SAFETY DATA SHEET

1. Identification

Product identifier	**Haloalkanes Volatile Organic Compounds Mixture #2 - 502,2/52**
Other means of identification	
Item	M-HVOC2M5
Recommended use	For Laboratory Use Only
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	Chem Service, Inc.	
Address	660 Tower Lane West Chester, PA 19380 United States	
Telephone	Toll Free	800-452-9994
	Direct	610-692-3026
Website	www.chemservice.com	
E-mail	info@chemservice.com	
Emergency phone number	Chemtrec US	800-424-9300
	Chemtrec outside US	+1 703-527-3887

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 3
	Acute toxicity, inhalation	Category 3
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1
	Germ cell mutagenicity	Category 1
	Carcinogenicity	Category 1
	Reproductive toxicity (fertility)	Category 1A
	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 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
	Hazardous to the ozone layer	Category 1
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. May cause an allergic skin reaction. Causes serious eye irritation. Toxic if inhaled. May cause genetic defects. May cause cancer. May damage fertility. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Harms public health and the environment by destroying ozone in the upper atmosphere.

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. 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 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. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	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. Call a poison center/doctor. Specific treatment (see this label). Rinse mouth. If skin irritation or rash 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. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
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	0.8% of the mixture consists of component(s) of unknown acute oral toxicity. 3.2% of the mixture consists of component(s) of unknown acute dermal toxicity. 2.4% of the mixture consists of component(s) of unknown acute inhalation toxicity. 96% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 94.6% 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	%
Methanol		67-56-1	90 - 100
1,1,1,2-Tetrachloroethane		630-20-6	0.2
1,1,1-Trichloroethane		71-55-6	0.2
1,1,2,2-Tetrachloroethane		79-34-5	0.2
1,1,2-Trichloroethane		79-00-5	0.2
1,1-Dichloroethane		75-34-3	0.2
1,1-Dichloroethene		75-35-4	0.2
1,1-Dichloropropene		563-58-6	0.2
1,2,3-Trichloropropane		96-18-4	0.2
1,2-Dibromo-3-chloropropane		96-12-8	0.2
1,2-Dibromoethane		106-93-4	0.2
1,2-Dichloroethane		107-06-2	0.2
1,2-Dichloropropane		78-87-5	0.2
1,3-Dichloropropane		142-28-9	0.2
2,2-Dichloropropane		594-20-7	0.2
Bromochloromethane		74-97-5	0.2
Bromodichloromethane		75-27-4	0.2
Bromoform		75-25-2	0.2
Carbon tetrachloride		56-23-5	0.2
Chlorodibromomethane		124-48-1	0.2
Chloroethane		75-00-3	0.2
Chloroform		67-66-3	0.2
cis-1,2-Dichloroethene		156-59-2	0.2
cis-1,3-Dichloropropene		10061-01-5	0.2
Dibromomethane		74-95-3	0.2
Dichlorodifluoromethane		75-71-8	0.2

Chemical name	Common name and synonyms	CAS number	%
Hexachloro-1,3-butadiene		87-68-3	0.2
Methyl bromide		74-83-9	0.2
Methyl chloride		74-87-3	0.2
Methylene chloride		75-09-2	0.2
Tetrachloroethene		127-18-4	0.2
trans-1,2-Dichloroethene		156-60-5	0.2
trans-1,3-Dichloropropene		10061-02-6	0.2
Trichloroethene		79-01-6	0.2
Trichlorofluoromethane		75-69-4	0.2

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

4. First-aid measures

Inhalation
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 POISON CENTER or doctor/physician.

Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. Call a POISON CENTER or doctor/physician if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

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. 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.

Most important symptoms/effects, acute and delayed
Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash. 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. In case of shortness of breath, give oxygen. 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. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media
Alcohol resistant foam. Water fog. 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

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 mist or 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. 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). 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. 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 release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. 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. 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. 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 skin. Avoid contact with eyes. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Avoid contact with 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. Avoid release to the environment. Do not empty into drains.

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

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Avoid spark promoters. Eliminate sources of ignition. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Refrigeration recommended. 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 Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	TWA	0.001 ppm
Methylene chloride (CAS 75-09-2)	STEL	125 ppm

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

Components	Type	Value
	TWA	25 ppm

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

Components	Type	Value
1,1,1-Trichloroethane (CAS 71-55-6)	PEL	1900 mg/m3
		350 ppm
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	PEL	35 mg/m3
		5 ppm
1,1,2-Trichloroethane (CAS 79-00-5)	PEL	45 mg/m3
		10 ppm
1,1-Dichloroethane (CAS 75-34-3)	PEL	400 mg/m3
		100 ppm
1,2,3-Trichloropropane (CAS 96-18-4)	PEL	300 mg/m3
		50 ppm
1,2-Dichloropropane (CAS 78-87-5)	PEL	350 mg/m3
		75 ppm
Bromochloromethane (CAS 74-97-5)	PEL	1050 mg/m3
		200 ppm
Bromoform (CAS 75-25-2)	PEL	5 mg/m3
		0.5 ppm
Chloroethane (CAS 75-00-3)	PEL	2600 mg/m3
		1000 ppm
Chloroform (CAS 67-66-3)	Ceiling	240 mg/m3
		50 ppm
cis-1,2-Dichloroethene (CAS 156-59-2)	PEL	790 mg/m3
		200 ppm
Dichlorodifluoromethane (CAS 75-71-8)	PEL	4950 mg/m3
		1000 ppm
Methanol (CAS 67-56-1)	PEL	260 mg/m3
		200 ppm
Methyl bromide (CAS 74-83-9)	Ceiling	80 mg/m3
		20 ppm
trans-1,2-Dichloroethene (CAS 156-60-5)	PEL	790 mg/m3
		200 ppm
Trichlorofluoromethane (CAS 75-69-4)	PEL	5600 mg/m3
		1000 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
1,2-Dibromoethane (CAS 106-93-4)	Ceiling	30 ppm
	TWA	20 ppm
1,2-Dichloroethane (CAS 107-06-2)	Ceiling	100 ppm
	TWA	50 ppm
Carbon tetrachloride (CAS 56-23-5)	Ceiling	25 ppm
	TWA	10 ppm
Methyl chloride (CAS 74-87-3)	Ceiling	200 ppm
	TWA	100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Tetrachloroethene (CAS 127-18-4)	Ceiling	200 ppm
	TWA	100 ppm
Trichloroethene (CAS 79-01-6)	Ceiling	200 ppm
	TWA	100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
1,1,1-Trichloroethane (CAS 71-55-6)	STEL	450 ppm
	TWA	350 ppm
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	TWA	1 ppm
1,1,2-Trichloroethane (CAS 79-00-5)	TWA	10 ppm
1,1-Dichloroethane (CAS 75-34-3)	TWA	100 ppm
1,1-Dichloroethene (CAS 75-35-4)	TWA	5 ppm
1,2,3-Trichloropropane (CAS 96-18-4)	TWA	10 ppm
1,2-Dichloroethane (CAS 107-06-2)	TWA	10 ppm
1,2-Dichloropropane (CAS 78-87-5)	TWA	10 ppm
Bromochloromethane (CAS 74-97-5)	TWA	200 ppm
Bromoform (CAS 75-25-2)	TWA	0.5 ppm
Carbon tetrachloride (CAS 56-23-5)	STEL	10 ppm
	TWA	5 ppm
Chloroethane (CAS 75-00-3)	TWA	100 ppm
Chloroform (CAS 67-66-3)	TWA	10 ppm
cis-1,2-Dichloroethene (CAS 156-59-2)	TWA	200 ppm
cis-1,3-Dichloropropene (CAS 10061-01-5)	TWA	1 ppm
Dichlorodifluoromethane (CAS 75-71-8)	TWA	1000 ppm
Hexachloro-1,3-butadiene (CAS 87-68-3)	TWA	0.02 ppm
Methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
Methyl bromide (CAS 74-83-9)	TWA	1 ppm
Methyl chloride (CAS 74-87-3)	STEL	100 ppm
	TWA	50 ppm
Methylene chloride (CAS 75-09-2)	TWA	50 ppm
Tetrachloroethene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm
trans-1,2-Dichloroethene (CAS 156-60-5)	TWA	200 ppm
trans-1,3-Dichloropropene (CAS 10061-02-6)	TWA	1 ppm
Trichloroethene (CAS 79-01-6)	STEL	25 ppm
	TWA	10 ppm
Trichlorofluoromethane (CAS 75-69-4)	Ceiling	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
1,1,1-Trichloroethane (CAS 71-55-6)	Ceiling	1900 mg/m3
		350 ppm
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	TWA	7 mg/m3
		1 ppm
1,1,2-Trichloroethane (CAS 79-00-5)	TWA	45 mg/m3
		10 ppm
1,1-Dichloroethane (CAS 75-34-3)	TWA	400 mg/m3
		100 ppm
1,2,3-Trichloropropane (CAS 96-18-4)	TWA	60 mg/m3
		10 ppm
1,2-Dibromoethane (CAS 106-93-4)	Ceiling	0.13 ppm
	TWA	0.045 ppm
1,2-Dichloroethane (CAS 107-06-2)	STEL	8 mg/m3
		2 ppm
	TWA	4 mg/m3
		1 ppm
Bromochloromethane (CAS 74-97-5)	TWA	1050 mg/m3
		200 ppm
Bromoform (CAS 75-25-2)	TWA	5 mg/m3
		0.5 ppm
Carbon tetrachloride (CAS 56-23-5)	STEL	12.6 mg/m3
		2 ppm
Chloroform (CAS 67-66-3)	STEL	9.78 mg/m3
		2 ppm
cis-1,2-Dichloroethene (CAS 156-59-2)	TWA	790 mg/m3
		200 ppm
cis-1,3-Dichloropropene (CAS 10061-01-5)	TWA	5 mg/m3
		1 ppm
Dichlorodifluoromethane (CAS 75-71-8)	TWA	4950 mg/m3
		1000 ppm
Hexachloro-1,3-butadiene (CAS 87-68-3)	TWA	0.24 mg/m3
		0.02 ppm
Methanol (CAS 67-56-1)	STEL	325 mg/m3
		250 ppm
	TWA	260 mg/m3
		200 ppm
trans-1,2-Dichloroethene (CAS 156-60-5)	TWA	790 mg/m3
		200 ppm
trans-1,3-Dichloropropene (CAS 10061-02-6)	TWA	5 mg/m3
		1 ppm
Trichloroethene (CAS 79-01-6)	TWA	25 ppm
Trichlorofluoromethane (CAS 75-69-4)	Ceiling	5600 mg/m3
		1000 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
1,1,1-Trichloroethane (CAS 71-55-6)	30 mg/l	Total trichloroethanol	Urine	*

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
	10 mg/l	Trichloroacetic acid	Urine	*
	1 mg/l	Total trichloroethanol	Blood	*
	40 ppm	Methyl chloroform	End-exhaled air	*
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*
Methylene chloride (CAS 75-09-2)	0.3 mg/l	Dichloromethane	Urine	*
Tetrachloroethene (CAS 127-18-4)	0.5 mg/l	Tetrachloroethylene	Blood	*
	3 ppm	Tetrachloroethylene	End-exhaled air	*
Trichloroethene (CAS 79-01-6)	15 mg/l	Trichloroacetic acid	Urine	*
	0.5 mg/l	Trichloroethanol, without hydrolysis	Blood	*

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

Exposure guidelines

US - California OELs: Skin designation

1,1,2,2-Tetrachloroethane (CAS 79-34-5)	Can be absorbed through the skin.
1,1,2-Trichloroethane (CAS 79-00-5)	Can be absorbed through the skin.
1,2-Dibromoethane (CAS 106-93-4)	Can be absorbed through the skin.
Bromoform (CAS 75-25-2)	Can be absorbed through the skin.
Carbon tetrachloride (CAS 56-23-5)	Can be absorbed through the skin.
Chloroethane (CAS 75-00-3)	Can be absorbed through the skin.
cis-1,3-Dichloropropene (CAS 10061-01-5)	Can be absorbed through the skin.
Hexachloro-1,3-butadiene (CAS 87-68-3)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Methyl bromide (CAS 74-83-9)	Can be absorbed through the skin.
trans-1,3-Dichloropropene (CAS 10061-02-6)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

1,1,2,2-Tetrachloroethane (CAS 79-34-5)	Skin designation applies.
1,1,2-Trichloroethane (CAS 79-00-5)	Skin designation applies.
1,2-Dibromoethane (CAS 106-93-4)	Skin designation applies.
Bromoform (CAS 75-25-2)	Skin designation applies.
Carbon tetrachloride (CAS 56-23-5)	Skin designation applies.
cis-1,3-Dichloropropene (CAS 10061-01-5)	Skin designation applies.
Methanol (CAS 67-56-1)	Skin designation applies.
Methyl bromide (CAS 74-83-9)	Skin designation applies.
Tetrachloroethene (CAS 127-18-4)	Skin designation applies.
trans-1,3-Dichloropropene (CAS 10061-02-6)	Skin designation applies.

US - Tennesse OELs: Skin designation

1,1,2,2-Tetrachloroethane (CAS 79-34-5)	Can be absorbed through the skin.
1,1,2-Trichloroethane (CAS 79-00-5)	Can be absorbed through the skin.
Bromoform (CAS 75-25-2)	Can be absorbed through the skin.
cis-1,3-Dichloropropene (CAS 10061-01-5)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Methyl bromide (CAS 74-83-9)	Can be absorbed through the skin.
trans-1,3-Dichloropropene (CAS 10061-02-6)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

1,1,2,2-Tetrachloroethane (CAS 79-34-5)	Can be absorbed through the skin.
1,1,2-Trichloroethane (CAS 79-00-5)	Can be absorbed through the skin.
1,2,3-Trichloropropane (CAS 96-18-4)	Can be absorbed through the skin.
1,2-Dibromoethane (CAS 106-93-4)	Can be absorbed through the skin.
Carbon tetrachloride (CAS 56-23-5)	Can be absorbed through the skin.
Chloroethane (CAS 75-00-3)	Can be absorbed through the skin.
cis-1,3-Dichloropropene (CAS 10061-01-5)	Can be absorbed through the skin.
Hexachloro-1,3-butadiene (CAS 87-68-3)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
Methyl bromide (CAS 74-83-9)	Can be absorbed through the skin.
Methyl chloride (CAS 74-87-3)	Can be absorbed through the skin.
trans-1,3-Dichloropropene (CAS 10061-02-6)	Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

1,1,2,2-Tetrachloroethane (CAS 79-34-5)	Can be absorbed through the skin.
1,1,2-Trichloroethane (CAS 79-00-5)	Can be absorbed through the skin.
1,2,3-Trichloropropane (CAS 96-18-4)	Can be absorbed through the skin.
Bromoform (CAS 75-25-2)	Can be absorbed through the skin.
cis-1,3-Dichloropropene (CAS 10061-01-5)	Can be absorbed through the skin.
Hexachloro-1,3-butadiene (CAS 87-68-3)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
trans-1,3-Dichloropropene (CAS 10061-02-6)	Can be absorbed through the skin.

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

1,1,2,2-Tetrachloroethane (CAS 79-34-5)	Can be absorbed through the skin.
1,1,2-Trichloroethane (CAS 79-00-5)	Can be absorbed through the skin.
Bromoform (CAS 75-25-2)	Can be absorbed through the skin.
Methyl bromide (CAS 74-83-9)	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.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear 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.

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.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. 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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid

Color Not available.

Odor Not available.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -144.04 °F (-97.8 °C) estimated

Initial boiling point and boiling range 148.46 °F (64.7 °C) estimated

Flash point 53.6 °F (12.0 °C) estimated

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 7.3 % estimated

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 169.3 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	867.2 °F (464 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.836069 g/cm3 estimated
Flammability class	Flammable IB estimated
Percent volatile	96.6 % estimated
Specific gravity	0.84 estimated
VOC (Weight %)	96.6 % 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 oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Toxic if swallowed.
Inhalation	Toxic by inhalation. May cause damage to organs by inhalation.
Skin contact	Toxic 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	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity	Toxic by inhalation. Toxic if swallowed. Toxic in contact with skin. May cause an allergic skin reaction. Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Components	Species	Test Results
1,1,1,2-Tetrachloroethane (CAS 630-20-6)		
Acute		
Dermal		
LD50	Rabbit	6330 mg/kg
Inhalation		
LC50	Rabbit	2.5 mg/l, 4 Hours
	Rat	2100 ppm, 4 Hours
Oral		
LD50	Mouse	1500 mg/kg
	Rat	670 mg/kg
Other		
LD50	Rabbit	20000 mg/kg
1,1,1-Trichloroethane (CAS 71-55-6)		
Acute		
Dermal		
LD50	Rabbit	> 15800 mg/kg
Inhalation		
LC50	Mouse	29492 ppm, 10 Minutes
		20616 ppm, 30 Minutes

Components	Species	Test Results
		18358 ppm, 60 Minutes
		13500 ppm, 10 Hours
		13410 ppm, 6 Hours
		3911 ppm, 2 Hours
	Rat	38000 ppm, 15 Hours
		38000 ppm, 15 Minutes
		24000 ppm, 1 Hours
		18400 ppm, 4 Minutes
		18000 ppm, 3 Hours
		18000 ppm, 4 Hours
		14250 ppm
		14250 ppm, 7 Hours
		4 %
Oral		
LD50	Dog	750 mg/kg
	Guinea pig	8600 mg/kg
	Mouse	9700 mg/kg
	Rabbit	5660 mg/kg
		5.66 g/kg
	Rat	> 2000 mg/kg
Other		
LD50	Dog	3100 mg/kg
		3.1 g/kg
	Mouse	3636 mg/kg
	Rat	3593 mg/kg
		3.8 ml/kg
1,1,2,2-Tetrachloroethane (CAS 79-34-5)		
Acute		
Dermal		
LD50	Rabbit	4 g/kg
Inhalation		
LC50	Mouse	655 ppm, 4 Hours
		5.5 mg/l, 2 Hours
	Rat	1000 ppm, 4 Hours
		8.6 mg/l, 4 Hours
Oral		
LD50	Rat	250 mg/kg
		0.2 ml/kg
Other		
LD50	Mouse	1108 mg/kg
1,1,2-Trichloroethane (CAS 79-00-5)		
Acute		
Dermal		
LD50	Rabbit	5377 mg/kg
		3.73 ml/kg
Inhalation		
LC50	Mouse	416 ppm, 6 Hours
	Rat	9000 mg/m3, 6 Hours
LD50	Rat	2000 ppm, 4 Hours
Oral		
LD50	Mouse	378 mg/kg

Components	Species	Test Results
	Rat	100 - 200 mg/kg
		0.58 ml/kg
Other		
LD50	Dog	450 mg/kg
	Mouse	227 mg/kg
1,1-Dichloroethane (CAS 75-34-3)		
Acute		
Dermal		
LD50	Rabbit	3890 mg/kg
Inhalation		
LC50	Mouse	17300 ppm, 2 Hours
	Rat	16000 ppm, 8 Hours
		13000 ppm, 4 Hours
Oral		
LD50	Rat	725 mg/kg
1,1-Dichloroethene (CAS 75-35-4)		
Acute		
Inhalation		
LC50	Hamster, Chinese	1.8 mg/l
	Mouse	390 mg/m3, 22 Hours
		0.2 mg/l
	Rat	500 - 2500 ppm, 4 Hours
		8 mg/l
Oral		
LD50	Mouse	194 mg/kg
	Rat	80 mg/kg
1,2,3-Trichloropropane (CAS 96-18-4)		
Acute		
Dermal		
LD50	Rabbit	384 mg/kg
	Rat	836 mg/kg
Inhalation		
LC50	Rat	> 4800 mg/m3, 4 Hours
		8.56 mg/l, 1 Hours
Oral		
LD50	Guinea pig	340 mg/kg
	Mouse	369 mg/kg
	Rabbit	380 mg/kg
	Rat	120 mg/kg
Other		
LD50	Mouse	178 mg/kg
	Rabbit	2500 mg/kg
1,2-Dibromo-3-chloropropane (CAS 96-12-8)		
Acute		
Dermal		
LD50	Rabbit	1400 mg/kg
Oral		
LD50	Guinea pig	210 mg/kg
	Mouse	260 mg/kg
	Rabbit	100 mg/kg
	Rat	170 mg/kg

Components	Species	Test Results
Other		
LD50	Mouse	123 mg/kg
1,2-Dibromoethane (CAS 106-93-4)		
Acute		
Dermal		
LD50	Rabbit	300 mg/kg
	Rat	300 mg/kg
Inhalation		
LC50	Guinea pig, Rat	> 200 ppm, 4 Hours
	Rat	14.3 mg/l, 30 Minutes
Oral		
LD50	Guinea pig	110 mg/kg
	Mouse	420 mg/kg
	Rabbit	55 mg/kg
	Rat	55 mg/kg
Other		
LD50	Mouse	220 mg/kg
1,2-Dichloroethane (CAS 107-06-2)		
Acute		
Dermal		
LD50	Rabbit	3890 mg/kg
Inhalation		
LC50	Guinea pig	6400 mg/m3, 7 Hours
	Mouse	1080 mg/m3, 6 Hours
	Rat	12000 ppm, 31.8 Minutes
		7758 mg/m3, 4 Hours
		6770 mg/m3, 6 Hours
		3290 mg/m3, 10 Hours
		3000 ppm, 165 Minutes
		1000 ppm, 432 Minutes
		6.6 mg/l, 6 Hours
LD50	Rat	1000 ppm, 7 Hours
Oral		
LD50	Dog	2500 mg/kg
	Mouse	413 mg/kg
	Rabbit	860 mg/kg
	Rat	670 mg/kg
Other		
LD50	Mouse	370 mg/kg
	Rabbit	3400 mg/kg
	Rat	700 mg/kg
1,2-Dichloropropane (CAS 78-87-5)		
Acute		
Dermal		
LD50	Rabbit	8750 mg/kg
	Rat	> 2000 mg/kg
		9 ml/kg
Inhalation		
LC50	-	500 ppm
	Mouse	720 ppm, 10 Hours
		2.256 mg/l, 10 Hours

Components	Species	Test Results
	Rat	14 mg/l, 8 Hours
Oral		
LD50	Guinea pig	2000 mg/kg
	Mouse	860 mg/kg
	Rat	1942 mg/kg
		1.19 ml/kg
Other		
LD50	Rat	779 mg/kg
Bromochloromethane (CAS 74-97-5)		
Acute		
Dermal		
LD50	Rabbit	> 20000 mg/kg
Inhalation		
LC50	Mouse	3000 ppm, 7 Hours
		15.85 mg/l, 8 Hours
	Rat	> 38.6 mg/l, 4 Hours
Oral		
LD50	Mouse	4300 mg/kg
	Rat	5000 mg/kg
Bromodichloromethane (CAS 75-27-4)		
Acute		
Oral		
LD50	Rat	969 mg/kg
	Swiss ICR mouse	326 - 621 mg/kg
Bromoform (CAS 75-25-2)		
Acute		
Oral		
LD50	Mouse	1400 mg/kg
	Rat	1147 mg/kg
Other		
LD50	Mouse	1820 mg/kg
	Rat	414 mg/kg
Carbon tetrachloride (CAS 56-23-5)		
Acute		
Dermal		
LD50	Guinea pig	> 14900 mg/kg
		> 9.4 ml/kg
	Rabbit	> 14900 mg/kg
		> 9.4 ml/kg
Inhalation		
LC50	Mouse	46905 mg/m3, 6 Hours
		9528 ppm, 8 Hours
		7329 ppm, 6 Hours
		59.95 mg/l, 7 Hours
	Rat	7900 ppm, 4 Hours
		7228 ppm, 6 Hours
NOEL	Rat	1396 ppm, 3 Hours
Oral		
LD50	Dog	2300 mg/kg
	Hamster	3680 mg/kg
	Mouse	11845 mg/kg
	Rabbit	6380 mg/kg

Components	Species	Test Results
	Rat	2800 mg/kg
		1.77 ml/kg
Other		
LD50	Mouse	900 mg/kg
	Rabbit	636 mg/kg
	Rat	3550 mg/kg
Chlorodibromomethane (CAS 124-48-1)		
Acute		
Oral		
LD50	Hamster	145 mg/kg
	Mouse	667 mg/kg
	Rat	370 mg/kg
Chloroethane (CAS 75-00-3)		
Acute		
Inhalation		
LC50	Mouse	> 19000 ppm, 4 Hours
	Rat	> 19000 ppm, 4 Hours
		152 mg/l, 2 Hours
Chloroform (CAS 67-66-3)		
Acute		
Dermal		
LD50	Rabbit	> 3980 mg/kg
Inhalation		
LC100	Mouse	27.3 mg/l, 120 Minutes
LC50	Mouse	4500 ppm, 560 Minutes
		1260 ppm, 6 Hours
		6.25 mg/l, 6 Hours
	Rat	1849 ppm, 6 Hours
		47.702 mg/l, 4 Hours
		47.7 mg/m3, 4 Hours
		9.17 mg/l, 6 Hours
Oral		
LD50	Dog	2250 mg/kg
	Mouse	118 mg/kg
	Rabbit	9827 mg/kg
	Rat	444 mg/kg
Other		
LD50	Dog	1000 mg/kg
	Mouse	623 mg/kg
	Rat	894 mg/kg
cis-1,2-Dichloroethene (CAS 156-59-2)		
Acute		
Oral		
LD50	Rat	770 mg/kg
Other		
LD50	Mouse	2 g/kg
cis-1,3-Dichloropropene (CAS 10061-01-5)		
Acute		
Dermal		
LD50	Rat	758 mg/kg
Inhalation		
LC50	Rat	670 ppm, 4 Hours

Components	Species	Test Results
Oral		
LD50	Rat	78 mg/kg
Dibromomethane (CAS 74-95-3)		
Acute		
Inhalation		
LC50	Rat	40000 mg/m3/2h
		40 mg/l, 2 Hours
Oral		
LD50	Rat	108 mg/kg
Other		
LD50	Mouse	3738 mg/kg
Dichlorodifluoromethane (CAS 75-71-8)		
Acute		
Oral		
LD50	Rat	> 1 g/kg
Hexachloro-1,3-butadiene (CAS 87-68-3)		
Acute		
Dermal		
LD50	Rabbit	1211 mg/kg
Oral		
LD50	Guinea pig	90 mg/kg
	Hamster	960 mg/kg
	Mouse	46 mg/kg
	Rat	90 mg/kg
Other		
LD50	Mouse	76 mg/kg
	Rat	175 mg/kg
Methanol (CAS 67-56-1)		
Acute		
Dermal		
LD50	Rabbit	15800 mg/kg
Inhalation		
LC50	Mouse	79.43 mg/l, 134 Minutes
	Rat	> 115.9 mg/l, 4 Hours
		64000 ppm, 4 Hours
		82.1 mg/l, 6 Hours
Oral		
LD50	Monkey	6000 mg/kg
	Mouse	7300 mg/kg
	Pig	> 5000 mg/kg
	Rabbit	14.4 g/kg
	Rat	5628 mg/kg
Other		
LD50	Guinea pig	3556 mg/kg
	Hamster	8555 mg/kg
	Mouse	4100 mg/kg
	Rabbit	1826 mg/kg
	Rat	2131 mg/kg
Methyl bromide (CAS 74-83-9)		
Acute		
Dermal		
LD50	Rat	135 mg/kg

Components	Species	Test Results
Inhalation		
LC100	Rat	0.63 mg/l, 6 Hours
LC50	Mouse	4.68 mg/l, 1 Hours
		1.54 mg/l, 2 Hours
	Rat	302 ppm, 8 Hours
Oral		
LD50	Rat	104 mg/kg
Methyl chloride (CAS 74-87-3)		
Acute		
Inhalation		
LC50	-	6300 mg/m3
	Mouse	6300 mg/m3, 7 Hours
		3000 ppm, 4 Hours
		2200 ppm, 6 Hours
		6.3 mg/l, 7 Hours
		4.6 mg/l, 6 Hours
	Rat	73600 ppm, 30 Minutes
		5133 ppm, 1 Hours
		2700 ppm, 4 Hours
		5.3 mg/l, 4 Hours
Oral		
LD50	Rat	1800 mg/kg
Methylene chloride (CAS 75-09-2)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Inhalation		
LC50	Guinea pig	11600 ppm, 6 Hours
		40.2 mg/l, 6 Hours
	Mouse	14400 ppm, 7 Hours
		51.5 mg/l, 2 Hours
		49.1 mg/l, 6 Hours
		49 mg/l, 7 Hours
	Rat	2000 mg/l, 15 Minutes
		88 mg/l, 900 Days
		79 mg/l, 2 Hours
		52 mg/l, 6 Hours
LD50	Mouse	16000 ppm, 7 Hours
Oral		
LD50	Rat	1600 mg/kg
Other		
LD50	Mouse	437 mg/kg
Tetrachloroethene (CAS 127-18-4)		
Acute		
Dermal		
LD50	Rabbit	> 10000 mg/kg
Inhalation		
LC50	Mouse	5200 ppm, 4 Hours
		2978 ppm, 6 Hours
	Rat	5000 ppm, 8 Hours
		4100 ppm, 6 Hours

Components	Species	Test Results
Oral		
LD50	Mouse	6000 mg/kg
	Rat	2400 mg/kg
trans-1,2-Dichloroethene (CAS 156-60-5)		
Acute		
Inhalation		
LC50	Mouse	21723 ppm, 6 Hours
Oral		
LD50	Rat	1235 mg/kg
Other		
LD50	Mouse	4019 mg/kg
	Rat	7411 mg/kg
Trichloroethene (CAS 79-01-6)		
Acute		
Dermal		
LD50	Rabbit	20 ml/kg
Inhalation		
LC50	Mouse	8450 ppm, 4 Hours
	Rat	26000 ppm, 1 Hours
		12000 ppm, 4 Hours
LD50	Mouse	49000 ppm, 30 Minutes
		5500 ppm, 10 Hours
NOEL	Guinea pig	730 mg/l
	Rabbit	730 mg/l
	Rat	730 mg/l
Oral		
LD50	Mouse	2402 mg/kg
	Rat	4920 mg/kg
Other		
LD100	Mouse	5500 mg/kg
LD50	Mouse	2402 mg/kg
	Rabbit	29 g/kg
Trichlorofluoromethane (CAS 75-69-4)		
Acute		
Inhalation		
LC50	Hamster	571 mg/l, 4 Hours
	Mouse	10000 mg/l, 30 Minutes
Oral		
LD50	Rat	3725 mg/kg
Other		
LD50	Mouse	1743 mg/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

ACGIH sensitization

1,2-Dichloropropane (CAS 78-87-5) Sensitizer.

Respiratory sensitization Not available.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

1,1,1,2-Tetrachloroethane (CAS 630-20-6)	2B Possibly carcinogenic to humans.
1,1,1-Trichloroethane (CAS 71-55-6)	3 Not classifiable as to carcinogenicity to humans.
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	2B Possibly carcinogenic to humans.
1,1,2-Trichloroethane (CAS 79-00-5)	3 Not classifiable as to carcinogenicity to humans.
1,1-Dichloroethene (CAS 75-35-4)	3 Not classifiable as to carcinogenicity to humans.
1,2,3-Trichloropropane (CAS 96-18-4)	2A Probably carcinogenic to humans.
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	2B Possibly carcinogenic to humans.
1,2-Dibromoethane (CAS 106-93-4)	2A Probably carcinogenic to humans.
1,2-Dichloroethane (CAS 107-06-2)	2B Possibly carcinogenic to humans.
1,2-Dichloropropane (CAS 78-87-5)	3 Not classifiable as to carcinogenicity to humans.
Bromodichloromethane (CAS 75-27-4)	2B Possibly carcinogenic to humans.
Bromoform (CAS 75-25-2)	3 Not classifiable as to carcinogenicity to humans.
Carbon tetrachloride (CAS 56-23-5)	2B Possibly carcinogenic to humans.
Chlorodibromomethane (CAS 124-48-1)	3 Not classifiable as to carcinogenicity to humans.
Chloroethane (CAS 75-00-3)	3 Not classifiable as to carcinogenicity to humans.
Chloroform (CAS 67-66-3)	2B Possibly carcinogenic to humans.
cis-1,3-Dichloropropene (CAS 10061-01-5)	2B Possibly carcinogenic to humans.
Hexachloro-1,3-butadiene (CAS 87-68-3)	3 Not classifiable as to carcinogenicity to humans.
Methyl bromide (CAS 74-83-9)	3 Not classifiable as to carcinogenicity to humans.
Methyl chloride (CAS 74-87-3)	3 Not classifiable as to carcinogenicity to humans.
Methylene chloride (CAS 75-09-2)	2B Possibly carcinogenic to humans.
Tetrachloroethene (CAS 127-18-4)	2A Probably carcinogenic to humans.
trans-1,3-Dichloropropene (CAS 10061-02-6)	2B Possibly carcinogenic to humans.
Trichloroethene (CAS 79-01-6)	1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

1,2,3-Trichloropropane (CAS 96-18-4)	Reasonably Anticipated to be a Human Carcinogen.
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Reasonably Anticipated to be a Human Carcinogen.
1,2-Dibromoethane (CAS 106-93-4)	Reasonably Anticipated to be a Human Carcinogen.
1,2-Dichloroethane (CAS 107-06-2)	Reasonably Anticipated to be a Human Carcinogen.
Bromodichloromethane (CAS 75-27-4)	Reasonably Anticipated to be a Human Carcinogen.
Carbon tetrachloride (CAS 56-23-5)	Reasonably Anticipated to be a Human Carcinogen.
Chloroform (CAS 67-66-3)	Reasonably Anticipated to be a Human Carcinogen.
cis-1,3-Dichloropropene (CAS 10061-01-5)	Reasonably Anticipated to be a Human Carcinogen.
Methylene chloride (CAS 75-09-2)	Reasonably Anticipated to be a Human Carcinogen.
Tetrachloroethene (CAS 127-18-4)	Reasonably Anticipated to be a Human Carcinogen.
trans-1,3-Dichloropropene (CAS 10061-02-6)	Reasonably Anticipated to be a Human Carcinogen.
Trichloroethene (CAS 79-01-6)	Reasonably Anticipated to be a Human Carcinogen.

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

1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Cancer
Methylene chloride (CAS 75-09-2)	Cancer

Reproductive toxicity May damage fertility.

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 available.

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

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected. The product contains a substance which is damaging to the ozone layer.

Components		Species	Test Results
1,1,1,2-Tetrachloroethane (CAS 630-20-6)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	16 - 24 mg/l, 96 hours
1,1,1-Trichloroethane (CAS 71-55-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	35.2 - 50.7 mg/l, 96 hours
1,1,2,2-Tetrachloroethane (CAS 79-34-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	16 - 35 mg/l, 48 hours

Components		Species	Test Results
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	4.7 - 32 mg/l, 96 hours
1,1,2-Trichloroethane (CAS 79-00-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	57 - 110 mg/l, 48 hours
Fish	LC50	Flagfish (Jordanella floridae)	4.2 - 48.5 mg/l, 96 hours
1,1-Dichloroethane (CAS 75-34-3)			
Aquatic			
Fish	LC50	Inland silverside (Menidia beryllina)	480 mg/l, 96 hours
1,1-Dichloroethene (CAS 75-35-4)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	57 - 91 mg/l, 96 hours
1,2,3-Trichloropropane (CAS 96-18-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	27.8 - 41.1 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	25.9 - 28.9 mg/l, 96 hours
1,2-Dibromoethane (CAS 106-93-4)			
Aquatic			
Fish	LC50	Medaka, high-eyes (Oryzias latipes)	27.6 - 37.4 mg/l, 96 hours
1,2-Dichloroethane (CAS 107-06-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	140 - 190 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	110 - 123 mg/l, 96 hours
1,2-Dichloropropane (CAS 78-87-5)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	119 - 135 mg/l, 96 hours
1,3-Dichloropropane (CAS 142-28-9)			
Aquatic			
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	77 - 100 mg/l, 96 hours
Bromoform (CAS 75-25-2)			
Aquatic			
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	4.6 - 11 mg/l, 96 hours
Carbon tetrachloride (CAS 56-23-5)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	9.68 - 11.3 mg/l, 96 hours
Chloroform (CAS 67-66-3)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	13.3 - 20.8 mg/l, 96 hours
cis-1,2-Dichloroethene (CAS 156-59-2)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	120 - 160 mg/l, 96 hours
cis-1,3-Dichloropropene (CAS 10061-01-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.063 - 0.129 mg/l, 48 hours
Hexachloro-1,3-butadiene (CAS 87-68-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	0.09 - 0.11 mg/l, 96 hours
Methanol (CAS 67-56-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours

Components		Species	Test Results
Methyl bromide (CAS 74-83-9)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	2 mg/l, 48 hours
Fish	LC50	Guppy (Poecilia reticulata)	0.0008 mg/l, 96 hours
Methyl chloride (CAS 74-87-3)			
Aquatic			
Fish	LC50	Inland silverside (Menidia beryllina)	270 mg/l, 96 hours
Methylene chloride (CAS 75-09-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1250 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	140.8 - 277.8 mg/l, 96 hours
Tetrachloroethene (CAS 127-18-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	6.1 - 9 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4.82 mg/l, 96 hours
trans-1,2-Dichloroethene (CAS 156-60-5)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	120 - 160 mg/l, 96 hours
trans-1,3-Dichloropropene (CAS 10061-02-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.063 - 0.129 mg/l, 48 hours
Trichloroethene (CAS 79-01-6)			
Aquatic			
Fish	LC50	Flagfish (Jordanella floridae)	3.1 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)

1,1,1-Trichloroethane	2.49
1,1,2,2-Tetrachloroethane	2.39
1,1,2-Trichloroethane	2.17
1,1-Dichloroethane	1.79
1,1-Dichloroethene	2.13
1,2,3-Trichloropropane	2.27
1,2-Dibromo-3-chloropropane	2.96
1,2-Dibromoethane	1.96
1,2-Dichloroethane	1.48
1,2-Dichloropropane	1.98
1,3-Dichloropropane	2
Bromochloromethane	1.41
Bromodichloromethane	2
Bromoform	2.4
Carbon tetrachloride	2.83
Chlorodibromomethane	2.16
Chloroethane	1.43
Chloroform	1.97
cis-1,2-Dichloroethene	1.86
cis-1,3-Dichloropropene	2.06
Dibromomethane	1.7
Dichlorodifluoromethane	2.16
Hexachloro-1,3-butadiene	4.78
Methanol	-0.77
Methyl bromide	1.19
Methyl chloride	0.91
Methylene chloride	1.25
Tetrachloroethene	3.4
trans-1,2-Dichloroethene	2.06
trans-1,3-Dichloropropene	2.03
Trichloroethene	2.61

Partition coefficient n-octanol / water (log Kow)

Trichlorofluoromethane	2.53

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

1,1,1,2-Tetrachloroethane (CAS 630-20-6)	U208
1,1,1-Trichloroethane (CAS 71-55-6)	U226
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	U209
1,1,2-Trichloroethane (CAS 79-00-5)	U227
1,1-Dichloroethane (CAS 75-34-3)	U076
1,1-Dichloroethene (CAS 75-35-4)	U078
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	U066
1,2-Dibromoethane (CAS 106-93-4)	U067
1,2-Dichloroethane (CAS 107-06-2)	U077
1,2-Dichloropropane (CAS 78-87-5)	U083
Bromoform (CAS 75-25-2)	U225
Carbon tetrachloride (CAS 56-23-5)	U211
Chloroform (CAS 67-66-3)	U044
cis-1,3-Dichloropropene (CAS 10061-01-5)	U084
Dibromomethane (CAS 74-95-3)	U068
Dichlorodifluoromethane (CAS 75-71-8)	U075
Hexachloro-1,3-butadiene (CAS 87-68-3)	U128
Methanol (CAS 67-56-1)	U154
Methyl bromide (CAS 74-83-9)	U029
Methyl chloride (CAS 74-87-3)	U045
Methylene chloride (CAS 75-09-2)	U080
Tetrachloroethene (CAS 127-18-4)	U210
trans-1,2-Dichloroethene (CAS 156-60-5)	U079
trans-1,3-Dichloropropene (CAS 10061-02-6)	U084
Trichloroethene (CAS 79-01-6)	U228
Trichlorofluoromethane (CAS 75-69-4)	U121

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	UN1230
UN proper shipping name	Methanol, solution, MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	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, T7, TP2
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1230
UN proper shipping name	Methanol solution
Transport hazard class(es)	
Class	3
Subsidiary risk	6.1(PGI, II)
Packing group	II
Environmental hazards	No.
ERG Code	3L
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

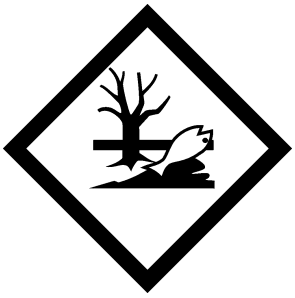
UN number	UN1230
UN proper shipping name	METHANOL SOLUTION, MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary risk	6.1(PGI, II)
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

DOT

IATA; IMDG

Marine pollutant



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
One or more components are not listed on TSCA.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,1,1,2-Tetrachloroethane (CAS 630-20-6)	Listed.
1,1,1-Trichloroethane (CAS 71-55-6)	Listed.
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	Listed.
1,1,2-Trichloroethane (CAS 79-00-5)	Listed.
1,1-Dichloroethane (CAS 75-34-3)	Listed.
1,1-Dichloroethene (CAS 75-35-4)	Listed.
1,1-Dichloropropene (CAS 563-58-6)	Listed.
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Listed.
1,2-Dibromoethane (CAS 106-93-4)	Listed.
1,2-Dichloroethane (CAS 107-06-2)	Listed.
1,2-Dichloropropane (CAS 78-87-5)	Listed.
1,3-Dichloropropane (CAS 142-28-9)	Listed.
2,2-Dichloropropane (CAS 594-20-7)	Listed.
Bromochloromethane (CAS 74-97-5)	Listed.
Bromodichloromethane (CAS 75-27-4)	Listed.
Bromoform (CAS 75-25-2)	Listed.
Carbon tetrachloride (CAS 56-23-5)	Listed.
Chlorodibromomethane (CAS 124-48-1)	Listed.
Chloroethane (CAS 75-00-3)	Listed.
Chloroform (CAS 67-66-3)	Listed.
cis-1,2-Dichloroethene (CAS 156-59-2)	Listed.
Dibromomethane (CAS 74-95-3)	Listed.
Dichlorodifluoromethane (CAS 75-71-8)	Listed.
Hexachloro-1,3-butadiene (CAS 87-68-3)	Listed.
Methanol (CAS 67-56-1)	Listed.
Methyl bromide (CAS 74-83-9)	Listed.
Methyl chloride (CAS 74-87-3)	Listed.
Methylene chloride (CAS 75-09-2)	Listed.
Tetrachloroethene (CAS 127-18-4)	Listed.
trans-1,2-Dichloroethene (CAS 156-60-5)	Listed.
Trichloroethene (CAS 79-01-6)	Listed.
Trichlorofluoromethane (CAS 75-69-4)	Listed.

SARA 304 Emergency release notification

Chloroform (CAS 67-66-3)	10 LBS
Methyl bromide (CAS 74-83-9)	1000 LBS

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

1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Cancer
Methylene chloride (CAS 75-09-2)	Cancer
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Reproductive toxicity
Methylene chloride (CAS 75-09-2)	Heart
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Liver
Methylene chloride (CAS 75-09-2)	Central nervous system
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Kidney
Methylene chloride (CAS 75-09-2)	Liver
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Central nervous system
Methylene chloride (CAS 75-09-2)	Skin irritation
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Skin irritation
Methylene chloride (CAS 75-09-2)	Eye irritation
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Eye irritation
	respiratory tract irritation
	Acute toxicity

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
Chloroform	67-66-3	10	10000 lbs		
Methyl bromide	74-83-9	1000	1000 lbs		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Methanol	67-56-1	90 - 100
1,2,3-Trichloropropane	96-18-4	0.2
1,2-Dibromo-3-chloropropane	96-12-8	0.2
1,2-Dibromoethane	106-93-4	0.2
1,2-Dichloroethane	107-06-2	0.2
Bromodichloromethane	75-27-4	0.2
Carbon tetrachloride	56-23-5	0.2
Chloroform	67-66-3	0.2
cis-1,3-Dichloropropene	10061-01-5	0.2
Methylene chloride	75-09-2	0.2
Tetrachloroethene	127-18-4	0.2
trans-1,3-Dichloropropene	10061-02-6	0.2
Trichloroethene	79-01-6	0.2

Other federal regulations

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

1,1,1-Trichloroethane (CAS 71-55-6)
1,1,2,2-Tetrachloroethane (CAS 79-34-5)
1,1,2-Trichloroethane (CAS 79-00-5)
1,1-Dichloroethane (CAS 75-34-3)
1,1-Dichloroethene (CAS 75-35-4)
1,2-Dibromo-3-chloropropane (CAS 96-12-8)
1,2-Dibromoethane (CAS 106-93-4)
1,2-Dichloroethane (CAS 107-06-2)
1,2-Dichloropropane (CAS 78-87-5)
Bromoform (CAS 75-25-2)
Carbon tetrachloride (CAS 56-23-5)
Chloroethane (CAS 75-00-3)
Chloroform (CAS 67-66-3)
cis-1,3-Dichloropropene (CAS 10061-01-5)
Hexachloro-1,3-butadiene (CAS 87-68-3)
Methanol (CAS 67-56-1)
Methyl bromide (CAS 74-83-9)
Methyl chloride (CAS 74-87-3)
Methylene chloride (CAS 75-09-2)
Tetrachloroethene (CAS 127-18-4)
trans-1,3-Dichloropropene (CAS 10061-02-6)
Trichloroethene (CAS 79-01-6)

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

1,1-Dichloroethene (CAS 75-35-4)
Chloroethane (CAS 75-00-3)
Chloroform (CAS 67-66-3)
Methyl chloride (CAS 74-87-3)

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

1,1,1,2-Tetrachloroethane (CAS 630-20-6)
1,1,1-Trichloroethane (CAS 71-55-6)
1,1,2,2-Tetrachloroethane (CAS 79-34-5)
1,1,2-Trichloroethane (CAS 79-00-5)
1,1-Dichloroethane (CAS 75-34-3)
1,1-Dichloroethene (CAS 75-35-4)
1,1-Dichloropropene (CAS 563-58-6)
1,2,3-Trichloropropane (CAS 96-18-4)
1,2-Dibromo-3-chloropropane (CAS 96-12-8)
1,2-Dibromoethane (CAS 106-93-4)

1,2-Dichloroethane (CAS 107-06-2)
1,2-Dichloropropane (CAS 78-87-5)
1,3-Dichloropropane (CAS 142-28-9)
2,2-Dichloropropane (CAS 594-20-7)
Bromochloromethane (CAS 74-97-5)
Bromodichloromethane (CAS 75-27-4)
Bromoform (CAS 75-25-2)
Carbon tetrachloride (CAS 56-23-5)
Chlorodibromomethane (CAS 124-48-1)
Chloroethane (CAS 75-00-3)
Chloroform (CAS 67-66-3)
cis-1,2-Dichloroethene (CAS 156-59-2)
cis-1,3-Dichloropropene (CAS 10061-01-5)
Dibromomethane (CAS 74-95-3)
Dichlorodifluoromethane (CAS 75-71-8)
Hexachloro-1,3-butadiene (CAS 87-68-3)
Methanol (CAS 67-56-1)
Methyl bromide (CAS 74-83-9)
Methyl chloride (CAS 74-87-3)
Methylene chloride (CAS 75-09-2)
Tetrachloroethene (CAS 127-18-4)
trans-1,2-Dichloroethene (CAS 156-60-5)
trans-1,3-Dichloropropene (CAS 10061-02-6)
Trichloroethene (CAS 79-01-6)
Trichlorofluoromethane (CAS 75-69-4)

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

1,1,1,2-Tetrachloroethane (CAS 630-20-6)	500 LBS
1,1,1-Trichloroethane (CAS 71-55-6)	500 LBS
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	500 LBS
1,1,2-Trichloroethane (CAS 79-00-5)	500 LBS
1,1-Dichloroethane (CAS 75-34-3)	500 LBS
1,1-Dichloroethene (CAS 75-35-4)	500 LBS
1,2,3-Trichloropropane (CAS 96-18-4)	500 LBS
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	500 LBS
1,2-Dibromoethane (CAS 106-93-4)	500 LBS
1,2-Dichloroethane (CAS 107-06-2)	500 LBS
1,2-Dichloropropane (CAS 78-87-5)	500 LBS
Bromodichloromethane (CAS 75-27-4)	500 LBS
Bromoform (CAS 75-25-2)	500 LBS
Carbon tetrachloride (CAS 56-23-5)	500 LBS
Chloroethane (CAS 75-00-3)	500 LBS
Chloroform (CAS 67-66-3)	500 LBS
cis-1,2-Dichloroethene (CAS 156-59-2)	500 LBS
cis-1,3-Dichloropropene (CAS 10061-01-5)	500 LBS
Dibromomethane (CAS 74-95-3)	500 LBS
Dichlorodifluoromethane (CAS 75-71-8)	500 LBS
Hexachloro-1,3-butadiene (CAS 87-68-3)	500 LBS
Methanol (CAS 67-56-1)	500 LBS
Methyl bromide (CAS 74-83-9)	500 LBS
Methyl chloride (CAS 74-87-3)	500 LBS
Methylene chloride (CAS 75-09-2)	500 LBS
Tetrachloroethene (CAS 127-18-4)	500 LBS
trans-1,2-Dichloroethene (CAS 156-60-5)	500 LBS
trans-1,3-Dichloropropene (CAS 10061-02-6)	500 LBS
Trichloroethene (CAS 79-01-6)	500 LBS
Trichlorofluoromethane (CAS 75-69-4)	500 LBS

US. Pennsylvania RTK - Hazardous Substances

1,1,1,2-Tetrachloroethane (CAS 630-20-6)
1,1,1-Trichloroethane (CAS 71-55-6)
1,1,2,2-Tetrachloroethane (CAS 79-34-5)
1,1,2-Trichloroethane (CAS 79-00-5)
1,1-Dichloroethane (CAS 75-34-3)
1,1-Dichloroethene (CAS 75-35-4)
1,1-Dichloropropene (CAS 563-58-6)
1,2,3-Trichloropropane (CAS 96-18-4)
1,2-Dibromo-3-chloropropane (CAS 96-12-8)
1,2-Dibromoethane (CAS 106-93-4)
1,2-Dichloroethane (CAS 107-06-2)
1,2-Dichloropropane (CAS 78-87-5)

1,3-Dichloropropane (CAS 142-28-9)
2,2-Dichloropropane (CAS 594-20-7)
Bromochloromethane (CAS 74-97-5)
Bromodichloromethane (CAS 75-27-4)
Bromoform (CAS 75-25-2)
Carbon tetrachloride (CAS 56-23-5)
Chlorodibromomethane (CAS 124-48-1)
Chloroethane (CAS 75-00-3)
Chloroform (CAS 67-66-3)
cis-1,2-Dichloroethene (CAS 156-59-2)
Dibromomethane (CAS 74-95-3)
Dichlorodifluoromethane (CAS 75-71-8)
Hexachloro-1,3-butadiene (CAS 87-68-3)
Methanol (CAS 67-56-1)
Methyl bromide (CAS 74-83-9)
Methyl chloride (CAS 74-87-3)
Methylene chloride (CAS 75-09-2)
Tetrachloroethene (CAS 127-18-4)
trans-1,2-Dichloroethene (CAS 156-60-5)
Trichloroethene (CAS 79-01-6)
Trichlorofluoromethane (CAS 75-69-4)

US. Rhode Island RTK

1,1,1,2-Tetrachloroethane (CAS 630-20-6)
1,1,1-Trichloroethane (CAS 71-55-6)
1,1,2,2-Tetrachloroethane (CAS 79-34-5)
1,1,2-Trichloroethane (CAS 79-00-5)
1,1-Dichloroethane (CAS 75-34-3)
1,1-Dichloroethene (CAS 75-35-4)
1,1-Dichloropropene (CAS 563-58-6)
1,2,3-Trichloropropane (CAS 96-18-4)
1,2-Dibromo-3-chloropropane (CAS 96-12-8)
1,2-Dibromoethane (CAS 106-93-4)
1,2-Dichloroethane (CAS 107-06-2)
1,2-Dichloropropane (CAS 78-87-5)
1,3-Dichloropropane (CAS 142-28-9)
2,2-Dichloropropane (CAS 594-20-7)
Bromochloromethane (CAS 74-97-5)
Bromodichloromethane (CAS 75-27-4)
Bromoform (CAS 75-25-2)
Carbon tetrachloride (CAS 56-23-5)
Chlorodibromomethane (CAS 124-48-1)
Chloroethane (CAS 75-00-3)
Chloroform (CAS 67-66-3)
cis-1,2-Dichloroethene (CAS 156-59-2)
Dibromomethane (CAS 74-95-3)
Dichlorodifluoromethane (CAS 75-71-8)
Hexachloro-1,3-butadiene (CAS 87-68-3)
Methanol (CAS 67-56-1)
Methyl bromide (CAS 74-83-9)
Methyl chloride (CAS 74-87-3)
Methylene chloride (CAS 75-09-2)
Tetrachloroethene (CAS 127-18-4)
trans-1,2-Dichloroethene (CAS 156-60-5)
trans-1,3-Dichloropropene (CAS 10061-02-6)
Trichloroethene (CAS 79-01-6)
Trichlorofluoromethane (CAS 75-69-4)

US. California Proposition 65

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

1,1,1,2-Tetrachloroethane (CAS 630-20-6)	Listed: September 13, 2013
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	Listed: July 1, 1990
1,1,2-Trichloroethane (CAS 79-00-5)	Listed: October 1, 1990
1,1-Dichloroethane (CAS 75-34-3)	Listed: January 1, 1990
1,2,3-Trichloropropane (CAS 96-18-4)	Listed: October 1, 1992
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Listed: July 1, 1987
1,2-Dibromoethane (CAS 106-93-4)	Listed: July 1, 1987
1,2-Dichloroethane (CAS 107-06-2)	Listed: October 1, 1987
1,2-Dichloropropane (CAS 78-87-5)	Listed: January 1, 1990

Bromodichloromethane (CAS 75-27-4)	Listed: January 1, 1990
Bromoform (CAS 75-25-2)	Listed: April 1, 1991
Carbon tetrachloride (CAS 56-23-5)	Listed: October 1, 1987
Chloroethane (CAS 75-00-3)	Listed: July 1, 1990
Chloroform (CAS 67-66-3)	Listed: October 1, 1987
cis-1,3-Dichloropropene (CAS 10061-01-5)	Listed: January 1, 1989
Hexachloro-1,3-butadiene (CAS 87-68-3)	Listed: May 3, 2011
Methylene chloride (CAS 75-09-2)	Listed: April 1, 1988
Tetrachloroethene (CAS 127-18-4)	Listed: April 1, 1988
trans-1,3-Dichloropropene (CAS 10061-02-6)	Listed: January 1, 1989
Trichloroethene (CAS 79-01-6)	Listed: April 1, 1988

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

1,2-Dibromoethane (CAS 106-93-4)	Listed: May 15, 1998
Chloroform (CAS 67-66-3)	Listed: August 7, 2009
Methanol (CAS 67-56-1)	Listed: March 16, 2012
Methyl bromide (CAS 74-83-9)	Listed: January 1, 1993
Methyl chloride (CAS 74-87-3)	Listed: March 10, 2000

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Listed: February 27, 1987
1,2-Dibromoethane (CAS 106-93-4)	Listed: May 15, 1998
Methyl chloride (CAS 74-87-3)	Listed: August 7, 2009

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
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)	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	No

*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 09-02-2014

Version # 01

NFPA ratings Health: 2
Flammability: 3
Instability: 0

Disclaimer

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.

This product is furnished FOR LABORATORY USE ONLY.