposure limits. 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. Eye wash fountain and emergency showers are recommended.

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

**Eye/face protection** Wear safety glasses with side shields (or goggles). Do not get in eyes. Eye wash fountain is recommended.

#### Skin protection

**Hand protection** Use protective gloves made of: Nitrile.

**Other** Wear suitable protective clothing and gloves.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** When using, do not eat, drink or smoke. Do not get in eyes, on skin, 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.

## 9. Physical and chemical properties

<b>Appearance</b>	CLEAR
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Not available.
<b>Odor</b>	CHEMICAL
<b>Odor threshold</b>	Not available.
<b>pH</b>	10.0

<b>Melting point/freezing point</b>	< 19 °F (< -7.2 °C)
<b>Initial boiling point and boiling range</b>	> 212 °F (> 100 °C)
<b>Flash point</b>	Not Applicable
<b>Evaporation rate</b>	Like water when diluted
<b>Flammability (solid, gas)</b>	Not applicable.
<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>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	100 % Water Miscible
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>pH in aqueous solution</b>	8.9 @ 5%
<b>Specific gravity</b>	1.035
<b>VOC ASTM D2369</b>	9.6 %

## 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>	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Do not add sodium nitrite or other nitrosating agents which may form cancer causing nitrosamines. Strong acids. Strong oxidizing agents. Avoid contact with oxidizers or reducing agents.
<b>Hazardous decomposition products</b>	Smoke, fumes, oxides of nitrogen, hydrogen chloride, and oxides of carbon

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	May be harmful if swallowed. Expected to be a low ingestion hazard.
<b>Inhalation</b>	Prolonged inhalation may be harmful. Health injuries are not known or expected under normal use.
<b>Skin contact</b>	Causes mild skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
<b>Eye contact</b>	Causes eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Mild skin irritation. Defatting of the skin.

### Information on toxicological effects

**Acute toxicity** May be harmful if swallowed.

Components	Species	Test Results
3-IODO-2-PROPYNYL BUTYLCARBAMATE (CAS 55406-53-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg

Components	Species	Test Results
<i>Oral</i> LD50	Rat	1.1 g/kg
ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED (CAS 68439-51-0)		
<b>Acute</b>		
<i>Oral</i> LD50	Rat	> 2000 mg/kg
MONOETHANOLAMINE (CAS 141-43-5)		
<b>Acute</b>		
<i>Dermal</i> LD50	Rabbit	1025 mg/kg
<i>Inhalation</i> LC50	Mouse	> 1210 mg/m <sup>3</sup>
<i>Oral</i> LD50	Guinea pig	620 mg/kg
	Mouse	700 mg/kg
	Rat	1515 mg/kg
<i>Other</i> LD50	Mouse	50 mg/kg
	Rat	67 mg/kg
MONOISOPROPANOLAMINE (CAS 78-96-6)		
<b>Acute</b>		
<i>Dermal</i> LD50	Rabbit	1576 mg/kg
<i>Inhalation</i> LC0	Rat	1005 mg/m <sup>3</sup> , 3 hours
<i>Oral</i> LD50	Rat	1715 mg/kg
SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES (CAS 64742-52-5)		
<b>Acute</b>		
<i>Dermal</i> LC50	Rabbit	> 5000 mg/kg
<i>Inhalation</i> LC50	Rat	> 5 mg/l, 4 hours
<i>Oral</i> LC50	Rat	> 5000 mg/kg

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

<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation. Defats the skin.
<b>Serious eye damage/eye irritation</b>	Causes eye irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not classified.
<b>Skin sensitization</b>	Not classified.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	
	Not listed.
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	May be harmful if swallowed and enters airways.
<b>Chronic effects</b>	Prolonged exposure may cause chronic effects.

**Further information** Symptoms may be delayed.

## 12. Ecological information

**Ecotoxicity** Contains a substance which causes risk of hazardous effects to the environment.

Components	Species	Test Results
3-iodo-2-propynyl butylcarbamate (CAS 55406-53-6)		
<b>Aquatic</b>		
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)
		0.05 - 0.089 mg/l, 96 hours
ALCOHOLS, C12-14, ETHOXYLATED PROPOXYLATED (CAS 68439-51-0)		
<b>Aquatic</b>		
<i>Acute</i>		
Fish	LC50	Ide, silver or golden orfe (Leuciscus idus)
		1 - 10 mg/l
C14-C17 MEDIUM CHAIN CHLORINATED PARAFFIN (CAS 63449-39-8)		
<b>Aquatic</b>		
Fish	LC50	Bluegill (Lepomis macrochirus)
		> 0.1 mg/l, 96 hours
MONOETHANOLAMINE (CAS 141-43-5)		
<b>Aquatic</b>		
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)
		114 - 196 mg/l, 96 hours
MONOISOPROPANOLAMINE (CAS 78-96-6)		
<b>Aquatic</b>		
Fish	LC50	Goldfish (Carassius auratus)
		210 mg/l, 96 hours
SEVERELY-HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES (CAS 64742-52-5)		
<i>Acute</i>		
Crustacea	EC50	Daphnia
		> 1000 mg/l, 48 hours
<b>Aquatic</b>		
<i>Acute</i>		
Fish	LC50	Fathead minnow (Pimephales promelas)
		> 30000 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** No data available.

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

MONOETHANOLAMINE	-1.31
MONOISOPROPANOLAMINE	-1.19

**Mobility in soil** This product is miscible in water.

**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** Consult authorities before disposal. 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.

**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. Do not re-use empty containers.

## 14. Transport information

**DOT**

<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	Environmentally hazardous substances, liquid, n.o.s., solution (C14-C17 MEDIUM CHAIN CHLORINATED PARAFFIN), MARINE POLLUTANT

**Transport hazard class(es)**

**Class** 9  
**Subsidiary risk** -  
**Label(s)** 9

**Packing group** III**Environmental hazards****Marine pollutant** Yes**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.**Special provisions** 8, 146, 335, IB3, T4, TP1, TP29**Packaging exceptions** 155**Packaging non bulk** 203**Packaging bulk** 241

Supplemental Information: 49CFR 171.4 excludes "non-bulk" packages (119 gallons or less) from Marine Pollutant Requirements unless all or part of the shipment is by vessel.

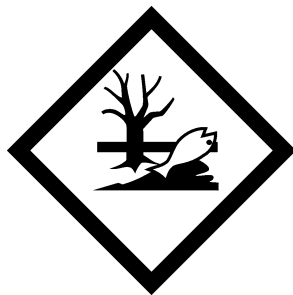
**IATA****UN number** UN3082**UN proper shipping name** Environmentally hazardous substance, liquid, n.o.s. (C14-C17 MEDIUM CHAIN CHLORINATED PARAFFIN)**Transport hazard class(es)**

**Class** 9  
**Subsidiary risk** -

**Packing group** III**Environmental hazards** No.**ERG Code** 9L**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.**Other information****Passenger and cargo aircraft** Allowed.**Cargo aircraft only** Allowed.**IMDG****UN number** UN3082**UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (c14-c17 medium chain chlorinated paraffin), MARINE POLLUTANT**Transport hazard class(es)**

**Class** 9  
**Subsidiary risk** -

**Packing group** III**Environmental hazards****Marine pollutant** Yes**EmS** F-A, S-F**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling. 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**



## 15. Regulatory information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. It may be reportable under the provisions of SARA Sections 311 and 312 if specific threshold criteria are met or exceeded. All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

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

Not listed.

#### SARA 304 Emergency release notification

Not regulated.

#### 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 - No  
 Fire Hazard - No  
 Pressure Hazard - No  
 Reactivity Hazard - No

#### SARA 302 Extremely hazardous substance

Not listed.

#### SARA 311/312 Hazardous chemical

Yes

#### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
3-IODO-2-PROPYNYL BUTYLCARBAMATE	55406-53-6	0.1 - 1

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

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

Not regulated.

#### Safe Drinking Water Act (SDWA)

Not regulated.

#### Food and Drug Administration (FDA)

Not regulated.

### US state regulations

Product is a hazardous substance as defined under the OSHA Hazard Communication Standard and may be reportable under the provisions of SARA Sections 311 and 312.

#### US. Massachusetts RTK - Substance List

MONOETHANOLAMINE (CAS 141-43-5)  
 MONOISOPROPANOLAMINE (CAS 78-96-6)

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

3-IODO-2-PROPYNYL BUTYLCARBAMATE (CAS 55406-53-6) 500 lbs

#### US. Pennsylvania RTK - Hazardous Substances

MONOETHANOLAMINE (CAS 141-43-5)  
 MONOISOPROPANOLAMINE (CAS 78-96-6)

#### US. Rhode Island RTK

3-IODO-2-PROPYNYL BUTYLCARBAMATE (CAS 55406-53-6)



**California South Coast Air Quality Management District (SCAQMD) Rule 1144 (VOC Emissions)**

This product is subject to SCAQMD Rule 1144; it is compliant and may be sold and used in the SCAQMD. The VOC content of the product is 51 g/L, measured by ASTM Method E-1868-10. This product has a specified use dilution VOC limit of 75 g/L, the maximum dilution concentration is 100 % to maintain compliance.

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**International Inventories**

Country(s) or region	Inventory name	On inventory or exempt (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

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

<b>Issue date</b>	09-26-2014
<b>Version #</b>	01
<b>Further information</b>	Not available.

## References

ACGIH  
NLM: Hazardous Substances Data Base  
US. IARC Monographs on Occupational Exposures to Chemical Agents  
Korea. Accidental Release Prevention Substances (Presidential Decree of Toxic Chemical Control Law, Executive Order No. 19203)  
Korea. Dangerous Substances Threshold Quantity (Presidential Decree of Dangerous Substances Safety Management Act No. 18406, Schedule 1)  
Korea. Harmful Substances Prohibited from Manufacturing (Presidential Decree on the Industrial Safety and Health Act (No. 13053), Article 29)  
Korea. Harmful Substances Requiring Permission for Manufacture or Use (Presidential Decree on the Industrial Safety and Health Act (No. 13053), Article 30)  
Korea. Non-Toxic Chemicals List (National Institute of Environment Research (NIER) Public Notice No. 1997-10, as amended)  
Korea. Observational Chemicals (Ministerial Decree of TCCL Article 6)  
Korea. OELs. Regulation for Permitted Concentration of Hazardous Substances (Ministry of Labor (MOL) Public Notice No. 1986-45, as amended)  
Korea. Prohibited Chemical Substances (TCCL Article 11)  
Korea. Regulated volatile organic compounds (VOCs) (MOE Notice No. 2001-36, March 8, 2001, as amended)  
Korea. Restricted Chemical Substances (TCCL Article 11)  
Korea. Toxic Chemical Control Law (TCCL), Existing Chemicals Inventory (KECI)  
Korea. Toxic Chemical Control Law (TCCL), pre-1997 List  
Korea. Toxic Chemicals (TCCL Article 10)  
Korea. Toxic Release Inventory (TRI) Chemicals (TCCL Article 14)  
Taiwan. Dangerous Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)  
Taiwan. Industrial Precursor Chemicals (Categories and Regulations Governing Inspection and Declaration of Industrial Precursor Chemicals, MOEA Decree No. 87, as amended)  
Taiwan. OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)  
Taiwan. Toxic Chemical Substances (TCS) (List of Toxic Chemical Substances announced by the Environmental Protection Administration)  
Taiwan. Toxic Materials (Rules on Hazard Communication of Dangerous Materials and Toxic Materials)  
HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices  
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits  
JIS Z 7252:2009 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"  
JIS Z 7253:2012 Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS)  
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

## Revision Information

Product and Company Identification: Product Codes  
Hazards Identification: US Hazard Categories  
Composition / Information on Ingredients: Ingredients  
Physical & Chemical Properties: Multiple Properties  
Transport Information: Proper Shipping Name/Packing Group  
Regulatory Information: United States  
Material Attributes & Uses; Experimental Data: Product Uses  
HazReg Data: North America  
GHS: Classification