SAFETY DATA SHEET

1. Identification

Product identifier **WATERMARK® KARL FISCHER COULOMETRIC GENERATOR SOLUTION, UNIVERSAL**

Other means of identification

Product code 2321

Recommended use Not available.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name	GFS Chemicals, Inc.	
Address	P.O. Box 245 Powell OH 43065 US	
Telephone	Phone	740-881-5501
	Toll Free	800-858-9682
	Fax	740-881-5989
Website	www.gfschemicals.com	
E-mail	service@gfschemicals.com	
Emergency phone number	Emergency Assistance	Chemtrec 800-424-9300

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Acute toxicity, dermal	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1
	Reproductive toxicity	Category 1
	Specific target organ toxicity, single exposure	Category 1 (central nervous system, kidney, liver, respiratory system, testes)
	Specific target organ toxicity, repeated exposure	Category 1 (central nervous system, hematopoietic system, respiratory system, testes, thyroid gland)

OSHA hazard(s) Not classified.

Label elements

Signal word Danger

Hazard statement Flammable liquid and vapor. Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May damage fertility or the unborn child. Causes damage to organs (central nervous system, kidney, liver, respiratory system, testes). Causes damage to organs (central nervous system, hematopoietic system, respiratory system, testes, thyroid gland) through prolonged or repeated exposure. Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

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. Use explosion-proof electrical/ventilating/lighting equipment. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media for extinction.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container to an approved incineration plant.
Hazard(s) not otherwise classified (HNOC)	Not classified.
Environmental hazards	Hazardous to the aquatic environment, acute hazard — Category 1
	Hazardous to the aquatic environment, long-term hazard — Category 3

Supplemental information

Precautionary statement

Prevention	Avoid release to the environment.
Response	Collect spillage.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.6% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 2.6% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Hazardous components

Chemical name	CAS number	%
ETHYLENEGLYCOLMONOMETHYL ETHER	109-86-4	80 - < 90*
TRADE SECRET*	Proprietary*	10 - < 20*
SULFUR DIOXIDE	7446-09-5	1 - < 3*
IODINE	7553-56-2	<2.2

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Wash off with soap and plenty of water. Call a POISON CENTER or doctor/physician if you feel unwell. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation or rash occurs: Get medical advice/attention.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Most important symptoms/effects, acute and delayed	Irritation of eyes and mucous membranes. May cause allergic skin reaction. Unconsciousness. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Proteinuria. Irritant effects. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Symptoms may be delayed. Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Dry chemical powder. Carbon dioxide (CO2). Alcohol resistant foam. Powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	By heating and fire, harmful vapors/gases may be formed.

Special protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Fire-fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.

Specific methods In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Avoid inhalation of vapors or mists. Wear appropriate personal protective equipment.

Methods and materials for containment and cleaning up ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop the flow of material, if this is without risk.

Large Spills: 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. 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.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.

Environmental precautions Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

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. 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 mist or vapor. Do not taste or swallow. Avoid contact with skin. Avoid contact with eyes. Avoid contact during pregnancy/while nursing. Avoid contact with clothing. Use personal protective equipment as required. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

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 cool place. Store in a well-ventilated place. Keep container tightly closed. Keep in an area equipped with sprinklers. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight.

8. Exposure controls/personal protection

Occupational exposure limits

U.S. - OSHA

Components	Type	Value
TRADE SECRET (CAS Proprietary)	TWA	15 mg/m3
		3 ppm

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

Components	Type	Value
ETHYLENEGLYCOLM ONOMETHYL ETHER (CAS 109-86-4)	PEL	80 mg/m3
		25 ppm

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

Components	Type	Value
IODINE (CAS 7553-56-2)	Ceiling	1 mg/m3 0.1 ppm
SULFUR DIOXIDE (CAS 7446-09-5)	PEL	13 mg/m3 5 ppm

ACGIH

Components	Type	Value
TRADE SECRET (CAS Proprietary)	TWA	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)	TWA	0.1 ppm	
IODINE (CAS 7553-56-2)	STEL	0.1 ppm	Vapor and aerosol.
	TWA	0.01 ppm	Inhalable fraction and vapor.
SULFUR DIOXIDE (CAS 7446-09-5)	STEL	0.25 ppm	

U.S. - NIOSH

Components	Type	Value
TRADE SECRET (CAS Proprietary)	REL	15 mg/m3 3 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)	REL	0.3 mg/m3 0.1 ppm
IODINE (CAS 7553-56-2)	Ceiling	1 mg/m3 0.1 ppm
SULFUR DIOXIDE (CAS 7446-09-5)	REL	5 mg/m3 2 ppm
	STEL	13 mg/m3 5 ppm

Biological limit values

US. ACGIH. BEIs. Biological Exposure Indices

Components	Value	Determinant	Sampling Time
ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)	1 mg/g	2-Methoxyacetic acid	*

* - For sampling details, please see the source document.

Exposure guidelines

US. ACGIH Threshold Limit Values

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.
TRADE SECRET (CAS Proprietary) Can be absorbed through the skin.

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

2-METHOXYETHANOL (CAS 109-86-4) Can be absorbed through the skin.
DIETHANOLAMINE (CAS Proprietary) Can be absorbed through the skin.

US. Minnesota Hazardous Substances List (Minn. Rules 5206.0400).

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Skin designation applies.

US. NIOSH: Pocket Guide to Chemical Hazards

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

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

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

US. OSHA Table Z-1-A (29 CFR 1910.1000)

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical goggles are recommended. Eye wash fountains are required.

Skin protection

Hand protection Wear protective gloves.

Other Wear appropriate chemical resistant clothing. Wear protective gloves.

Respiratory protection If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

Thermal hazards Not available.

General hygiene considerations When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Avoid contact with clothing. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance Clear.

Physical state Liquid.

Form Liquid.

Color Light yellow.

Odor Strong.

Odor threshold Not available.

pH 6

Melting point/freezing point -42 °F (-41 °C) estimated

Initial boiling point and boiling range 255 °F (124 °C) estimated

Flash point 115 - 140 °F (46 - 60 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 2.4 % estimated

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 374 hPa estimated

Vapor density Not available.

Relative density Not available.

Solubility(ies) Miscible

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 640 °F (338 °C) estimated

Decomposition temperature Not available.

Viscosity Not available.

Other information

Density 1.10 g/cm3

Flammability class Combustible II estimated

Flash point class	Combustible II
Percent volatile	83.2 % estimated
Specific gravity	1.1
VOC (Weight %)	96.4 % estimated

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions. Risk of ignition.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents. Strong acids. Caustics.
Hazardous decomposition products	Upon decomposition, this product emits oxides of sulfur, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Based on available data, the classification criteria are not met.
Inhalation	Due to lack of data the classification is not possible.
Skin contact	Harmful in contact with skin. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Unconsciousness. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Edema. Liver enlargement. Jaundice. Proteinuria. Behavioral changes. Decrease in motor functions. Irritant effects.

Information on toxicological effects

Acute toxicity Harmful in contact with skin.

Product	Species	Test Results
WATERMARK® KARL FISCHER COULOMETRIC GENERATOR SOLUTION, UNIVERSAL (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	1538.4615 mg/kg, estimated
Inhalation		
LC50	Guinea pig	38461.5391 mg/l, 20 Hours, estimated
		6278 mg/l
		5000 mg/l, 154 Hours, estimated
	Mouse	38461.5391 mg/l, 4 Hours, estimated
		6389 mg/l
		5769.231 mg/l, 847 Hours, estimated
	Rat	2308 mg/l
Oral		
LD50	Guinea pig	1141.8269 mg/kg, estimated
	Mouse	99999 mg/kg
		3.3602 g/kg, estimated
	Rabbit	99999 mg/kg
		1000 g/kg, estimated
	Rat	2842.7734 mg/kg, estimated
		1400 g/kg, estimated
Other		
LD50	Mouse	2580.5288 mg/kg, estimated
	Rat	2572.1155 mg/kg, estimated

Components	Species	Test Results
ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)		
Acute		
Dermal		
LD50	Rabbit	1280 mg/kg
Inhalation		
LC50	Rat	1500 mg/l, 7 hours
Oral		
LD50	Guinea pig	950 mg/kg
	Mouse	2560 mg/kg
		2.8 g/kg
	Rabbit	890 mg/kg
	Rat	2370 mg/kg
Other		
LD50	Mouse	2147 mg/kg
	Rat	2140 mg/kg
IODINE (CAS 7553-56-2)		
Acute		
Oral		
LD50	Mouse	22 g/kg
	Rabbit	10 g/kg
	Rat	14 g/kg
SULFUR DIOXIDE (CAS 7446-09-5)		
Acute		
Inhalation		
LC50	Guinea pig	1000 mg/l, 20 Hours
		130 mg/l, 154 Hours
	Mouse	1000 mg/l, 4 Hours
		150 mg/l, 847 Hours
TRADE SECRET (CAS Proprietary)		
Acute		
Oral		
LD50	Rat	1820 mg/kg
		710 mg/kg

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

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory sensitization Due to lack of data the classification is not possible.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Due to lack of data the classification is not possible.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

SULFUR DIOXIDE (CAS 7446-09-5)	3 Not classifiable as to carcinogenicity to humans.
TRADE SECRET (CAS Proprietary)	2B Possibly carcinogenic to humans.

Reproductive toxicity Possible reproductive hazard. May damage fertility or the unborn child.

Specific target organ toxicity - single exposure Causes damage to organs (central nervous system, kidney, liver, respiratory system, testes).

Specific target organ toxicity - repeated exposure Causes damage to organs (central nervous system, hematopoietic system, respiratory system, testes, thyroid gland) through prolonged or repeated exposure.

Aspiration hazard Due to lack of data the classification is not possible.

Chronic effects Prolonged inhalation may be harmful. Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Very toxic to aquatic life. Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product		Species	Test Results
WATERMARK® KARL FISCHER COULOMETRIC GENERATOR SOLUTION, UNIVERSAL (CAS Mixture)			
Crustacea	LC50	Daphnia	15385 mg/l, 24 hours
			140 mg/l, 48 hours
			38.25 mg/l, 96 hours
Fish	LC50	Fish	15385 mg/l, 48 hours
			147 mg/l, 24 hours
			107 mg/l, 96 hours

Components		Species	Test Results
ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)			
Aquatic			
Crustacea	LC50	Brine shrimp (Artemia salina)	> 10000 mg/l, 24 hours
		Water flea (Daphnia magna)	> 10000 mg/l, 24 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	> 10000 mg/l, 96 hours
		Carp (Leuciscus idus melanotus)	> 10000 mg/l, 48 hours
		Goldfish (Carassius auratus)	> 5000 mg/l, 24 hours
		Inland silverside (Menidia beryllina)	> 10000 mg/l, 96 hours
		Rainbow trout,donaldson trout (Oncorhynchus mykiss)	14000 - 18000 mg/l, 96 hours
IODINE (CAS 7553-56-2)			
Aquatic			
Crustacea	LC50	Water flea (Daphnia magna)	0.55 - 1.32 mg/l, 96 hours
			0.03 - 1 mg/l, 48 hours
Fish	LC50	Guppy (Poecilia reticulata)	3 mg/l, 24 hours
		Rainbow trout,donaldson trout (Oncorhynchus mykiss)	> 0.01 mg/l, 96 hours
TRADE SECRET (CAS Proprietary)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	61.8 - 86.04 mg/l, 48 hours
	LC50	Brine shrimp (Artemia salina)	2800 mg/l, 24 hours
		Oligochaete, worm (Lumbriculus variegatus)	> 100 mg/l, 96 hours
			100 mg/l, 96 hours
		Opossum shrimp (Americamysis bahia)	207 mg/l, 96 hours
		Ramshorn snail (Helisoma trivolvis)	> 100 mg/l, 96 hours
			100 mg/l, 96 hours
		Scud (Gammarus fasciatus)	100 mg/l, 96 hours
			> 100 mg/l, 96 hours
		Water flea (Ceriodaphnia dubia)	150 - 250 mg/l, 48 hours
			95.9 - 160 mg/l, 48 hours
			87.1 - 127.7 mg/l, 48 hours
			81 - 124.2 mg/l, 48 hours
			63.6 - 93.7 mg/l, 48 hours
			26.5 - 36.2 mg/l, 48 hours
			22.6 - 34.6 mg/l, 48 hours

Components		Species	Test Results
			22.2 - 39.1 mg/l, 48 hours
			18.2 - 47.8 mg/l, 48 hours
			10 - 37 mg/l, 168 hours
		Water flea (Daphnia magna)	250 - 418 mg/l, 48 hours
			208 - 268 mg/l, 24 hours
			180 mg/l, 24 hours
			170 mg/l, 24 hours
			154 - 196 mg/l, 24 hours
			140 - 180 mg/l, 24 hours
			119.5 - 155.2 mg/l, 48 hours
			114 - 151 mg/l, 48 hours
			110.4 - 139.4 mg/l, 48 hours
			101 - 134 mg/l, 48 hours
			100 mg/l, 96 hours
			> 100 mg/l, 96 hours
			97.1 - 124 mg/l, 48 hours
			96.3 - 124.6 mg/l, 48 hours
			92.9 - 127 mg/l, 48 hours
			67.7 - 89.5 mg/l, 48 hours
			44 - 68 mg/l, 48 hours
			24 - 48 mg/l, 264 hours
		Water flea (Daphnia pulex)	2.64 mg/l, 48 hours
			2.15 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	2100 mg/l, 24 hours
			1850 mg/l, 48 hours
		Carp (Leuciscus idus melanotus)	1850 mg/l, 48 hours
			1430 mg/l, 48 hours
		Fathead minnow (Pimephales promelas)	4461 - 4981 mg/l, 96 hours
			1360 - 1630 mg/l, 96 hours
			1300 - 1990 mg/l, 96 hours
			1200 - 1580 mg/l, 96 hours
			> 100 mg/l, 96 hours
			100 mg/l, 96 hours
		Goldfish (Carassius auratus)	> 5000 mg/l, 24 hours
			800 mg/l, 24 hours
		Sheepshead minnow (Cyprinodon variegatus)	> 540 mg/l, 24 hours
			> 540 mg/l, 48 hours
			> 540 mg/l, 72 hours
			> 540 mg/l, 96 hours
		Western mosquitofish (Gambusia affinis)	1800 mg/l, 24 hours
			1550 mg/l, 48 hours
			1400 mg/l, 96 hours
			560 mg/l, 6 days
Other	LC50	Turbellarian, flatworm (Dugesia tigrina)	> 100 mg/l, 96 hours
			100 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)

ETHYLENEGLYCOLMONOMETHYL ETHER	-0.77
TRADE SECRET	-1.43
IODINE	2.49

Mobility in soil	Not available.
Other adverse effects	Not available.

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. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Not available.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 F
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	UN1188
UN proper shipping name	Ethylene glycol monomethyl ether
Transport hazard class(es)	3
Subsidary class(es)	Not available.
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Labels required	3
Special provisions	B1, IB3, T2, TP1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

UN number	UN1188
UN proper shipping name	Ethylene glycol monomethyl ether
Transport hazard class(es)	3
Subsidary class(es)	-
Packaging group	III
Environmental hazards	No
Labels required	Not available.
ERG Code	3L
Special precautions for user	Not available.

IMDG

UN number	UN1188
UN proper shipping name	ETHYLENE GLYCOL MONOMETHYL ETHER
Transport hazard class(es)	3
Subsidary class(es)	•
Packaging group	III
Environmental hazards	
Marine pollutant	No
Labels required	Not available.
EmS	F-E, S-D
Special precautions for user	Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

General information DOT Regulated Marine Pollutant. IMDG Regulated Marine Pollutant.

DOT

IATA

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

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

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) 1.0 % One-Time Export Notification only.

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

Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

TRADE SECRET (CAS Proprietary) 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 No

SARA 311/312 Hazardous chemical No

Other federal regulations

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

TRADE SECRET (CAS Proprietary)

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

SULFUR DIOXIDE (CAS 7446-09-5)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

IODINE (CAS 7553-56-2) 2.2 %WV

DEA Exempt Chemical Mixtures Code Number

IODINE (CAS 7553-56-2) 6699

Food and Drug Administration (FDA) Not regulated.

US state regulations WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)
IODINE (CAS 7553-56-2)
SULFUR DIOXIDE (CAS 7446-09-5)
TRADE SECRET (CAS Proprietary)

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

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)	500 LBS
SULFUR DIOXIDE (CAS 7446-09-5)	500 LBS
TRADE SECRET (CAS Proprietary)	500 LBS

US. Pennsylvania RTK - Hazardous Substances

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)
IODINE (CAS 7553-56-2)
SULFUR DIOXIDE (CAS 7446-09-5)
TRADE SECRET (CAS Proprietary)

US. Rhode Island RTK

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)
IODINE (CAS 7553-56-2)
SULFUR DIOXIDE (CAS 7446-09-5)
TRADE SECRET (CAS Proprietary)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)
SULFUR DIOXIDE (CAS 7446-09-5)
TRADE SECRET (CAS Proprietary)

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)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
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)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
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

Issue date	February-14-2013
Version #	01
Further information	Not available.
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