SAFETY DATA SHEET

1. Identification

Product identifier **WATERMARK® KARL FISCHER SOLVENT FOR OILS, for TWO-COMPONENT SYSTEM**

Other means of identification

Product code 2991

Recommended use Laboratory reagent for water determination using the Karl Fischer method.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	GFS Chemicals, Inc.	
Address	P.O. Box 245 Powell, OH 43065 United States	
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 2
Health hazards	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 3
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1
	Specific target organ toxicity, single exposure	Category 1
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Highly flammable liquid and vapor. Toxic if swallowed. Toxic in contact with skin. Causes skin irritation. Causes serious eye irritation. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. 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. 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 mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. 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: Call a POISON CENTER/doctor. If skin irritation occurs: Get medical advice/attention. 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.
Storage	Store in a well-ventilated place. Keep cool.
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.
Hazard(s) not otherwise classified (HNOC)	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.
Supplemental information	3-5% of the mixture consists of component(s) of unknown acute oral toxicity. 60-75% of the mixture consists of component(s) of unknown acute dermal toxicity. 5-10% of the mixture consists of component(s) of unknown acute inhalation toxicity. 30-45% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 30-45% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
CHLOROFORM	TRICHLOROMETHANE	67-66-3	50 - < 60*
METHYL ALCOHOL	WOOD ALCOHOL METHANOL	67-56-1	30 - < 40*
DIETHANOLAMINE	BIS(2-HYDROXYETHYL)AMINE	111-42-2	5 - < 10*
SULFUR DIOXIDE		7446-09-5	3 - < 5*
Other components below reportable levels			< 1

*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. Rinse skin with water/shower. Get medical advice/attention if you feel unwell. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	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 if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. If swallowed, induce vomiting immediately as directed by medical personnel. 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.
Most important symptoms/effects, acute and delayed	Headache. Dizziness. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	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. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off immediately all contaminated clothing. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. 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 mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. 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). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. 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. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

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. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. 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 eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices. For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

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

Components	Type	Value
CHLOROFORM (CAS 67-66-3)	Ceiling	240 mg/m3
		50 ppm
METHYL ALCOHOL (CAS 67-56-1)	PEL	260 mg/m3
		200 ppm
SULFUR DIOXIDE (CAS 7446-09-5)	PEL	13 mg/m3
		5 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
CHLOROFORM (CAS 67-66-3)	TWA	10 ppm	
DIETHANOLAMINE (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
METHYL ALCOHOL (CAS 67-56-1)	STEL	250 ppm	
	TWA	200 ppm	
SULFUR DIOXIDE (CAS 7446-09-5)	STEL	0.25 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
CHLOROFORM (CAS 67-66-3)	STEL	9.78 mg/m3
		2 ppm
DIETHANOLAMINE (CAS 111-42-2)	TWA	15 mg/m3
		3 ppm
METHYL ALCOHOL (CAS 67-56-1)	STEL	325 mg/m3
		250 ppm
	TWA	260 mg/m3
		200 ppm
SULFUR DIOXIDE (CAS 7446-09-5)	STEL	13 mg/m3
		5 ppm
	TWA	5 mg/m3
		2 ppm

Biological limit values

US. ACGIH. BEIs. Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
METHYL ALCOHOL (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

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

Exposure guidelines

US - Tennessee OELs: Skin designation

METHYL ALCOHOL (CAS 67-56-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

DIETHANOLAMINE (CAS 111-42-2) Can be absorbed through the skin.

METHYL ALCOHOL (CAS 67-56-1) Can be absorbed through the skin.

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

DIETHANOLAMINE (CAS 111-42-2)	Can be absorbed through the skin.
METHYL ALCOHOL; METHANOL (CAS 67-56-1)	Can be absorbed through the skin.

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

METHYL ALCOHOL (CAS 67-56-1)	Skin designation applies.

US. NIOSH: Pocket Guide to Chemical Hazards

METHYL ALCOHOL (CAS 67-56-1)	Can be absorbed through the skin.

Appropriate engineering controls 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. 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).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapor cartridge.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Keep away from food and drink. 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

Appearance

Physical state Liquid.

Form Liquid.

Color Colorless to light brown.

Odor Not available.

Odor threshold Not available.

pH 6

Melting point/freezing point -86 °F (-66 °C) estimated

Initial boiling point and boiling range 179 °F (81 °C) estimated

Flash point 59.0 °F (15.0 °C) estimated

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 6 % estimated

Flammability limit - upper (%) 36 % estimated

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 209 hPa estimated

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

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

Auto-ignition temperature	636 °F (336 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.23 g/cm3 estimated
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Flash point class	Flammable IB
Oxidizing properties	Not oxidizing.
Percent volatile	87 % estimated
Specific gravity	1.23 estimated
VOC	87 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents.
Hazardous decomposition products	Hydrogen chloride. Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs by inhalation. May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	Toxic in contact with skin. Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Toxic if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Headache. Dizziness. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Toxic in contact with skin. Toxic if swallowed.

Product	Species	Test Results
WATERMARK® KARL FISCHER SOLVENT FOR OILS, for TWO-COMPONENT SYSTEM		
Acute		
Inhalation		
LC50	Guinea pig	9417 mg/l
	Mouse	9583 mg/l
	Rat	106 mg/l
Oral		
LD50	Dog	5000 mg/kg
	Mouse	80 mg/kg
	Rabbit	21838 mg/kg

Components	Species	Test Results
CHLOROFORM (CAS 67-66-3)		
Acute		
Inhalation		
LC50	Rat	47.702 mg/l, 4 Hours
Oral		
LD50	Dog	2250 mg/kg
	Mouse	36 mg/kg

Components	Species	Test Results
	Rabbit	9827 mg/kg
	Rat	2180 mg/kg
		1117 mg/kg
		908 mg/kg
		444 mg/kg
Other		
LD50	Dog	1000 mg/kg
	Mouse	623 mg/kg
	Rat	2000 mg/kg
DIETHANOLAMINE (CAS 111-42-2)		
Acute		
Dermal		
LD50	Rabbit	11.9 ml/kg
Oral		
LD50	Rat	1820 mg/kg
		710 mg/kg
Other		
LD50	Mouse	2300 mg/kg
METHYL ALCOHOL (CAS 67-56-1)		
Acute		
Oral		
LD50	Rat	5628 mg/kg
SULFUR DIOXIDE (CAS 7446-09-5)		
Acute		
Inhalation		
LC50	Guinea pig	1000 mg/l, 20 Hours
		1000 ppm, 20 Hours
		130 ppm, 154 Hours
		130 mg/l, 154 Hours
	Mouse	1000 ppm, 4 Hours
		1000 mg/l, 4 Hours
		150 ppm, 847 Hours
		150 mg/l, 847 Hours

* 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 or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

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

CHLOROFORM (CAS 67-66-3)	2B Possibly carcinogenic to humans.
DIETHANOLAMINE (CAS 111-42-2)	2B Possibly carcinogenic to humans.
SULFUR DIOXIDE (CAS 7446-09-5)	3 Not classifiable as to carcinogenicity to humans.

US OSHA Hazard Categories (1)

Not regulated.

US OSHA Hazard Categories (10)

Not regulated.

US OSHA Hazard Categories (2)

Not regulated.

US OSHA Hazard Categories (3)

Not regulated.

US OSHA Hazard Categories (4)

Not regulated.

US OSHA Hazard Categories (5)

Not regulated.

US OSHA Hazard Categories (6)

Not regulated.

US OSHA Hazard Categories (7)

Not regulated.

US OSHA Hazard Categories (8)

Not regulated.

US OSHA Hazard Categories (9)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

CHLOROFORM (CAS 67-66-3) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity May damage fertility or the unborn child.

Specific target organ toxicity - single exposure Causes damage to organs.

Specific target organ toxicity - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

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

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product		Species	Test Results
WATERMARK® KARL FISCHER SOLVENT FOR OILS, for TWO-COMPONENT SYSTEM			
Aquatic			
Crustacea	EC50	Daphnia	693.7386 mg/l, 48 hours estimated
Fish	LC50	Fish	148.8261 mg/l, 96 hours estimated
Components		**Species**	**Test Results**
CHLOROFORM (CAS 67-66-3)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	15.1 mg/l, 96 hours
DIETHANOLAMINE (CAS 111-42-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	61.8 - 86.04 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	100 mg/l, 96 hours
METHYL ALCOHOL (CAS 67-56-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	13500 - 17600 mg/l, 96 hours

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

Persistence and degradability

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

CHLOROFORM	1.97
DIETHANOLAMINE	-1.43
METHYL ALCOHOL	-0.77

Mobility in soil No data available.

Other adverse effects	The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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.
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	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (METHYL ALCOHOL RQ = 16611 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (METHYL ALCOHOL)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (METHYL ALCOHOL)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
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 established.

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.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

CHLOROFORM (CAS 67-66-3)	Listed.
DIETHANOLAMINE (CAS 111-42-2)	Listed.
METHYL ALCOHOL (CAS 67-56-1)	Listed.

SARA 304 Emergency release notification

CHLOROFORM (CAS 67-66-3)	10 LBS
SULFUR DIOXIDE (CAS 7446-09-5)	500 LBS

US OSHA Hazard Categories (1)

Not regulated.

US OSHA Hazard Categories (2)

Not regulated.

US OSHA Hazard Categories (3)

Not regulated.

US OSHA Hazard Categories (4)

Not regulated.

US OSHA Hazard Categories (5)

Not regulated.

US OSHA Hazard Categories (6)

Not regulated.

US OSHA Hazard Categories (7)

Not regulated.

US OSHA Hazard Categories (8)

Not regulated.

US OSHA Hazard Categories (9)

Not regulated.

US OSHA Hazard Categories (10)

Not regulated.

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 (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
CHLOROFORM	67-66-3	10	10000		
SULFUR DIOXIDE	7446-09-5	500	500		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
CHLOROFORM	67-66-3	50 - < 60
DIETHANOLAMINE	111-42-2	5 - < 10
METHYL ALCOHOL	67-56-1	30 - < 40

Other federal regulations

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

CHLOROFORM (CAS 67-66-3)
DIETHANOLAMINE (CAS 111-42-2)
METHYL ALCOHOL (CAS 67-56-1)

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

CHLOROFORM (CAS 67-66-3)
SULFUR DIOXIDE (CAS 7446-09-5)

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

SULFUR DIOXIDE (CAS 7446-09-5) High priority

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

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

CHLOROFORM (CAS 67-66-3) Listed: October 1, 1987
DIETHANOLAMINE (CAS 111-42-2) Listed: June 22, 2012

US - California Proposition 65 - CRT: Listed date/Developmental toxin

CHLOROFORM (CAS 67-66-3) Listed: August 7, 2009
METHYL ALCOHOL (CAS 67-56-1) Listed: March 16, 2012
SULFUR DIOXIDE (CAS 7446-09-5) Listed: July 29, 2011

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

CHLOROFORM (CAS 67-66-3)
DIETHANOLAMINE (CAS 111-42-2)
METHYL ALCOHOL (CAS 67-56-1)
SULFUR DIOXIDE (CAS 7446-09-5)

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)	Yes
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 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

Issue date	December-28-2016
Version #	01
Disclaimer	GFS Chemicals, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.