

1. Identification

Product identifier	Volatile Organic Compounds Mixture #2 - 502/524,8021A,8260A	
Other means of identification		
Item	M-VOC2M5	
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
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1A
	Germ cell mutagenicity	Category 1
	Carcinogenicity	Category 1A
	Reproductive toxicity	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 cancer. May cause an allergic skin reaction. Causes serious eye irritation. Toxic if inhaled. May cause genetic defects. 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. 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. Use only outdoors or in a well-ventilated area. 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. Rinse mouth. 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). 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

% of the mixture consists of component(s) of unknown acute oral toxicity. % of the mixture consists of component(s) of unknown acute dermal toxicity. % of the mixture consists of component(s) of unknown acute inhalation toxicity. 85.25% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 85.25% 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	85.25
1,1,1,2-Tetrachloroethane		630-20-6	0.25
1,1,1-Trichloroethane		71-55-6	0.25
1,1,2,2-Tetrachloroethane		79-34-5	0.25
1,1,2-Trichloroethane		79-00-5	0.25
1,1-Dichloroethane		75-34-3	0.25
1,1-Dichloroethene		75-35-4	0.25
1,1-Dichloropropene		563-58-6	0.25
1,2,3-Trichlorobenzene		87-61-6	0.25
1,2,3-Trichloropropane		96-18-4	0.25
1,2,4-Trichlorobenzene		120-82-1	0.25
1,2,4-Trimethylbenzene		95-63-6	0.25
1,2-Dibromo-3-chloropropane		96-12-8	0.25
1,2-Dibromoethane		106-93-4	0.25
1,2-Dichlorobenzene		95-50-1	0.25
1,2-Dichloroethane		107-06-2	0.25
1,2-Dichloropropane		78-87-5	0.25
1,3,5-Trimethylbenzene		108-67-8	0.25
1,3-Dichlorobenzene		541-73-1	0.25
1,3-Dichloropropane		142-28-9	0.25
1,4-Dichlorobenzene		106-46-7	0.25

Chemical name	Common name and synonyms	CAS number	%
2,2-Dichloropropane		594-20-7	0.25
2-Chlorotoluene		95-49-8	0.25
4-Chlorotoluene		106-43-4	0.25
Benzene		71-43-2	0.25
Bromobenzene		108-86-1	0.25
Bromochloromethane		74-97-5	0.25
Bromodichloromethane		75-27-4	0.25
Bromoform		75-25-2	0.25
Carbon tetrachloride		56-23-5	0.25
Chlorobenzene		108-90-7	0.25
Chlorodibromomethane		124-48-1	0.25
Chloroethane		75-00-3	0.25
Chloroform		67-66-3	0.25
cis-1,2-Dichloroethene		156-59-2	0.25
cis-1,3-Dichloropropene		10061-01-5	0.25
Dibromomethane		74-95-3	0.25
Dichlorodifluoromethane		75-71-8	0.25
Ethylbenzene		100-41-4	0.25
Hexachloro-1,3-butadiene		87-68-3	0.25
Isopropylbenzene		98-82-8	0.25
Methyl bromide		74-83-9	0.25
Methyl chloride		74-87-3	0.25
Methylene chloride		75-09-2	0.25
m-Xylene		108-38-3	0.25
Naphthalene		91-20-3	0.25
n-Butylbenzene		104-51-8	0.25
n-Propylbenzene		103-65-1	0.25
o-Xylene		95-47-6	0.25
p-Isopropyltoluene		99-87-6	0.25
p-Xylene		106-42-3	0.25
sec-Butylbenzene		135-98-8	0.25
Styrene		100-42-5	0.25
tert-Butylbenzene		98-06-6	0.25
Tetrachloroethene		127-18-4	0.25
Toluene		108-88-3	0.25
trans-1,2-Dichloroethene		156-60-5	0.25
trans-1,3-Dichloropropene		10061-02-6	0.25
Trichloroethene		79-01-6	0.25
Trichlorofluoromethane		75-69-4	0.25

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 (CO ₂). 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
Benzene (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm
Methylene chloride (CAS 75-09-2)	STEL	125 ppm
	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/m ³
		350 ppm
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	PEL	35 mg/m ³
		5 ppm
1,1,2-Trichloroethane (CAS 79-00-5)	PEL	45 mg/m ³
		10 ppm
1,1-Dichloroethane (CAS 75-34-3)	PEL	400 mg/m ³
		100 ppm
1,2,3-Trichloropropane (CAS 96-18-4)	PEL	300 mg/m ³
		50 ppm

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

Components	Type	Value
1,2-Dichlorobenzene (CAS 95-50-1)	Ceiling	300 mg/m3
		50 ppm
1,2-Dichloropropane (CAS 78-87-5)	PEL	350 mg/m3
		75 ppm
1,4-Dichlorobenzene (CAS 106-46-7)	PEL	450 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
Chlorobenzene (CAS 108-90-7)	PEL	350 mg/m3
		75 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
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
Isopropylbenzene (CAS 98-82-8)	PEL	245 mg/m3
		50 ppm
Methanol (CAS 67-56-1)	PEL	260 mg/m3
		200 ppm
Methyl bromide (CAS 74-83-9)	Ceiling	80 mg/m3
		20 ppm
m-Xylene (CAS 108-38-3)	PEL	435 mg/m3
		100 ppm
Naphthalene (CAS 91-20-3)	PEL	50 mg/m3
		10 ppm
o-Xylene (CAS 95-47-6)	PEL	435 mg/m3
		100 ppm
p-Xylene (CAS 106-42-3)	PEL	435 mg/m3
		100 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

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

Components	Type	Value
	TWA	20 ppm
1,2-Dichloroethane (CAS 107-06-2)	Ceiling	100 ppm
	TWA	50 ppm
Benzene (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 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
Styrene (CAS 100-42-5)	Ceiling	200 ppm
	TWA	100 ppm
Tetrachloroethene (CAS 127-18-4)	Ceiling	200 ppm
	TWA	100 ppm
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 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
1,1,1,2-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	0.005 ppm
1,2,4-Trichlorobenzene (CAS 120-82-1)	Ceiling	5 ppm
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
1,2-Dichlorobenzene (CAS 95-50-1)	STEL	50 ppm
	TWA	25 ppm
1,2-Dichloroethane (CAS 107-06-2)	TWA	10 ppm
1,2-Dichloropropane (CAS 78-87-5)	TWA	10 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	25 ppm
1,4-Dichlorobenzene (CAS 106-46-7)	TWA	10 ppm
2-Chlorotoluene (CAS 95-49-8)	TWA	50 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm
	TWA	0.5 ppm
Bromochloromethane (CAS 74-97-5)	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Bromoform (CAS 75-25-2)	TWA	0.5 ppm
Carbon tetrachloride (CAS 56-23-5)	STEL	10 ppm
	TWA	5 ppm
Chlorobenzene (CAS 108-90-7)	TWA	10 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
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Hexachloro-1,3-butadiene (CAS 87-68-3)	TWA	0.02 ppm
Isopropylbenzene (CAS 98-82-8)	TWA	50 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
m-Xylene (CAS 108-38-3)	STEL	150 ppm
	TWA	100 ppm
Naphthalene (CAS 91-20-3)	TWA	10 ppm
o-Xylene (CAS 95-47-6)	STEL	150 ppm
	TWA	100 ppm
p-Xylene (CAS 106-42-3)	STEL	150 ppm
	TWA	100 ppm
Styrene (CAS 100-42-5)	STEL	40 ppm
	TWA	20 ppm
Tetrachloroethene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm
Toluene (CAS 108-88-3)	TWA	20 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/m ³
		350 ppm
1,1,2,2-Tetrachloroethane (CAS 79-34-5)	TWA	7 mg/m ³
		1 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
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
1,2,4-Trichlorobenzene (CAS 120-82-1)	Ceiling	40 mg/m3 5 ppm
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3 25 ppm
1,2-Dibromoethane (CAS 106-93-4)	Ceiling	0.13 ppm
1,2-Dichlorobenzene (CAS 95-50-1)	TWA Ceiling	0.045 ppm 300 mg/m3
1,2-Dichloroethane (CAS 107-06-2)	STEL	50 ppm 8 mg/m3
	TWA	2 ppm 4 mg/m3 1 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	125 mg/m3 25 ppm
2-Chlorotoluene (CAS 95-49-8)	STEL	375 mg/m3 75 ppm
	TWA	250 mg/m3 50 ppm
Benzene (CAS 71-43-2)	STEL	1 ppm
	TWA	0.1 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
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
	TWA	125 ppm 435 mg/m3 100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hexachloro-1,3-butadiene (CAS 87-68-3)	TWA	0.24 mg/m3
Isopropylbenzene (CAS 98-82-8)	TWA	0.02 ppm
		245 mg/m3
Methanol (CAS 67-56-1)	STEL	50 ppm
		325 mg/m3
	TWA	250 ppm
		260 mg/m3
m-Xylene (CAS 108-38-3)	STEL	200 ppm
		655 mg/m3
	TWA	150 ppm
		435 mg/m3
Naphthalene (CAS 91-20-3)	STEL	100 ppm
		75 mg/m3
	TWA	15 ppm
		50 mg/m3
o-Xylene (CAS 95-47-6)	STEL	10 ppm
		655 mg/m3
	TWA	150 ppm
		435 mg/m3
p-Xylene (CAS 106-42-3)	STEL	100 ppm
		655 mg/m3
	TWA	150 ppm
		435 mg/m3
Styrene (CAS 100-42-5)	STEL	100 ppm
		425 mg/m3
	TWA	100 ppm
		215 mg/m3
Toluene (CAS 108-88-3)	STEL	50 ppm
		560 mg/m3
	TWA	150 ppm
		375 mg/m3
trans-1,2-Dichloroethene (CAS 156-60-5)	TWA	100 ppm
		790 mg/m3
trans-1,3-Dichloropropene (CAS 10061-02-6)	TWA	200 ppm
		5 mg/m3
Trichloroethene (CAS 79-01-6)	TWA	1 ppm
		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	*
	10 mg/l	Trichloroacetic acid	Urine	*
	1 mg/l	Total trichloroethanol	Blood	*
	40 ppm	Methyl chloroform	End-exhaled air	*
Benzene (CAS 71-43-2)	25 µg/g	S-Phenylmercapturic acid	Creatinine in urine	*

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Chlorobenzene (CAS 108-90-7)	100 mg/g	4-Chlorocatechol, with hydrolysis	Creatinine in urine	*
Ethylbenzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*
Methylene chloride (CAS 75-09-2)	0.3 mg/l	Dichloromethane	Urine	*
m-Xylene (CAS 108-38-3)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*
o-Xylene (CAS 95-47-6)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*
p-Xylene (CAS 106-42-3)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*
Styrene (CAS 100-42-5)	40 µg/l	Styrene	Urine	*
	400 mg/g	Mandelic acid plus phenylglyoxylic acid	Creatinine in urine	*
Tetrachloroethene (CAS 127-18-4)	0.5 mg/l	Tetrachloroethylene	Blood	*
	3 ppm	Tetrachloroethylene	End-exhaled air	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
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.
1,2-Dichlorobenzene (CAS 95-50-1)	Can be absorbed through the skin.
2-Chlorotoluene (CAS 95-49-8)	Can be absorbed through the skin.
Benzene (CAS 71-43-2)	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.
Isopropylbenzene (CAS 98-82-8)	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.
Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.
Styrene (CAS 100-42-5)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	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.
2-Chlorotoluene (CAS 95-49-8)	Skin designation applies.

Bromoform (CAS 75-25-2)
Carbon tetrachloride (CAS 56-23-5)
cis-1,3-Dichloropropene (CAS 10061-01-5)
Isopropylbenzene (CAS 98-82-8)
Methanol (CAS 67-56-1)
Methyl bromide (CAS 74-83-9)
Styrene (CAS 100-42-5)
Tetrachloroethene (CAS 127-18-4)
Toluene (CAS 108-88-3)
trans-1,3-Dichloropropene (CAS 10061-02-6)

Skin designation applies.
Skin designation applies.
Skin designation applies.
Skin designation applies.
Skin designation applies.
Skin designation applies.
Skin designation applies.
Skin designation applies.
Skin designation applies.
Skin designation applies.

US - Tennessee OELs: Skin designation

1,1,2,2-Tetrachloroethane (CAS 79-34-5)
1,1,2-Trichloroethane (CAS 79-00-5)
Bromoform (CAS 75-25-2)
cis-1,3-Dichloropropene (CAS 10061-01-5)
Isopropylbenzene (CAS 98-82-8)
Methanol (CAS 67-56-1)
Methyl bromide (CAS 74-83-9)
trans-1,3-Dichloropropene (CAS 10061-02-6)

Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

1,1,2,2-Tetrachloroethane (CAS 79-34-5)
1,1,2-Trichloroethane (CAS 79-00-5)
1,2-Dibromoethane (CAS 106-93-4)
Benzene (CAS 71-43-2)
Carbon tetrachloride (CAS 56-23-5)
Chloroethane (CAS 75-00-3)
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)
Naphthalene (CAS 91-20-3)
trans-1,3-Dichloropropene (CAS 10061-02-6)

Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

1,1,2,2-Tetrachloroethane (CAS 79-34-5)
1,1,2-Trichloroethane (CAS 79-00-5)
1,2,3-Trichloropropane (CAS 96-18-4)
Bromoform (CAS 75-25-2)
cis-1,3-Dichloropropene (CAS 10061-01-5)
Hexachloro-1,3-butadiene (CAS 87-68-3)
Isopropylbenzene (CAS 98-82-8)
Methanol (CAS 67-56-1)
trans-1,3-Dichloropropene (CAS 10061-02-6)

Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
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)
1,1,2-Trichloroethane (CAS 79-00-5)
Bromoform (CAS 75-25-2)
Isopropylbenzene (CAS 98-82-8)
Methyl bromide (CAS 74-83-9)

Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
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 (%)	36 % estimated
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 0.86352 g/cm³ estimated

Flammability class Flammable IB estimated

Percent volatile 93.75 % estimated

Specific gravity 0.86 estimated

VOC 94.25 % 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

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.
Ingestion	Toxic if swallowed.

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		
Inhalation		
LC50	Rabbit	2.5 mg/l, 4 Hours
Oral		
LD50	Rat	670 mg/kg
1,1,1,2-Tetrachloroethane (CAS 79-34-5)		
Acute		
Oral		
LD50	Rat	250 mg/kg
1,1,1,2-Trichloroethane (CAS 79-00-5)		
Acute		
Oral		
LD50	Rat	100 - 200 mg/kg
1,1-Dichloroethane (CAS 75-34-3)		
Acute		
Dermal		
LD50	Rabbit	3890 mg/kg
Oral		
LD50	Rat	725 mg/kg
1,1-Dichloroethene (CAS 75-35-4)		
Acute		
Inhalation		
<i>Vapor</i>		
LC50	Rat	8 mg/l, 4 Hours
Oral		
LD50	Rat	80 mg/kg
1,2,3-Trichlorobenzene (CAS 87-61-6)		
Acute		
Oral		
LD50	Rat	756 mg/kg
1,2,3-Trichloropropane (CAS 96-18-4)		
Acute		
Dermal		
LD50	Rabbit	384 mg/kg
Oral		
LD50	Rat	120 mg/kg

Components	Species	Test Results
1,2,4-Trichlorobenzene (CAS 120-82-1)		
<u>Acute</u>		
Oral		
LD50	Rat	756 mg/kg
1,2,4-Trimethylbenzene (CAS 95-63-6)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 3160 mg/kg
Oral		
LD50	Rat	3280 mg/kg
1,2-Dibromo-3-chloropropane (CAS 96-12-8)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	1400 mg/kg
Oral		
LD50	Rat	170 mg/kg
1,2-Dibromoethane (CAS 106-93-4)		
<u>Acute</u>		
Dermal		
LD50	Rat	300 mg/kg
Oral		
LD50	Rat	55 mg/kg
1,2-Dichlorobenzene (CAS 95-50-1)		
<u>Acute</u>		
Oral		
LD50	Rat	1516 mg/kg
1,2-Dichloroethane (CAS 107-06-2)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	3890 mg/kg
Oral		
LD50	Rat	670 mg/kg
1,2-Dichloropropane (CAS 78-87-5)		
<u>Acute</u>		
Oral		
LD50	Rat	1947 mg/kg
1,3,5-Trimethylbenzene (CAS 108-67-8)		
<u>Acute</u>		
Oral		
LD50	Rat	3280 mg/kg
1,3-Dichlorobenzene (CAS 541-73-1)		
<u>Acute</u>		
Oral		
LD50	Rat	580 mg/kg
1,4-Dichlorobenzene (CAS 106-46-7)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	500 mg/kg

Components	Species	Test Results
2-Chlorotoluene (CAS 95-49-8)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 1080 mg/kg, 24 Hours
Oral		
LD50	Rat	1659 mg/kg
Benzene (CAS 71-43-2)		
<u>Acute</u>		
Oral		
LD50	Rat	690 - 1230 mg/kg
Bromodichloromethane (CAS 75-27-4)		
<u>Acute</u>		
Oral		
LD50	Rat	969 mg/kg
Bromoform (CAS 75-25-2)		
<u>Acute</u>		
Oral		
LD50	Rat	1147 mg/kg
Chlorobenzene (CAS 108-90-7)		
<u>Acute</u>		
Inhalation		
<i>Vapor</i>		
LC50	Rat	13.6 mg/l
Chlorodibromomethane (CAS 124-48-1)		
<u>Acute</u>		
Oral		
LD50	Rat	370 mg/kg
Chloroform (CAS 67-66-3)		
<u>Acute</u>		
Oral		
LD50	Rat	444 mg/kg
cis-1,2-Dichloroethene (CAS 156-59-2)		
<u>Acute</u>		
Oral		
LD50	Rat	770 mg/kg
cis-1,3-Dichloropropene (CAS 10061-01-5)		
<u>Acute</u>		
Dermal		
LD50	Rat	758 mg/kg, 24 Hours
Oral		
LD50	Rat	78 mg/kg
Dichlorodifluoromethane (CAS 75-71-8)		
<u>Acute</u>		
Oral		
LD50	Rat	> 1000 mg/kg
Ethylbenzene (CAS 100-41-4)		
<u>Acute</u>		
Oral		
LD50	Rat	3500 mg/kg

Components	Species	Test Results
Hexachloro-1,3-butadiene (CAS 87-68-3)		
<u>Acute</u>		
Oral		
LD50	Rat	90 mg/kg
Isopropylbenzene (CAS 98-82-8)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 3160 mg/kg, 24 Hours
Methyl bromide (CAS 74-83-9)		
<u>Acute</u>		
Dermal		
LD50	Rat	135 mg/kg
Oral		
LD50	Rat	104 mg/kg
Methyl chloride (CAS 74-87-3)		
<u>Acute</u>		
Inhalation		
LC50	Rat	5133 ppm, 1 Hours
Oral		
LD50	Rat	1800 mg/kg
Methylene chloride (CAS 75-09-2)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg, Days
Oral		
LD50	Rat	1600 mg/kg
m-Xylene (CAS 108-38-3)		
<u>Acute</u>		
Oral		
LD50	Rat	4300 mg/kg
Naphthalene (CAS 91-20-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2 g/kg
Oral		
LD50	Rat	490 mg/kg
o-Xylene (CAS 95-47-6)		
<u>Acute</u>		
Oral		
LD50	Rat	3523 mg/kg
p-Isopropyltoluene (CAS 99-87-6)		
<u>Acute</u>		
Oral		
LD50	Rat	4750 mg/kg
p-Xylene (CAS 106-42-3)		
<u>Acute</u>		
Oral		
LD50	Rat	3523 mg/kg

Components	Species	Test Results
Styrene (CAS 100-42-5)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	1 g/kg
Tetrachloroethene (CAS 127-18-4)		
<u>Acute</u>		
Oral		
LD50	Rat	2400 mg/kg
Toluene (CAS 108-88-3)		
<u>Acute</u>		
Inhalation		
LC50	Rat	12.5 - 28.8 mg/l, 4 Hours
trans-1,2-Dichloroethene (CAS 156-60-5)		
<u>Acute</u>		
Oral		
LD50	Rat	1235 mg/kg
Trichloroethene (CAS 79-01-6)		
<u>Acute</u>		
Oral		
LD50	Rat	4920 mg/kg
Trichlorofluoromethane (CAS 75-69-4)		
<u>Acute</u>		
Oral		
LD50	Rat	3725 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

PROPYLENE DICHLORIDE (CAS 78-87-5) Dermal sensitization

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-Dichlorobenzene (CAS 95-50-1)	3 Not classifiable as to carcinogenicity to humans.
1,2-Dichloroethane (CAS 107-06-2)	2B Possibly carcinogenic to humans.
1,2-Dichloropropane (CAS 78-87-5)	1 Carcinogenic to humans.
1,3-Dichlorobenzene (CAS 541-73-1)	3 Not classifiable as to carcinogenicity to humans.
1,4-Dichlorobenzene (CAS 106-46-7)	2B Possibly carcinogenic to humans.
Benzene (CAS 71-43-2)	1 Carcinogenic 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.
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Hexachloro-1,3-butadiene (CAS 87-68-3)	3 Not classifiable as to carcinogenicity to humans.
Isopropylbenzene (CAS 98-82-8)	2B Possibly carcinogenic 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)	2A Probably carcinogenic to humans.
m-Xylene (CAS 108-38-3)	3 Not classifiable as to carcinogenicity to humans.
Naphthalene (CAS 91-20-3)	2B Possibly carcinogenic to humans.
o-Xylene (CAS 95-47-6)	3 Not classifiable as to carcinogenicity to humans.
p-Xylene (CAS 106-42-3)	3 Not classifiable as to carcinogenicity to humans.
Styrene (CAS 100-42-5)	2B Possibly carcinogenic to humans.
Tetrachloroethene (CAS 127-18-4)	2A Probably carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
trans-1,3-Dichloropropene (CAS 10061-02-6)	2B Possibly carcinogenic to humans.
Trichloroethene (CAS 79-01-6)	1 Carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Cancer
Benzene (CAS 71-43-2)	Cancer
Methylene chloride (CAS 75-09-2)	Cancer

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.
1,4-Dichlorobenzene (CAS 106-46-7)	Reasonably Anticipated to be a Human Carcinogen.
Benzene (CAS 71-43-2)	Known To Be 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.
Isopropylbenzene (CAS 98-82-8)	Reasonably Anticipated to be a Human Carcinogen.
Methylene chloride (CAS 75-09-2)	Reasonably Anticipated to be a Human Carcinogen.
Naphthalene (CAS 91-20-3)	Reasonably Anticipated to be a Human Carcinogen.
Styrene (CAS 100-42-5)	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.

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

Components	Species	Test Results
1,1,1-Trichloroethane (CAS 71-55-6)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 35.2 - 50.7 mg/l, 96 hours
1,1,2,2-Tetrachloroethane (CAS 79-34-5)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 16 - 35 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (<i>Cyprinodon variegatus</i>) 4.7 - 32 mg/l, 96 hours
1,1,2-Trichloroethane (CAS 79-00-5)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 57 - 110 mg/l, 48 hours
Fish	LC50	Flagfish (<i>Jordanella floridae</i>) 4.2 - 48.5 mg/l, 96 hours
1,1-Dichloroethane (CAS 75-34-3)		
Aquatic		
Fish	LC50	Inland silverside (<i>Menidia beryllina</i>) 480 mg/l, 96 hours
1,1-Dichloroethene (CAS 75-35-4)		
Aquatic		
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) 57 - 91 mg/l, 96 hours
1,2,3-Trichloropropane (CAS 96-18-4)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 27.8 - 41.1 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 25.9 - 28.9 mg/l, 96 hours
1,2,4-Trichlorobenzene (CAS 120-82-1)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 3.1 - 3.69 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>) 1.35 - 1.73 mg/l, 96 hours
1,2,4-Trimethylbenzene (CAS 95-63-6)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 7.19 - 8.28 mg/l, 96 hours
1,2-Dibromoethane (CAS 106-93-4)		
Aquatic		
Fish	LC50	Medaka, high-eyes (<i>Oryzias latipes</i>) 27.6 - 37.4 mg/l, 96 hours
1,2-Dichlorobenzene (CAS 95-50-1)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 0.74 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>) 1.58 mg/l, 96 hours
1,2-Dichloroethane (CAS 107-06-2)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 140 - 190 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 110 - 123 mg/l, 96 hours
1,2-Dichloropropane (CAS 78-87-5)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 119 - 135 mg/l, 96 hours
1,3,5-Trimethylbenzene (CAS 108-67-8)		
Aquatic		
Fish	LC50	Goldfish (<i>Carassius auratus</i>) 9.89 - 15.05 mg/l, 96 hours

Components		Species	Test Results
1,3-Dichlorobenzene (CAS 541-73-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.2 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	3.9 - 6.2 mg/l, 96 hours
1,3-Dichloropropane (CAS 142-28-9)			
Aquatic			
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	77 - 100 mg/l, 96 hours
1,4-Dichlorobenzene (CAS 106-46-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.0007 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	1.12 mg/l, 96 hours
2-Chlorotoluene (CAS 95-49-8)			
Aquatic			
Fish	LC50	Bleak (Alburnus alburnus)	6.7 - 9.1 mg/l, 96 hours
Benzene (CAS 71-43-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	8.76 - 15.6 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	7.2 - 11.7 mg/l, 96 hours
Bromobenzene (CAS 108-86-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	5.6 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
Chlorobenzene (CAS 108-90-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	4.1 - 4.9 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
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	7.5 - 11 mg/l, 96 hours
Hexachloro-1,3-butadiene (CAS 87-68-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	0.09 - 0.11 mg/l, 96 hours

Components	Species		Test Results
Isopropylbenzene (CAS 98-82-8)			
Aquatic			
Crustacea	EC50	Brine shrimp (<i>Artemia</i> sp.)	3.55 - 11.29 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>)	2.7 mg/l, 96 hours
Methanol (CAS 67-56-1)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	> 100 mg/l, 96 hours
Methyl bromide (CAS 74-83-9)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	2 mg/l, 48 hours
Fish	LC50	Guppy (<i>Poecilia reticulata</i>)	0.0008 mg/l, 96 hours
Methyl chloride (CAS 74-87-3)			
Aquatic			
Fish	LC50	Inland silverside (<i>Menidia beryllina</i>)	270 mg/l, 96 hours
Methylene chloride (CAS 75-09-2)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	1250 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	140.8 - 277.8 mg/l, 96 hours
m-Xylene (CAS 108-38-3)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	2.81 - 5 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>)	8.4 mg/l, 96 hours
Naphthalene (CAS 91-20-3)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	1.09 - 3.4 mg/l, 48 hours
Fish	LC50	Pink salmon (<i>Oncorhynchus gorbuscha</i>)	1.11 - 1.68 mg/l, 96 hours
n-Butylbenzene (CAS 104-51-8)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	0.27 - 0.44 mg/l, 48 hours
n-Propylbenzene (CAS 103-65-1)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>)	1.55 mg/l, 96 hours
o-Xylene (CAS 95-47-6)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	0.78 - 2.51 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>)	5.59 - 11.6 mg/l, 96 hours
p-Isopropyltoluene (CAS 99-87-6)			
Aquatic			
Fish	LC50	Sheepshead minnow (<i>Cyprinodon variegatus</i>)	36 - 64 mg/l, 96 hours
p-Xylene (CAS 106-42-3)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	3.55 - 6.31 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>)	2.6 mg/l, 96 hours

Components	Species		Test Results
Styrene (CAS 100-42-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	3.3 - 7.4 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	5.1 - 16 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
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 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-Trichlorobenzene	4.05
1,2,3-Trichloropropane	2.27
1,2,4-Trichlorobenzene	4.02
1,2-Dibromo-3-chloropropane	2.96
1,2-Dibromoethane	1.96
1,2-Dichlorobenzene	3.43
1,2-Dichloroethane	1.48
1,2-Dichloropropane	1.98
1,3-Dichlorobenzene	3.53
1,3-Dichloropropane	2
1,4-Dichlorobenzene	3.44
2-Chlorotoluene	3.42
4-Chlorotoluene	3.33
Benzene	2.13
Bromobenzene	2.99
Bromochloromethane	1.41
Bromodichloromethane	2
Bromoform	2.4
Carbon tetrachloride	2.83
Chlorobenzene	2.89
Chlorodibromomethane	2.16
Chloroethane	1.43
Chloroform	1.97

Partition coefficient n-octanol / water (log Kow)

cis-1,2-Dichloroethene	1.86
cis-1,3-Dichloropropene	2.06
Dibromomethane	1.7
Dichlorodifluoromethane	2.16
Ethylbenzene	3.15
Hexachloro-1,3-butadiene	4.78
Isopropylbenzene	3.66
Methanol	-0.77
Methyl bromide	1.19
Methyl chloride	0.91
Methylene chloride	1.25
m-Xylene	3.2
Naphthalene	3.3
n-Butylbenzene	4.38
n-Propylbenzene	3.69
o-Xylene	3.12
p-Isopropyltoluene	4.1
p-Xylene	3.15
sec-Butylbenzene	4.57
Styrene	2.95
tert-Butylbenzene	4.11
Tetrachloroethene	3.4
Toluene	2.73
trans-1,2-Dichloroethene	2.06
trans-1,3-Dichloropropene	2.03
Trichloroethene	2.61
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.

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 (Methanol RQ = 5865 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, TP2
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1230
UN proper shipping name	Methanol solution (Methanol)
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 with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1230
UN proper shipping name	METHANOL SOLUTION (Methanol) (1,1-Dichloroethene, 1,1,1,2-Tetrachloroethane)
Transport hazard class(es)	
Class	3
Subsidiary risk	6.1(PGI, II)
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
1,1-Dichloroethene	
1,1,1,2-Tetrachloroethane	

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

DOT



IATA; IMDG



General information

DOT Regulated Marine Pollutant. IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations

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

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

Trichloroethene (CAS 79-01-6)

0.1 % One-Time Export Notification only.

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.
1,2,3-Trichlorobenzene (CAS 87-61-6)	Listed.
1,2,4-Trichlorobenzene (CAS 120-82-1)	Listed.
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Listed.
1,2-Dibromoethane (CAS 106-93-4)	Listed.
1,2-Dichlorobenzene (CAS 95-50-1)	Listed.
1,2-Dichloroethane (CAS 107-06-2)	Listed.
1,2-Dichloropropane (CAS 78-87-5)	Listed.
1,3-Dichlorobenzene (CAS 541-73-1)	Listed.
1,3-Dichloropropane (CAS 142-28-9)	Listed.
1,4-Dichlorobenzene (CAS 106-46-7)	Listed.
2,2-Dichloropropane (CAS 594-20-7)	Listed.
Benzene (CAS 71-43-2)	Listed.
Bromodichloromethane (CAS 75-27-4)	Listed.
Bromoform (CAS 75-25-2)	Listed.
Carbon tetrachloride (CAS 56-23-5)	Listed.
Chlorobenzene (CAS 108-90-7)	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.
Ethylbenzene (CAS 100-41-4)	Listed.
Hexachloro-1,3-butadiene (CAS 87-68-3)	Listed.
Isopropylbenzene (CAS 98-82-8)	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.
m-Xylene (CAS 108-38-3)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
n-Propylbenzene (CAS 103-65-1)	Listed.
o-Xylene (CAS 95-47-6)	Listed.
p-Xylene (CAS 106-42-3)	Listed.
Styrene (CAS 100-42-5)	Listed.
Tetrachloroethene (CAS 127-18-4)	Listed.
Toluene (CAS 108-88-3)	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

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Cancer
Benzene (CAS 71-43-2)	Cancer
Methylene chloride (CAS 75-09-2)	Cancer
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Reproductive toxicity
Benzene (CAS 71-43-2)	Central nervous system
Methylene chloride (CAS 75-09-2)	Heart
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Liver
Benzene (CAS 71-43-2)	Blood
Methylene chloride (CAS 75-09-2)	Central nervous system
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Kidney
Benzene (CAS 71-43-2)	Aspiration
Methylene chloride (CAS 75-09-2)	Liver
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Central nervous system

Benzene (CAS 71-43-2)	Skin
Methylene chloride (CAS 75-09-2)	Skin irritation
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Skin irritation
Benzene (CAS 71-43-2)	Eye
Methylene chloride (CAS 75-09-2)	Eye irritation
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	Eye irritation
Benzene (CAS 71-43-2)	respiratory tract irritation
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	respiratory tract irritation
Benzene (CAS 71-43-2)	Flammability
1,2-Dibromo-3-chloropropane (CAS 96-12-8)	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 (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
---------------	------------	------------------------------	--------------------------------------	---------------------------------------------------	---------------------------------------------------

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

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1,2,3-Trichloropropane	96-18-4	0.25
1,2-Dibromo-3-chloropropane	96-12-8	0.25
1,2-Dibromoethane	106-93-4	0.25
1,2-Dichloroethane	107-06-2	0.25
1,4-Dichlorobenzene	106-46-7	0.25
Benzene	71-43-2	0.25
Bromodichloromethane	75-27-4	0.25
Carbon tetrachloride	56-23-5	0.25
Chloroform	67-66-3	0.25
cis-1,3-Dichloropropene	10061-01-5	0.25
Ethylbenzene	100-41-4	0.25
Methanol	67-56-1	85.25
Methylene chloride	75-09-2	0.25
Naphthalene	91-20-3	0.25
Styrene	100-42-5	0.25
Tetrachloroethene	127-18-4	0.25
trans-1,3-Dichloropropene	10061-02-6	0.25
Trichloroethene	79-01-6	0.25

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)
- 1,2,4-Trichlorobenzene (CAS 120-82-1)
- 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)
- 1,4-Dichlorobenzene (CAS 106-46-7)
- Benzene (CAS 71-43-2)
- Bromoform (CAS 75-25-2)
- Carbon tetrachloride (CAS 56-23-5)
- Chlorobenzene (CAS 108-90-7)
- Chloroethane (CAS 75-00-3)

Chloroform (CAS 67-66-3)
cis-1,3-Dichloropropene (CAS 10061-01-5)
Ethylbenzene (CAS 100-41-4)
Hexachloro-1,3-butadiene (CAS 87-68-3)
Isopropylbenzene (CAS 98-82-8)
Methanol (CAS 67-56-1)
Methyl bromide (CAS 74-83-9)
Methyl chloride (CAS 74-87-3)
Methylene chloride (CAS 75-09-2)
m-Xylene (CAS 108-38-3)
Naphthalene (CAS 91-20-3)
o-Xylene (CAS 95-47-6)
p-Xylene (CAS 106-42-3)
Styrene (CAS 100-42-5)
Tetrachloroethene (CAS 127-18-4)
Toluene (CAS 108-88-3)
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.

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

Toluene (CAS 108-88-3) 6594

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

Toluene (CAS 108-88-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Toluene (CAS 108-88-3) 594

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

Styrene (CAS 100-42-5) Other Flavoring Substances with OSHA PEL's

US state regulations

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
1,4-Dichlorobenzene (CAS 106-46-7)	Listed: January 1, 1989
Benzene (CAS 71-43-2)	Listed: February 27, 1987
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
Ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004
Hexachloro-1,3-butadiene (CAS 87-68-3)	Listed: May 3, 2011
Isopropylbenzene (CAS 98-82-8)	Listed: April 6, 2010
Methylene chloride (CAS 75-09-2)	Listed: April 1, 1988
Naphthalene (CAS 91-20-3)	Listed: April 19, 2002
Styrene (CAS 100-42-5)	Listed: April 22, 2016
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
Benzene (CAS 71-43-2)	Listed: December 26, 1997
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
Toluene (CAS 108-88-3)	Listed: January 1, 1991
Trichloroethene (CAS 79-01-6)	Listed: Jan 31, 2014

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
Benzene (CAS 71-43-2)	Listed: December 26, 1997
Methyl chloride (CAS 74-87-3)	Listed: August 7, 2009
Trichloroethene (CAS 79-01-6)	Listed: Jan 31, 2014

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

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)
1,2,3-Trichlorobenzene (CAS 87-61-6)
1,2,3-Trichloropropane (CAS 96-18-4)
1,2,4-Trichlorobenzene (CAS 120-82-1)
1,2,4-Trimethylbenzene (CAS 95-63-6)
1,2-Dibromoethane (CAS 106-93-4)
1,2-Dichlorobenzene (CAS 95-50-1)
1,2-Dichloroethane (CAS 107-06-2)
1,2-Dichloropropane (CAS 78-87-5)
1,3,5-Trimethylbenzene (CAS 108-67-8)
1,3-Dichlorobenzene (CAS 541-73-1)
1,3-Dichloropropane (CAS 142-28-9)
1,4-Dichlorobenzene (CAS 106-46-7)
2,2-Dichloropropane (CAS 594-20-7)
2-Chlorotoluene (CAS 95-49-8)
4-Chlorotoluene (CAS 106-43-4)
Benzene (CAS 71-43-2)
Bromodichloromethane (CAS 75-27-4)
Bromoform (CAS 75-25-2)
Carbon tetrachloride (CAS 56-23-5)
Chlorobenzene (CAS 108-90-7)
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)
Ethylbenzene (CAS 100-41-4)
Hexachloro-1,3-butadiene (CAS 87-68-3)
Isopropylbenzene (CAS 98-82-8)
Methanol (CAS 67-56-1)
Methyl chloride (CAS 74-87-3)
Methylene chloride (CAS 75-09-2)
m-Xylene (CAS 108-38-3)
Naphthalene (CAS 91-20-3)
n-Butylbenzene (CAS 104-51-8)
n-Propylbenzene (CAS 103-65-1)
o-Xylene (CAS 95-47-6)
p-Xylene (CAS 106-42-3)
sec-Butylbenzene (CAS 135-98-8)
Styrene (CAS 100-42-5)
tert-Butylbenzene (CAS 98-06-6)
Tetrachloroethane (CAS 127-18-4)

Toluene (CAS 108-88-3)
trans-1,2-Dichloroethene (CAS 156-60-5)
Trichloroethene (CAS 79-01-6)
Trichlorofluoromethane (CAS 75-69-4)

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 11-06-2019
Version # 01
NFPA ratings Health: 4
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.

Copyright © 2000-2014 Chem Service, Inc. All rights reserved except that this SDS may be printed for the use of a customer or prospective customer of Chem Service, Inc provided the entire SDS is printed. The SDS may not be placed in any database or otherwise stored or distributed in electronic or any other form.

This product is furnished FOR LABORATORY USE ONLY.

Revision information

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Ingredients