

1. Identification

Product identifier	Semi-Volatiles Mixture #4 - 8250A	
Other means of identification		
Item	M-SV82504X4	
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	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	Category 4
	Acute toxicity, inhalation	Category 1
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1
	Carcinogenicity	Category 1
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Harmful if swallowed. Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Fatal if inhaled. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Do not breathe 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. Wear respiratory protection.

Response	If swallowed: Call a poison center/doctor if you feel unwell. If on skin: Wash with plenty of water. 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. Immediately call a poison center/doctor. Specific treatment is urgent (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 contaminated clothing and wash before reuse. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	0.5% of the mixture consists of component(s) of unknown acute dermal toxicity. 98.6% of the mixture consists of component(s) of unknown acute inhalation toxicity. 99% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 98.8% 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	%
Methylene chloride	DICHLOROMETHANE; METHYLENE DICHLORIDE	75-09-2	98.5
1,2-Dichlorobenzene		95-50-1	0.1
1,3-Dichlorobenzene		541-73-1	0.1
1,4-Dichlorobenzene		106-46-7	0.1
2-Chlorophenol		95-57-8	0.1
2-Methylphenol		95-48-7	0.1
2-Picoline		109-06-8	0.1
4-Methylphenol		106-44-5	0.1
Aniline		62-53-3	0.1
Benzyl alcohol		100-51-6	0.1
Bis(2-chloro-1-methylethyl) ether		108-60-1	0.1
Bis(2-chloroethyl)ether		111-44-4	0.1
Hexachloroethane		67-72-1	0.1
N-Nitrosodimethylamine		62-75-9	0.1
N-Nitrosodi-n-propylamine		621-64-7	0.1
Phenol		108-95-2	0.1

*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 physician or poison control center immediately.
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. Take off contaminated clothing and wash before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause an allergic skin reaction. Dermatitis. Rash. May cause redness and pain. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	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	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	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	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	No unusual fire or explosion hazards noted.

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. Wear appropriate protective equipment and clothing during clean-up. Do not breathe 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. Ensure adequate ventilation. 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 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. Absorb in vermiculite, dry sand or earth and place into containers. 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.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapor. Do not taste or swallow. Avoid contact with skin. Avoid contact with eyes. 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.

Conditions for safe storage, including any incompatibilities Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
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
1,2-Dichlorobenzene (CAS 95-50-1)	Ceiling	300 mg/m ³
		50 ppm
1,4-Dichlorobenzene (CAS 106-46-7)	PEL	450 mg/m ³
		75 ppm
2-Methylphenol (CAS 95-48-7)	PEL	22 mg/m ³
		5 ppm

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

Components	Type	Value
4-Methylphenol (CAS 106-44-5)	PEL	22 mg/m3
Aniline (CAS 62-53-3)	PEL	5 ppm 19 mg/m3
Bis(2-chloroethyl)ether (CAS 111-44-4)	Ceiling	5 ppm 90 mg/m3
Hexachloroethane (CAS 67-72-1)	PEL	15 ppm 10 mg/m3
Phenol (CAS 108-95-2)	PEL	1 ppm 19 mg/m3 5 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,2-Dichlorobenzene (CAS 95-50-1)	STEL	50 ppm	
	TWA	25 ppm	
1,4-Dichlorobenzene (CAS 106-46-7)	TWA	10 ppm	
2-Methylphenol (CAS 95-48-7)	TWA	20 mg/m3	Inhalable fraction and vapor.
4-Methylphenol (CAS 106-44-5)	TWA	20 mg/m3	Inhalable fraction and vapor.
Aniline (CAS 62-53-3)	TWA	2 ppm	
Bis(2-chloroethyl)ether (CAS 111-44-4)	STEL	10 ppm	
	TWA	5 ppm	
Hexachloroethane (CAS 67-72-1)	TWA	1 ppm	
Methylene chloride (CAS 75-09-2)	TWA	50 ppm	
Phenol (CAS 108-95-2)	TWA	5 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
1,2-Dichlorobenzene (CAS 95-50-1)	Ceiling	300 mg/m3
		50 ppm
2-Methylphenol (CAS 95-48-7)	TWA	10 mg/m3
		2.3 ppm
4-Methylphenol (CAS 106-44-5)	TWA	10 mg/m3
		2.3 ppm
Bis(2-chloroethyl)ether (CAS 111-44-4)	STEL	60 mg/m3
	TWA	10 ppm 30 mg/m3
		5 ppm
Hexachloroethane (CAS 67-72-1)	TWA	10 mg/m3
		1 ppm
Phenol (CAS 108-95-2)	Ceiling	60 mg/m3
	TWA	15.6 ppm 19 mg/m3 5 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
2-Picoline (CAS 109-06-8)	STEL	19 mg/m3 5 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
	TWA	7.6 mg/m ³
		2 ppm
Benzyl alcohol (CAS 100-51-6)	TWA	44.2 mg/m ³
		10 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Aniline (CAS 62-53-3)	50 mg/l	p-Aminophenol , with hydrolysis	Urine	*
Methylene chloride (CAS 75-09-2)	0.3 mg/l	Dichloromethane	Urine	*
Phenol (CAS 108-95-2)	250 mg/g	Phenol with hydrolysis	Creatinine in urine	*

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

Exposure guidelines

US - California OELs: Skin designation

1,2-Dichlorobenzene (CAS 95-50-1)	Can be absorbed through the skin.
2-Methylphenol (CAS 95-48-7)	Can be absorbed through the skin.
4-Methylphenol (CAS 106-44-5)	Can be absorbed through the skin.
Aniline (CAS 62-53-3)	Can be absorbed through the skin.
Bis(2-chloroethyl)ether (CAS 111-44-4)	Can be absorbed through the skin.
Hexachloroethane (CAS 67-72-1)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-Methylphenol (CAS 95-48-7)	Skin designation applies.
2-Picoline (CAS 109-06-8)	Skin designation applies.
4-Methylphenol (CAS 106-44-5)	Skin designation applies.
Aniline (CAS 62-53-3)	Skin designation applies.
Bis(2-chloroethyl)ether (CAS 111-44-4)	Skin designation applies.
Hexachloroethane (CAS 67-72-1)	Skin designation applies.
Phenol (CAS 108-95-2)	Skin designation applies.

US - Tennessee OELs: Skin designation

2-Methylphenol (CAS 95-48-7)	Can be absorbed through the skin.
4-Methylphenol (CAS 106-44-5)	Can be absorbed through the skin.
Aniline (CAS 62-53-3)	Can be absorbed through the skin.
Bis(2-chloroethyl)ether (CAS 111-44-4)	Can be absorbed through the skin.
Hexachloroethane (CAS 67-72-1)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

2-Methylphenol (CAS 95-48-7)	Can be absorbed through the skin.
4-Methylphenol (CAS 106-44-5)	Can be absorbed through the skin.
Aniline (CAS 62-53-3)	Can be absorbed through the skin.
Bis(2-chloroethyl)ether (CAS 111-44-4)	Can be absorbed through the skin.
Hexachloroethane (CAS 67-72-1)	Can be absorbed through the skin.
N-Nitrosodimethylamine (CAS 62-75-9)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Bis(2-chloroethyl)ether (CAS 111-44-4)	Can be absorbed through the skin.
Hexachloroethane (CAS 67-72-1)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

US WEEL Guides: Skin designation

2-Picoline (CAS 109-06-8)	Can be absorbed through the skin.
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US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-Methylphenol (CAS 95-48-7)	Can be absorbed through the skin.
4-Methylphenol (CAS 106-44-5)	Can be absorbed through the skin.
Aniline (CAS 62-53-3)	Can be absorbed through the skin.
Bis(2-chloroethyl)ether (CAS 111-44-4)	Can be absorbed through the skin.
Hexachloroethane (CAS 67-72-1)	Can be absorbed through the skin.
Phenol (CAS 108-95-2)	Can be absorbed through the skin.

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
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	Wear positive pressure self-contained breathing apparatus (SCBA).
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	-139 °F (-95 °C) estimated
Initial boiling point and boiling range	103.55 °F (39.75 °C) estimated
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	15.5 % estimated
Flammability limit - upper (%)	66.4 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	579.97 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	1033 °F (556.11 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.323102 g/cm ³ estimated
Percent volatile	99.1 % estimated
Specific gravity	1.32 estimated
VOC (Weight %)	99.1 % 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	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	Harmful if swallowed.
Inhalation	Fatal if inhaled. May cause damage to organs by inhalation.
Skin contact	Harmful in contact with skin. Causes skin irritation. 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. Skin irritation. May cause redness and pain. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity Fatal if inhaled. Harmful if swallowed. Harmful in contact with skin. May cause an allergic skin reaction.

Components	Species	Test Results
1,2-Dichlorobenzene (CAS 95-50-1)		
Acute		
<i>Inhalation</i>		
LC100	Rat	9.5 mg/l, 4 Hours
LC50	Mouse	1236 ppm, 6 Hours
		6.825 mg/l, 6 Hours
	Rat	1532 ppm, 6 Hours
		8.15 mg/l, 4 Hours
<i>Oral</i>		
LD100	Guinea pig	2000 mg/kg
LD50	Guinea pig	0.0008 mg/kg
	Mouse	2000 mg/kg
	Rabbit	500 mg/kg
	Rat	500 mg/kg
<i>Other</i>		
LD50	Mouse	1228 mg/kg
	Rat	840 mg/kg
		1.66 ml/kg
1,3-Dichlorobenzene (CAS 541-73-1)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 17.6 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	580 mg/kg
<i>Other</i>		
LD50	Mouse	1023 mg/kg
	Rat	1000 mg/kg
1,4-Dichlorobenzene (CAS 106-46-7)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 6000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 5.07 mg/l, 4 Hours
<i>Oral</i>		
LD50	Guinea pig	7593 mg/kg

Components	Species	Test Results
	Mouse	2950 mg/kg
	Rabbit	2812 mg/kg
	Rat	500 mg/kg
		500 - 1000 mg/kg
<i>Other</i>		
LD50	Mouse	2 g/kg
	Rat	2562 mg/kg
2-Chlorophenol (CAS 95-57-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	740 mg/kg
<i>Oral</i>		
LD50	Mouse	670 mg/kg
	Rat	670 mg/kg
<i>Other</i>		
LD50	Rat	950 mg/kg
2-Methylphenol (CAS 95-48-7)		
Acute		
<i>Dermal</i>		
LD50	Mouse	620 mg/kg
	Rabbit	890 mg/kg
	Rat	620 mg/kg
<i>Inhalation</i>		
LC50	Mouse	0.179 mg/l, 2 Hours 0.178 mg/l
	Rat	> 20 mg/l, 6 Hours > 1.22 mg/l, 1 Hours
<i>Oral</i>		
LD50	Mouse	344 mg/kg
	Rabbit	800 mg/kg
	Rat	121 mg/kg
<i>Other</i>		
LD50	Mouse	350 mg/kg
	Rabbit	180 mg/kg
2-Picoline (CAS 109-06-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	410 mg/kg
<i>Inhalation</i>		
LC50	Rat	4000 ppm, 4 Hours
<i>Oral</i>		
LD50	Guinea pig	900 mg/kg
	Mouse	674 mg/kg
	Rat	790 mg/kg
<i>Other</i>		
LD50	Rat	200 mg/kg
4-Methylphenol (CAS 106-44-5)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	300 mg/kg
	Rat	750 mg/kg

Components	Species	Test Results
<i>Inhalation</i>		
LC50	Rat	> 0.71 mg/l, 1 Hours 0.029 mg/l
<i>Oral</i>		
LD50	Mouse	344 mg/kg
	Rabbit	620 mg/kg
	Rat	207 mg/kg
<i>Other</i>		
LD50	Rabbit	180 mg/kg
Aniline (CAS 62-53-3)		
Acute		
<i>Dermal</i>		
LD50	Cat	254 mg/kg
	Guinea pig	1290 mg/kg
	Rabbit	1540 mg/kg
	Rat	670 mg/kg
<i>Inhalation</i>		
LC50	Mouse	175 ppm 175 ppm, 7 Hours
	Rat	> 2.1 mg/l, 1 Hours 478 ppm 478 ppm, 4 Hours
<i>Oral</i>		
LD50	Cat	1750 mg/kg
	Dog	195 mg/kg
	Mouse	464 mg/kg
	Rabbit	1000 mg/kg
	Rat	440 mg/kg
<i>Other</i>		
LD50	Cat	254 mg/kg
	Mouse	156 mg/kg
	Rabbit	64 mg/kg
	Rat	340 mg/kg
Benzyl alcohol (CAS 100-51-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2000 mg/kg
<i>Inhalation</i>		
LC100	Rat	200 - 300 mg/l, 8 Hours
LC50	Rat	> 0.9 mg/l, 4 Hours 1000 mg/l, 8 Hours
<i>Oral</i>		
LD50	Mouse	1150 mg/kg
	Rabbit	1040 mg/kg
	Rat	1230 mg/kg 1230 - 3100 mg/kg
<i>Other</i>		
LD50	Guinea pig	> 400 mg/kg
	Mouse	105 mg/kg
	Rabbit	1800 mg/kg
	Rat	53 mg/kg

Components	Species	Test Results
Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1)		
Acute		
<i>Inhalation</i>		
LC17	Rat	1 mg/l, 4 Hours
LC50	Mouse	12.8 mg/l, 4 Hours
	Rat	350 mg/l, 8 Hours
<i>Oral</i>		
LD50	Mouse	296 mg/kg
	Rat	220 - 270 mg/kg
<i>Other</i>		
LD50	Rabbit	1.78 ml/kg
	Rat	> 2000 mg/kg
Bis(2-chloroethyl)ether (CAS 111-44-4)		
Acute		
<i>Dermal</i>		
LD50	Guinea pig	300 mg/kg
	Rabbit	9 mg/kg
<i>Inhalation</i>		
LC100	Rat	700 mg/l, 6 Hours
LC50	Guinea pig	35 - 105 ppm, 13 Hours
	Rat	1462 mg/m ³ , 4 Hours
		1000 mg/l, 45 Minutes
		250 ppm, 4 Hours
		0.33 mg/l, 4 Hours
<i>Oral</i>		
LD50	Mouse	136 mg/kg
	Rabbit	126 mg/kg
	Rat	75 mg/kg
<i>Other</i>		
LD50	Rabbit	0.3 ml/kg
Hexachloroethane (CAS 67-72-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 32000 mg/kg
<i>Oral</i>		
LD50	Guinea pig	4970 mg/kg
	Rat	4460 mg/kg
<i>Other</i>		
LD50	Mouse	4500 mg/kg
Methylene chloride (CAS 75-09-2)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Inhalation</i>		
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

Components	Species	Test Results
		79 mg/l, 2 Hours
		52 mg/l, 6 Hours
LD50	Mouse	16000 ppm, 7 Hours
<i>Oral</i>		
LD50	Rat	1600 mg/kg
<i>Other</i>		
LD50	Mouse	437 mg/kg
N-Nitrosodimethylamine (CAS 62-75-9)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	57 mg/l, 4 Hours
	Rat	78 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	27 mg/kg
<i>Other</i>		
LD50	Rat	34 mg/kg
N-Nitrosodi-n-propylamine (CAS 621-64-7)		
Acute		
<i>Oral</i>		
LD50	Rat	480 mg/kg
<i>Other</i>		
LD50	Hamster	600 mg/kg
	Rat	487 mg/kg
Phenol (CAS 108-95-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	850 mg/kg
	Rat	525 mg/kg
<i>Inhalation</i>		
LC50	Mouse	0.177 mg/l
	Rat	0.316 mg/l
<i>Oral</i>		
LD50	Cat	0.1 g/kg
	Dog	0.5 g/kg
	Mouse	270 mg/kg
	Rabbit	620 mg/kg
	Rat	317 mg/kg
<i>Other</i>		
LD50	Mouse	112 mg/kg
	Rabbit	180 mg/kg
	Rat	460 mg/kg

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

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

1,2-Dichlorobenzene (CAS 95-50-1)	3 Not classifiable as to carcinogenicity 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.
2-Chlorophenol (CAS 95-57-8)	2B Possibly carcinogenic to humans.
Aniline (CAS 62-53-3)	3 Not classifiable as to carcinogenicity to humans.
Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1)	3 Not classifiable as to carcinogenicity to humans.
Bis(2-chloroethyl)ether (CAS 111-44-4)	3 Not classifiable as to carcinogenicity to humans.
Hexachloroethane (CAS 67-72-1)	2B Possibly carcinogenic to humans.
Methylene chloride (CAS 75-09-2)	2B Possibly carcinogenic to humans.
N-Nitrosodimethylamine (CAS 62-75-9)	2A Probably carcinogenic to humans.
N-Nitrosodi-n-propylamine (CAS 621-64-7)	2B Possibly carcinogenic to humans.
Phenol (CAS 108-95-2)	3 Not classifiable as to carcinogenicity to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

1,4-Dichlorobenzene (CAS 106-46-7)	Reasonably Anticipated to be a Human Carcinogen.
Hexachloroethane (CAS 67-72-1)	Reasonably Anticipated to be a Human Carcinogen.
Methylene chloride (CAS 75-09-2)	Reasonably Anticipated to be a Human Carcinogen.
N-Nitrosodimethylamine (CAS 62-75-9)	Reasonably Anticipated to be a Human Carcinogen.
N-Nitrosodi-n-propylamine (CAS 621-64-7)	Reasonably Anticipated to be a Human Carcinogen.

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

Methylene chloride (CAS 75-09-2)	Cancer
N-Nitrosodimethylamine (CAS 62-75-9)	Cancer

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	May cause 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. May cause 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.

Components	Species	Test Results	
1,2-Dichlorobenzene (CAS 95-50-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.74 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	1.58 mg/l, 96 hours
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
1,4-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-Chlorophenol (CAS 95-57-8)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	3.31 - 4.91 mg/l, 48 hours
Fish	LC50	Starry, european flounder (Platichthys flesus)	6.99 mg/l, 96 hours
2-Methylphenol (CAS 95-48-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	15.8 mg/l, 48 hours
Fish	LC50	Ide, silver or golden orfe (Leuciscus idus)	10 mg/l, 96 hours

Components	Species	Test Results
2-Picoline (CAS 109-06-8)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 897 mg/l, 96 hours
4-Methylphenol (CAS 106-44-5)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 7.7 mg/l, 48 hours
Fish	LC50	Fish (<i>Lepidocephalichthyes guntea</i>) 6.15 - 7.96 mg/l, 96 hours
Aniline (CAS 62-53-3)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 0.08 - 1 mg/l, 48 hours
Fish	LC50	Medaka, high-eyes (<i>Oryzias latipes</i>) 12.6 - 108 mg/l, 96 hours
Benzyl alcohol (CAS 100-51-6)		
Aquatic		
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) 10 mg/l, 96 hours
Bis(2-chloroethyl)ether (CAS 111-44-4)		
Aquatic		
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) 600 mg/l, 96 hours
Hexachloroethane (CAS 67-72-1)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 1.6 - 2.1 mg/l, 48 hours
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) 0.73 - 1.28 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
N-Nitrosodimethylamine (CAS 62-75-9)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 832 - 1062 mg/l, 96 hours
Phenol (CAS 108-95-2)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia obtusa</i>) 4.7 - 6.4 mg/l, 48 hours
Fish	LC50	Asiatic knifefish (<i>Notopterus notopterus</i>) 8 - 8.25 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)

1,2-Dichlorobenzene	3.43
1,3-Dichlorobenzene	3.53
1,4-Dichlorobenzene	3.44
2-Chlorophenol	2.15
2-Methylphenol	1.95
2-Picoline	1.11
4-Methylphenol	1.94
Aniline	0.9
Benzyl alcohol	1.1
Bis(2-chloro-1-methylethyl) ether	2.48
Bis(2-chloroethyl)ether	1.29
Hexachloroethane	4.14
Methylene chloride	1.25
N-Nitrosodimethylamine	-0.57
N-Nitrosodi-n-propylamine	1.36
Phenol	1.46

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 P List: Reference

N-Nitrosodimethylamine (CAS 62-75-9) P082

US RCRA Hazardous Waste U List: Reference

1,2-Dichlorobenzene (CAS 95-50-1) U070
1,3-Dichlorobenzene (CAS 541-73-1) U071
1,4-Dichlorobenzene (CAS 106-46-7) U072
2-Chlorophenol (CAS 95-57-8) U048
2-Methylphenol (CAS 95-48-7) U052
2-Picoline (CAS 109-06-8) U191
4-Methylphenol (CAS 106-44-5) U052
Aniline (CAS 62-53-3) U012
Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1) U027
Bis(2-chloroethyl)ether (CAS 111-44-4) U025
Hexachloroethane (CAS 67-72-1) U131
Methylene chloride (CAS 75-09-2) U080
N-Nitrosodi-n-propylamine (CAS 621-64-7) U111
Phenol (CAS 108-95-2) U188

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	UN1593
UN proper shipping name	Dichloromethane, solution, MARINE POLLUTANT
Transport hazard class(es)	
Class	6.1(PGIII)
Subsidiary risk	-
Label(s)	6.1
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB3, IP8, N36, T7, TP2
Packaging exceptions	153
Packaging non bulk	203
Packaging bulk	241

IATA

UN number	UN1593
UN proper shipping name	Dichloromethane solution
Transport hazard class(es)	
Class	6.1(PGIII)
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	6L
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	UN1593
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UN proper shipping name DICHLOROMETHANE SOLUTION, MARINE POLLUTANT
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant Yes
EmS F-A, S-A
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.
 All components are on the U.S. EPA TSCA Inventory List.

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

Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1)	1.0 % One-Time Export Notification only.
Bis(2-chloroethyl)ether (CAS 111-44-4)	1.0 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,2-Dichlorobenzene (CAS 95-50-1)	Listed.
1,3-Dichlorobenzene (CAS 541-73-1)	Listed.
2-Chlorophenol (CAS 95-57-8)	Listed.
2-Methylphenol (CAS 95-48-7)	Listed.
2-Picoline (CAS 109-06-8)	Listed.
4-Methylphenol (CAS 106-44-5)	Listed.
Aniline (CAS 62-53-3)	Listed.
Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1)	Listed.
Bis(2-chloroethyl)ether (CAS 111-44-4)	Listed.
Hexachloroethane (CAS 67-72-1)	Listed.
Methylene chloride (CAS 75-09-2)	Listed.

N-Nitrosodimethylamine (CAS 62-75-9) Listed.
 N-Nitrosodi-n-propylamine (CAS 621-64-7) Listed.
 Phenol (CAS 108-95-2) Listed.

SARA 304 Emergency release notification

2-Methylphenol (CAS 95-48-7) 100 LBS
 Aniline (CAS 62-53-3) 5000 LBS
 Bis(2-chloroethyl)ether (CAS 111-44-4) 10 LBS
 N-Nitrosodimethylamine (CAS 62-75-9) 10 LBS
 Phenol (CAS 108-95-2) 1000 LBS

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

Methylene chloride (CAS 75-09-2) Cancer
 N-Nitrosodimethylamine (CAS 62-75-9) Cancer
 Methylene chloride (CAS 75-09-2) Heart
 N-Nitrosodimethylamine (CAS 62-75-9) Liver
 Methylene chloride (CAS 75-09-2) Central nervous system
 N-Nitrosodimethylamine (CAS 62-75-9) Acute toxicity
 Methylene chloride (CAS 75-09-2) Liver
 Skin irritation
 Eye irritation

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - No
 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
2-Methylphenol	95-48-7	100		1000 lbs	10000 lbs
Aniline	62-53-3	5000	1000 lbs		
Bis(2-chloroethyl)ether	111-44-4	10	10000 lbs		
N-Nitrosodimethylamine	62-75-9	10	1000 lbs		
Phenol	108-95-2	1000		500 lbs	10000 lbs

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Methylene chloride	75-09-2	98.5
1,4-Dichlorobenzene	106-46-7	0.1
2-Chlorophenol	95-57-8	0.1
Hexachloroethane	67-72-1	0.1
N-Nitrosodimethylamine	62-75-9	0.1
N-Nitrosodi-n-propylamine	621-64-7	0.1

Other federal regulations

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

1,4-Dichlorobenzene (CAS 106-46-7)
 2-Methylphenol (CAS 95-48-7)
 4-Methylphenol (CAS 106-44-5)
 Aniline (CAS 62-53-3)
 Bis(2-chloroethyl)ether (CAS 111-44-4)
 Hexachloroethane (CAS 67-72-1)
 Methylene chloride (CAS 75-09-2)
 N-Nitrosodimethylamine (CAS 62-75-9)
 Phenol (CAS 108-95-2)

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

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

1,2-Dichlorobenzene (CAS 95-50-1)
 1,3-Dichlorobenzene (CAS 541-73-1)

1,4-Dichlorobenzene (CAS 106-46-7)
2-Chlorophenol (CAS 95-57-8)
2-Methylphenol (CAS 95-48-7)
2-Picoline (CAS 109-06-8)
4-Methylphenol (CAS 106-44-5)
Aniline (CAS 62-53-3)
Benzyl alcohol (CAS 100-51-6)
Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1)
Bis(2-chloroethyl)ether (CAS 111-44-4)
Hexachloroethane (CAS 67-72-1)
Methylene chloride (CAS 75-09-2)
N-Nitrosodimethylamine (CAS 62-75-9)
N-Nitrosodi-n-propylamine (CAS 621-64-7)
Phenol (CAS 108-95-2)

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

1,2-Dichlorobenzene (CAS 95-50-1)	500 LBS
1,3-Dichlorobenzene (CAS 541-73-1)	500 LBS
1,4-Dichlorobenzene (CAS 106-46-7)	500 LBS
2-Chlorophenol (CAS 95-57-8)	500 LBS
2-Methylphenol (CAS 95-48-7)	500 LBS
2-Picoline (CAS 109-06-8)	500 LBS
4-Methylphenol (CAS 106-44-5)	500 LBS
Aniline (CAS 62-53-3)	500 LBS
Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1)	500 LBS
Bis(2-chloroethyl)ether (CAS 111-44-4)	500 LBS
Hexachloroethane (CAS 67-72-1)	500 LBS
Methylene chloride (CAS 75-09-2)	500 LBS
N-Nitrosodimethylamine (CAS 62-75-9)	500 LBS
N-Nitrosodi-n-propylamine (CAS 621-64-7)	500 LBS
Phenol (CAS 108-95-2)	500 LBS

US. Pennsylvania RTK - Hazardous Substances

1,2-Dichlorobenzene (CAS 95-50-1)
1,3-Dichlorobenzene (CAS 541-73-1)
1,4-Dichlorobenzene (CAS 106-46-7)
2-Chlorophenol (CAS 95-57-8)
2-Methylphenol (CAS 95-48-7)
2-Picoline (CAS 109-06-8)
4-Methylphenol (CAS 106-44-5)
Aniline (CAS 62-53-3)
Benzyl alcohol (CAS 100-51-6)
Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1)
Bis(2-chloroethyl)ether (CAS 111-44-4)
Hexachloroethane (CAS 67-72-1)
Methylene chloride (CAS 75-09-2)
N-Nitrosodimethylamine (CAS 62-75-9)
N-Nitrosodi-n-propylamine (CAS 621-64-7)
Phenol (CAS 108-95-2)

US. Rhode Island RTK

1,2-Dichlorobenzene (CAS 95-50-1)
1,3-Dichlorobenzene (CAS 541-73-1)
1,4-Dichlorobenzene (CAS 106-46-7)
2-Chlorophenol (CAS 95-57-8)
2-Methylphenol (CAS 95-48-7)
2-Picoline (CAS 109-06-8)
4-Methylphenol (CAS 106-44-5)
Aniline (CAS 62-53-3)
Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1)
Bis(2-chloroethyl)ether (CAS 111-44-4)
Hexachloroethane (CAS 67-72-1)
Methylene chloride (CAS 75-09-2)
N-Nitrosodimethylamine (CAS 62-75-9)
N-Nitrosodi-n-propylamine (CAS 621-64-7)
Phenol (CAS 108-95-2)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

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

1,4-Dichlorobenzene (CAS 106-46-7)	Listed: January 1, 1989
Aniline (CAS 62-53-3)	Listed: January 1, 1990

Bis(2-chloro-1-methylethyl) ether (CAS 108-60-1)	Listed: October 29, 1999
Bis(2-chloroethyl)ether (CAS 111-44-4)	Listed: April 1, 1988
Hexachloroethane (CAS 67-72-1)	Listed: July 1, 1990
Methylene chloride (CAS 75-09-2)	Listed: April 1, 1988
N-Nitrosodimethylamine (CAS 62-75-9)	Listed: October 1, 1987
N-Nitrosodi-n-propylamine (CAS 621-64-7)	Listed: January 1, 1988

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)	Yes
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	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date	11-06-2014
Version #	01
NFPA ratings	Health: 2 Flammability: 1 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.

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