# SAFETY DATA SHEET

## GHEMSERVIGE .....

## 1. Identification

Product identifier	Aromatic Volatile Organic Compounds Mixture #2 - 502.2/524.2	
Other means of identification		
Item	M-AVOC2M5	
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		52-9994
		92-3026
Website	www.chemservice.com	
E-mail	info@chemservice.com	
Emergency phone number		24-9300
	Chemtrec outside US +1 70	3-527-3887
2. Hazard(s) identification		
Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 3
	Acute toxicity, inhalation	Category 3
	Serious eye damage/eye irritation	Category 2A
	Germ cell mutagenicity	Category 1
	Carcinogenicity	Category 1A
	Reproductive toxicity (the unborn child	) Category 2
	Specific target organ toxicity, single ex	posure Category 1
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute Category 1 hazard	
	Hazardous to the aquatic environment long-term hazard	, Category 1
OSHA defined hazards	Not classified.	
Label elements		
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Signal word Hazard statement Danger

Highly flammable liquid and vapor. Toxic if swallowed. Toxic in contact with skin. May cause cancer. Causes serious eye irritation. Toxic if inhaled. May cause genetic defects. Suspected of damaging the unborn child. 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.

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. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor. Specific treatment (see this label). Rinse mouth. If eye irritation persists: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.
Supplemental information	0.4% of the mixture consists of component(s) of unknown acute oral toxicity. 2.4% of the mixture consists of component(s) of unknown acute dermal toxicity. 2.6% of the mixture consists of component(s) of unknown acute inhalation toxicity. 95.8% of the mixture consists of component(s) of unknown acute environment. 95.6% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

## 3. Composition/information on ingredients

Chemical name	Common name and synonyms	CAS number	%
Methanol		67-56-1	95
1,2,3-Trichlorobenzene		87-61-6	0.2
1,2,4-Trichlorobenzene		120-82-1	0.2
1,2,4-Trimethylbenzene		95-63-6	0.2
1,2-Dichlorobenzene		95-50-1	0.2
1,3,5-Trimethylbenzene		108-67-8	0.2
1,3-Dichlorobenzene		541-73-1	0.2
1,4-Dichlorobenzene		106-46-7	0.2
2-Chlorotoluene		95-49-8	0.2
4-Chlorotoluene		106-43-4	0.2
Benzene		71-43-2	0.2
Bromobenzene		108-86-1	0.2
Chlorobenzene		108-90-7	0.2
Ethylbenzene		100-41-4	0.2
Isopropylbenzene		98-82-8	0.2
m-Xylene		108-38-3	0.2
Naphthalene		91-20-3	0.2
n-Butylbenzene		104-51-8	0.2
n-Propylbenzene		103-65-1	0.2
o-Xylene		95-47-6	0.2
p-Isopropyltoluene		99-87-6	0.2
p-Xylene		106-42-3	0.2
sec-Butylbenzene		135-98-8	0.2

Chemical name	Common name and synonyms	CAS number	%
Styrene		100-42-5	0.2
tert-Butylbenzene		98-06-6	0.2
Toluene		108-88-3	0.2
I. First-aid measures			
nhalation	Remove victim to fresh air and keep at rest in a p artificial respiration if needed. Do not use mouth- Induce artificial respiration with the aid of a pocke proper respiratory medical device. Call a POISO	to-mouth method if victim et mask equipped with a o	inhaled the subs ne-way valve or
Skin contact	Take off immediately all contaminated clothing. R CENTER or doctor/physician if you feel unwell. G persists.		
Eye contact	Immediately flush eyes with plenty of water for at present and easy to do. Continue rinsing. Get me		
ngestion	Call a physician or poison control center immedia advice from poison control center. If vomiting occ doesn't get into the lungs. Do not use mouth-to-n Induce artificial respiration with the aid of a pocke proper respiratory medical device.	urs, keep head low so tha nouth method if victim inge	t stomach conte sted the substa
lost important ymptoms/effects, acute and lelayed	Symptoms may include stinging, tearing, redness exposure may cause chronic effects.	s, swelling, and blurred vis	ion. Prolonged
ndication of immediate nedical attention and special reatment needed	Provide general supportive measures and treat s immediately. While flushing, remove clothes whic ambulance. Continue flushing during transport to oxygen. Keep victim warm. Keep victim under ob	h do not adhere to affecte hospital. In case of shortr	d area. Call an less of breath, g
General information	Take off immediately all contaminated clothing. If advice/attention. Ensure that medical personnel a precautions to protect themselves. Wash contam	are aware of the material(s	s) involved, and
5. Fire-fighting measures			
Suitable extinguishing media	Alcohol resistant foam. Water fog. Carbon dioxide sand or earth may be used for small fires only.	e (CO2). Dry chemical pov	vder, carbon dio
Jnsuitable extinguishing nedia	Do not use water jet as an extinguisher, as this w	ill spread the fire.	
Specific hazards arising from he chemical	Vapors may form explosive mixtures with air. Vap of ignition and flash back. This product is a poor electrostatically charged. If sufficient charge is ac occur. To reduce potential for static discharge, us This liquid may accumulate static electricity wher electricity accumulation may be significantly incre- or other contaminants. Material will float and may hazardous to health may be formed.	conductor of electricity and cumulated, ignition of flan se proper bonding and gro n filling properly grounded eased by the presence of s	d can become mable mixtures unding procedur containers. Stati mall quantities o
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full prote	ctive clothing must be wor	n in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fur so without risk.	mes. Move containers fror	n fire area if you
Specific methods	Use standard firefighting procedures and conside	er the hazards of other invo	olved materials.
General fire hazards	Highly flammable liquid and vapor.		

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/pers	onal protection			
Occupational exposure limits				
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)				

Components	Туре	Value	
Benzene (CAS 71-43-2)	STEL	5 ppm	
	TWA	1 ppm	
US. OSHA Table Z-1 Limits for Air	Contaminants (29 CFR 1910.1	000)	
Components	Туре	Value	
1,2-Dichlorobenzene (CAS 95-50-1)	Ceiling	300 mg/m3	
		50 ppm	
1,4-Dichlorobenzene (CAS 106-46-7)	PEL	450 mg/m3	
7		75 ppm	

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

Components	ontaminants (29 CFR 1910.1 Type	Value	
Chlorobenzene (CAS 108-90-7)	PEL	350 mg/m3	
		75 ppm	
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3	
	PEL	100 ppm	
Isopropylbenzene (CAS 98-82-8)	PEL	245 mg/m3 50 ppm	
Methanol (CAS 67-56-1)	PEL	260 mg/m3	
		200 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	
US. OSHA Table Z-2 (29 CFR 1910.1	000)		
Components	Туре	Value	
Benzene (CAS 71-43-2)	Ceiling	25 ppm	
	TWA	10 ppm	
Styrene (CAS 100-42-5)	Ceiling	200 ppm	
	TWA	100 ppm	
Toluene (CAS 108-88-3)	Ceiling	300 ppm	
	TWA	200 ppm	
US. ACGIH Threshold Limit Values			
Components	Туре	Value	
1,2,4-Trichlorobenzene	Ceiling	5 ppm	
(CAS 120-82-1)	5		
(CAS 120-82-1) 1,2,4-Trimethylbenzene	TWA	25 ppm	
(CAS 120-82-1)	-		
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS	TWA	25 ppm 50 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS	TWA	25 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene	TWA STEL TWA	25 ppm 50 ppm 25 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS	TWA STEL TWA TWA	25 ppm 50 ppm 25 ppm 25 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS	TWA STEL TWA TWA TWA	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8)	TWA STEL TWA TWA TWA	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm 50 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8)	TWA STEL TWA TWA TWA STEL	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm 50 ppm 2.5 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7)	TWA STEL TWA TWA TWA STEL TWA	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm 50 ppm 2.5 ppm 0.5 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS	TWA STEL TWA TWA TWA STEL TWA TWA	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm 50 ppm 2.5 ppm 0.5 ppm 10 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS	TWA STEL TWA TWA TWA STEL TWA TWA	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm 50 ppm 2.5 ppm 0.5 ppm 10 ppm 20 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8)	TWA STEL TWA TWA TWA STEL TWA TWA TWA	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm 50 ppm 0.5 ppm 10 ppm 20 ppm 50 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1)	TWA STEL TWA TWA TWA STEL TWA TWA TWA TWA STEL	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm 50 ppm 0.5 ppm 10 ppm 20 ppm 50 ppm 250 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1)	TWA STEL TWA TWA TWA STEL TWA TWA TWA STEL TWA STEL TWA	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm 50 ppm 2.5 ppm 10 ppm 20 ppm 50 ppm 250 ppm 250 ppm 200 ppm	
(CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8)	TWA STEL TWA TWA TWA STEL TWA TWA TWA STEL TWA STEL TWA STEL	25 ppm 50 ppm 25 ppm 25 ppm 10 ppm 50 ppm 2.5 ppm 10 ppm 20 ppm 50 ppm 250 ppm 250 ppm 250 ppm 150 ppm	

## US. ACGIH Threshold Limit Values

US. ACGIH Threshold Limit Values Components	Туре	Value	
	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	
Toluene (CAS 108-88-3)	TWA	20 ppm	
US. NIOSH: Pocket Guide to Chen	nical Hazards		
Components	Туре	Value	
1,2,4-Trichlorobenzene	Ceiling	40 mg/m3	
(CAS 120-82-1)			
		5 ppm	
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3	
(CAS 93-03-0)		25 ppm	
1,2-Dichlorobenzene (CAS	Ceiling	300 mg/m3	
95-50-1)	Coming		
		50 ppm	
1,3,5-Trimethylbenzene	TWA	125 mg/m3	
(CAS 108-67-8)		05	
		25 ppm	
2-Chlorotoluene (CAS 95-49-8)	STEL	375 mg/m3	
93-49-0)		75 ppm	
	TWA	250 mg/m3	
		50 ppm	
Benzene (CAS 71-43-2)	STEL	1 ppm	
	TWA	0.1 ppm	
Ethylhonzono (CAC			
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3	
		125 ppm	
	TWA	435 mg/m3	
		100 ppm	
Isopropylbenzene (CAS	TWA	245 mg/m3	
98-82-8)			
		50 ppm	
Methanol (CAS 67-56-1)	STEL	325 mg/m3	
		250 ppm	
	TWA	260 mg/m3	
		200 ppm	
m-Xylene (CAS 108-38-3)	STEL	655 mg/m3	
		150 ppm	
	TWA	435 mg/m3	
		100 ppm	
Naphthalene (CAS 91-20-3)	STEL	75 mg/m3	
, ,		15 ppm	
	TWA	50 mg/m3	
		10 ppm	
o-Xylene (CAS 95-47-6)	STEL	655 mg/m3	
	OTEL	150 ppm	
	TWA	435 mg/m3	
		100 ppm	
n Xulono (CAS 105 42 2)	етеі		
p-Xylene (CAS 106-42-3)	STEL	655 mg/m3	
		150 ppm	
	TWA	435 mg/m3	
		100 ppm	
Styrene (CAS 100-42-5)	STEL	425 mg/m3	
		100 ppm	
	TWA	215 mg/m3	

## US. NIOSH: Pocket Guide to Chemical Hazards Components Type

Components	Туре	Value	
		50 ppm	
Toluene (CAS 108-88-3)	STEL	560 mg/m3	
		150 ppm	
	TWA	375 mg/m3	
		100 ppm	

## **Biological limit values**

ACGIH Biological Exposu Components	Value	Determinant	Specimen	Sampling Time	
Benzene (CAS 71-43-2)	25 µg/g	S-Phenylmerca	Creatinine in	*	
		pturic acid	urine		
Chlorobenzene (CAS	100 mg/g	4-Chlorocatech	Creatinine in	*	
108-90-7)		ol, with	urine		
		hydrolysis			
Ethylbenzene (CAS	0.15 g/g	Sum of	Creatinine in	*	
100-41-4)		mandelic acid	urine		
		and			
		phenylglyoxylic			
Vethanol (CAS 67-56-1)	15 mg/l	acid Methanol	Urine	*	
· · · · · ·	0			*	
m-Xylene (CAS 108-38-3)	1.5 g/g	Methylhippuric acids	Creatinine in urine	-	
o-Xylene (CAS 95-47-6)	1 5 0/0	Methylhippuric	Creatinine in	*	
5-Xylelle (CAS 95-47-0)	1.5 g/g	acids	urine		
o-Xylene (CAS 106-42-3)	1.5 g/g	Methylhippuric	Creatinine in	*	
	1.0 9/9	acids	urine		
Styrene (CAS 100-42-5)	400 mg/g	Mandelic acid	Creatinine in	*	
		plus	urine		
		phenylglyoxylic			
		acid			
	0.2 mg/l	Styrene	Venous	*	
			blood		
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with	Creatinine in	*	
		hydrolysis	urine		
	0.03 mg/l	Toluene	Urine	*	
	0.02 mg/l	Toluene	Blood	*	

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

## Exposure guidelines

## US - California OELs: Skin designation

1,2-Dichlorobenzene (CAS 95-50-1) 2-Chlorotoluene (CAS 95-49-8) Benzene (CAS 71-43-2) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1) Styrene (CAS 100-42-5)	Can be absorbed through the skin. Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.
US - Minnesota Haz Subs: Skin designation app	•
2-Chlorotoluene (CAS 95-49-8) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1) Styrene (CAS 100-42-5) Toluene (CAS 108-88-3) <b>US - Tennessee OELs: Skin designation</b> Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1)	Skin designation applies. Skin designation applies. Skin designation applies. Skin designation applies. Skin designation applies. Can be absorbed through the skin. Can be absorbed through the skin.
US ACGIH Threshold Limit Values: Skin design	5
Benzene (CAS 71-43-2) Methanol (CAS 67-56-1) Naphthalene (CAS 91-20-3) US NIOSH Pocket Guide to Chemical Hazards: 5	Can be absorbed through the skin. Can be absorbed through the skin. Can be absorbed through the skin.
Isopropylbenzene (CAS 98-82-8)	Can be absorbed through the skin.

Material name: Aromatic Volatile Organic Compounds Mixture #2 - 502.2/524.2M-AVOC2M5Version #: 02Revision date: 09-07-2016Issue date: 09-12-2014

Methanol (CAS 67-56-1	-	Can be absorbed through the skin.	
Isopropylbenzene (CAS	s for Air Contaminants (29 CFI 5 98-82-8)	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	s, 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 protective gloves.		
Other	Wear appropriate chemical r	esistant clothing.	
Respiratory protection		t maintain airborne concentrations below recommended exposure o an acceptable level (in countries where exposure limits have not ved respirator must be worn.	
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.		
General hygiene considerations	as washing after handling th	k or smoke. Always observe good personal hygiene measures, such e material and before eating, drinking, and/or smoking. Routinely ective equipment to remove contaminants.	

## 9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
рН	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 exp	losive limits
Flammability limit - lower (%)	7.3 % estimated
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	169.3 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	867.2 °F (464 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.79854 g/cm3 estimated

Flammability class Flammable IB estim	
Percent volatile 98.2 % estimated	
Specific gravity 0.8 estimated	
VOC (Weight %)	98.3 % 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.
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.

#### Information on toxicological effects

Acute toxicity

Toxic by inhalation. Toxic if swallowed. Toxic in contact with skin. Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Components	Species	Test Results
1,2,3-Trichlorobenzene (CA	AS 87-61-6)	
<u>Acute</u>		
Oral		
LD50	Mouse	766 mg/kg
	Rat	> 5000 mg/kg
,2,4-Trichlorobenzene (C/	AS 120-82-1)	
<u>Acute</u>		
Dermal		
LD50	Mouse	300 mg/kg
	Rabbit	> 5000 mg/kg
	Rat	11356 mg/kg
Oral		
LD50	Mouse	766 mg/kg
	Rat	756 mg/kg
,2,4-Trimethylbenzene (C	AS 95-63-6)	
Acute		
Dermal		
LD50	Rabbit	> 3160 mg/kg
	Rat	3440 mg/kg, 24 Hours
Inhalation		
Vapor		
LC50	Mouse, Rat	> 2000 ppm, 12 Hours
LC50	Rat	> 2000 ppm, 48 Hours

Components	Species	Test Results
		10200 mg/m3, 4 Hours
Oral		
LD50	Rat	6000 mg/kg
		3280 mg/kg
,2-Dichlorobenzene (CAS	95-50-1)	
<u>Acute</u>		
Inhalation		
LC50	Mouse	6.825 mg/l, 6 Hours
Oral		0.0000 <i>I</i>
LD50	Guinea pig	0.0008 mg/kg
	Mouse	4386 g/kg
	Rabbit	500 g/kg
	Rat	> 2000 mg/kg
1,3,5-Trimethylbenzene (CA	AS 108-67-8)	
Acute		
Dermal	Det	
LD50	Rat	> 4 ml/kg, 24 Hours
Inhalation	Det	
LC50	Rat	10200 mg/m3, 4 Hours
Oral	Det	6000 malka
LD50	Rat	6000 mg/kg
1,3-Dichlorobenzene (CAS	541-73-1)	
<u>Acute</u> Oral		
LD50	Rat	580 mg/kg
,4-Dichlorobenzene (CAS		5 5 5
<u>Acute</u>	,	
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Inhalation		
Vapor		
LC50	Rat	> 5.07 mg/l, 4 Hours
Oral		
LD50	Rabbit	2830 mg/kg
	Rat	3790 mg/kg
2-Chlorotoluene (CAS 95-49	9-8)	
<u>Acute</u>		
Dermal	5.4	
LD50	Rat	> 1080 mg/kg, 24 Hours
Inhalation		
<i>Vapor</i> LC50	Mouse	> 20.583 mg/l, 1 Hours
1.050	Rat	> 20.583 mg/l, 1 Hours
LC50	Rat	7119 ppm, 4 Hours
Oral	Det	
LD50	Rat	1659 mg/kg

Components	Species	Test Results
4-Chlorotoluene (CAS 106-43-4)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg, 24 Hours
Inhalation		
Vapor		
LC50	Rat	21.5 mg/l
Oral		
LD50	Rat	2100 mg/kg
Benzene (CAS 71-43-2)		
Acute		
Dermal		
LD50	Guinea pig; Rabbit	> 9.4 ml/kg, 24 Hours
Inhalation		
LC50	Mouse	9980 ppm
Vapor		
LC50	Rat	43767 mg/m3, 4 Hours
		13700 ppm, 4 Hours
LC50	Rat	10000 ppm, 7 Hours
Oral		
LD50	Mouse	4700 mg/kg
	Rat	> 2000 mg/kg
Chlorobenzene (CAS 108-90-7)		
Acute		
Inhalation		
LC50	Rat	13.9 mg/l, 6 Hours
Vapor		
LC50	Rat	13.6 mg/l
Oral		
LD50	Mouse	1440 mg/kg
	Rat	> 2000 mg/kg
		1.29 ml/kg
Ethylbenzene (CAS 100-41-4)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	17800 mg/kg
		17.8 ml/kg, 24 Hours
Inhalation		11.0 min.g, 2 1 10010
Vapor		
LC50	Mouse	> 8000 ppm, 20 Minutes
	Rat	4000 ppm
Oral		
LD50	Rat	3500 mg/kg
sopropylbenzene (CAS 98-82-8)		cooo mana
<u>Acute</u> Dermal		
LD50	Rabbit	> 3160 mg/kg, 24 Hours
Inhalation	. Coon	a too mg/ng, 2+ riouro
LC50	Mouse	2000 ppm, 7 Hours
2000	Widdac	

Components	Species	Test Results
		24.7 mg/l, 2 Hours
Vapor		
LC50	Mouse	10 mg/l, 7 Hours
LC50	Rat	8000 ppm, 4 Hours
Oral		
LD50	Rat	2260 mg/kg
/lethanol (CAS 67-56-1)		
<u>Acute</u>		
Dermal		(5000 #
LD50	Rabbit	15800 mg/kg
Inhalation		
LC50	Mouse	79.43 mg/l, 134 Minutes
	Rat	> 115.9 mg/l, 4 Hours
		64000 ppm, 4 Hours
		82.1 mg/l, 6 Hours
Oral		<b></b>
LD50	Monkey	6000 mg/kg
	Mouse	7300 mg/kg
	Pig	> 5000 mg/kg
	Rabbit	14.4 g/kg
	Rat	5628 mg/kg
Other		
LD50	Guinea pig	3556 mg/kg
	Hamster	8555 mg/kg
	Mouse	4100 mg/kg
	Rabbit	1826 mg/kg
	Rat	2131 mg/kg
n-Xylene (CAS 108-38-3)		
Acute		
Dermal		
LD50	Rabbit	12126 mg/kg, 24 Hours
Inhalation		
Vapor		
LC50	Mouse	5267 ppm, 6 Hours
	Rat	6700 ppm, 4 Hours
		5984 ppm, 6 Hours
Oral		
LD50	Mouse	1590 mg/kg
	Rat	6631 mg/kg
Naphthalene (CAS 91-20-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2 g/kg
	Rat	> 16000 mg/kg, 24 Hours
		> 2500 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 78 ppm, 4 Hours

Components	Species	Test Results
		> 0.4 mg/l, 4 Hours
Oral		<i></i>
LD50	Guinea pig	1200 mg/kg
	Mouse	533 mg/kg
	Rat	> 2000 mg/kg
		490 mg/kg
n-Propylbenzene (CAS 103-6	65-1)	
Acute		
Oral		
LD50	Rat	6040 mg/kg
o-Xylene (CAS 95-47-6)		
Acute		
Dermal		
LD50	Rabbit	> 5000 ml/kg, 4 Hours
		> 43 g/kg
Inhalation		
LC50	Mouse	4595 ppm, 6 Hours
2000	Rat	6350 ppm, 4 Hours
	Nat	0350 ppm, 4 riouis
Vapor	Det	4220 nnm 6 Hours
LC50	Rat	4330 ppm, 6 Hours
Oral		
LD50	Mouse	5251 mg/kg
	Rat	3523 mg/kg
		10 ml/kg
p-Isopropyltoluene (CAS 99-8	37-6)	
Acute		
Oral		
LD50	Rat	4750 mg/kg
o-Xylene (CAS 106-42-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 ml/kg, 4 Hours
		> 43 g/kg
Inhalation		
LC50	Mouse	3907 ppm, 6 Hours
	Modee	
Vapor LC50	Rat	5922 ppm, 4 Hours
2000	Nat	
		4591 ppm, 6 Hours
Oral		
LD50	Mouse	1590 mg/kg
	Rat	3523 mg/kg
sec-Butylbenzene (CAS 135-	98-8)	
<u>Acute</u>		
Oral		
LD50	Rat	2240 mg/kg
Styrene (CAS 100-42-5)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours

Components	Species	Test Results	
Inhalation			
Vapor	Cuinco nia	> E 11 mall	
LC50	Guinea pig	> 5.11 mg/l	
	Mouse	> 2.13 mg/l	
LC50	Mouse	4940 ppm, 2 Hours	
	Rat	2770 ppm, 4 Hours	
		24 mg/l, 4 Hours	
Oral			
LD50	Hamster, Syrian	> 6000 mg/kg	
	Mouse	316 mg/kg	
	Rat	1 g/kg	
oluene (CAS 108-88-3)			
<u>Acute</u>			
Dermal			
LD50	Rabbit	> 5000 mg/kg, 24 Hours	
		14.1 ml/kg	
Inhalation			
LC50	Mouse	5320 ppm, 8 Hours	
		400 ppm, 24 Hours	
	Rat	26700 ppm, 1 Hours	
		12200 ppm, 2 Hours	
		8000 ppm, 4 Hours	
Vapor			
LC50	Rat	25.7 mg/l, 4 Hours	
Oral			
LD50	Rat	> 5000 mg/kg	
		2.6 g/kg	
	be based on additional compo		
Skin corrosion/irritation	Prolonged skin contact may		
Serious eye damage/eye rritation	Causes serious eye irritatio	11.	
Respiratory or skin sensitizatio	n		
Respiratory sensitization	Not available.		
Skin sensitization	This product is not expected	d to cause skin sensitization.	
Germ cell mutagenicity	May cause genetic defects.		
Carcinogenicity	May cause cancer.		
	Evaluation of Carcinogenici	ty	
1,2-Dichlorobenzene (CA	-	3 Not classifiable as to carcinogenicity to humans.	
1,3-Dichlorobenzene (CA		3 Not classifiable as to carcinogenicity to humans.	
1,4-Dichlorobenzene (CA		2B Possibly carcinogenic to humans.	
Benzene (CAS 71-43-2) Ethylbenzene (CAS 100-41-4)		1 Carcinogenic to humans. 2B Possibly carcinogenic to humans.	
Isopropylbenzene (CAS 98-82-8)		2B Possibly 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) p-Xylene (CAS 106-42-3		3 Not classifiable as to carcinogenicity to humans. 3 Not classifiable as to carcinogenicity to humans.	
Styrene (CAS 100-42-5)		2B Possibly carcinogenic to humans.	
Toluene (CAS 108-88-3)	)	3 Not classifiable as to carcinogenicity to humans.	
US. National Toxicology Pr	ogram (NTP) Report on Caro	cinogens	
1,4-Dichlorobenzene (CA		Reasonably Anticipated to be a Human Carcinogen.	

Benzene (CAS 71-43-2) Naphthalene (CAS 91-20- Styrene (CAS 100-42-5) US. OSHA Specifically Regul	0-3) Reasonably Anticipated to be a Human Carcinogen.	
Benzene (CAS 71-43-2)	Cancer	
Reproductive toxicity	Suspected of damaging the unborn child.	
Specific target organ toxicity - single exposure	Causes damage to organs.	
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.	
Aspiration hazard	Not 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.

Components		Species	Test Results
1,2,4-Trichlorobenzene	e (CAS 120-82-1)		
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	3.1 - 3.69 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	1.35 - 1.73 mg/l, 96 hours
1,2,4-Trimethylbenzen	e (CAS 95-63-6)		
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	7.19 - 8.28 mg/l, 96 hours
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
1,3,5-Trimethylbenzen	e (CAS 108-67-8)		
Aquatic			
Fish	LC50	Goldfish (Carassius auratus)	9.89 - 15.05 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-Chlorotoluene (CAS	95-49-8)		
Aquatic			
Fish	LC50	Bleak (Alburnus alburnus)	6.7 - 9.1 mg/l, 96 hours
Benzene (CAS 71-43-2	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 1	08-86-1)		
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	5.6 mg/l, 96 hours

Components		Species	Test Results
Chlorobenzene (CAS 1	08-90-7)		
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	4.1 - 4.9 mg/l, 96 hours
Ethylbenzene (CAS 10	0-41-4)		
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
Isopropylbenzene (CAS	6 98-82-8)		
Aquatic	5050		0.55 (1.00 // 10)
Crustacea	EC50	Brine shrimp (Artemia sp.)	3.55 - 11.29 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.7 mg/l, 96 hours
Methanol (CAS 67-56-1	1)		
Aquatic	,		
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
m-Xylene (CAS 108-38	-3)		
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	2.81 - 5 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.4 mg/l, 96 hours
Naphthalene (CAS 91-2	20-3)		
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.09 - 3.4 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha)	1.11 - 1.68 mg/l, 96 hours
n-Butylbenzene (CAS 1 Aquatic	104-51-8)		
Crustacea	EC50	Water flea (Daphnia magna)	0.27 - 0.44 mg/l, 48 hours
n-Propylbenzene (CAS Aquatic	103-65-1)		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	1.55 mg/l, 96 hours
o-Xylene (CAS 95-47-6	5)		
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.78 - 2.51 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	5.59 - 11.6 mg/l, 96 hours
p-Isopropyltoluene (CA	S 99-87-6)		
Aquatic	1.050		
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	36 - 64 mg/l, 96 hours
p-Xylene (CAS 106-42-	-3)		
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	3.55 - 6.31 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.6 mg/l, 96 hours
Styrene (CAS 100-42-5	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

Material name: Aromatic Volatile Organic Compounds Mixture #2 - 502.2/524.2M-AVOC2M5Version #: 02Revision date: 09-07-2016Issue date: 09-12-2014

Components		Species	Test Results	
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	
* Estimates for product may l	be based on	additional component data not shown.		
rsistence and degradability		s available on the degradability of this pro-	oduct.	
accumulative potential	No data available.			
Partition coefficient n-octa				
1,2,3-Trichlorobenzene	nor water (	4.05		
1,2,4-Trichlorobenzene		4.02		
1,2-Dichlorobenzene		3.43		
1,3-Dichlorobenzene		3.53		
1,4-Dichlorobenzene		3.44		
2-Chlorotoluene		3.42		
4-Chlorotoluene		3.33		
Benzene Bromobenzene		2.13 2.99		
Chlorobenzene		2.89		
Ethylbenzene		3.15		
Isopropylbenzene		3.66		
Methanol		-0.77		
m-Xylene		3.2		
Naphthalene		3.3		
n-Butylbenzene		4.38		
n-Propylbenzene		3.69 3.12		
o-Xylene p-Isopropyltoluene		4.1		
p-Xylene		3.15		
sec-Butylbenzene		4.57		
Styrene		2.95		
tert-Butylbenzene		4.11		
Toluene		2.73		
bility in soil	No data a	available.		
ner 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.		
. Disposal consideratio	ons			
posal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This mate and its container must be disposed of as hazardous waste. Do not allow this material to drain sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or use container. Dispose of contents/container in accordance with local/regional/national/internation regulations.			
cal disposal regulations	Dispose i	n accordance with all applicable regulation	ns.	
zardous waste code	The waste code should be assigned in discussion between the user, the producer and the wa disposal company.			
ste from residues / unused oducts	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).			
ntaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or dispose Since emptied containers may retain product residue, follow label warnings even after contain emptied.			
. Transport information	1			
-	-			
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Subsidiary risk Label(s) Packing group Special precautions for user Special provisions Packaging exceptions Packaging non bulk Packaging bulk	3 II Read safety instructions, SDS and emergency procedures before handling. IB2, T7, TP2 150 202 242
UN number	UN1230
UN proper shipping name	Methanol solution (Methanol)
Transport hazard class(es)	
Class	3
Subsidiary risk	6.1(PGI, II)
Packing group	
Environmental hazards ERG Code	No. 3L
	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.
IMDG	
UN number	UN1230 METHANOL SOLUTION (Methanol)
UN proper shipping name Transport hazard class(es)	METHANOE SOLUTION (Methanol)
Class	3
Subsidiary risk	6.1(PGI, II)
Packing group	
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Read safety instructions, SDS and emergency procedures before handling. Not available.
DOT	
FLAMMABLE 3	
IATA; IMDG	6
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. All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

, , , , , , , , , , , , , , , , , , ,	
1,2,3-Trichlorobenzene (CAS 87-61-6)	Listed.
1,2,4-Trichlorobenzene (CAS 120-82-1)	Listed.
1,2-Dichlorobenzene (CAS 95-50-1)	Listed.
1,3-Dichlorobenzene (CAS 541-73-1)	Listed.
Benzene (CAS 71-43-2)	Listed.
Chlorobenzene (CAS 108-90-7)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Isopropylbenzene (CAS 98-82-8)	Listed.
Methanol (CAS 67-56-1)	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.
Toluene (CAS 108-88-3)	Listed.

## SARA 304 Emergency release notification

Not regulated.

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

Benzene (CAS 71-43-2)

Cancer Central nervous system Blood Aspiration Skin Eye respiratory tract irritation Flammability

## Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard	categories
	U

Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No

#### SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous No

chemical

## SARA 313 (TRI reporting)

CAS number	% by wt.
67-56-1	95
106-46-7	0.2
71-43-2	0.2
100-41-4	0.2
91-20-3	0.2
100-42-5	0.2
	67-56-1 106-46-7 71-43-2 100-41-4 91-20-3

## Other federal regulations

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

1,2,4-Trichlorobenzene (CAS 120-82-1) 1,4-Dichlorobenzene (CAS 106-46-7) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1)

Not regulated. Safe Drinking Water Act (SDWA)	n <b>112(r) Accidental Release Pr</b> Not regulated.	evention (40 CFR 68.130) ential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and
Chemical Code Numbe		
Toluene (CAS 108-8		6594
-		xempt Chemical Mixtures (21 CFR 1310.12(c))
Toluene (CAS 108-8	Mixtures Code Number	35 %WV
Toluene (CAS 108-8		594
•	38-37	554
US state regulations		
US - New Jersey RTK - Sub		
1,2,4-Trichlorobenzene ( 1,2,4-Trimethylbenzene ( 1,2-Dichlorobenzene (CA 1,3,5-Trimethylbenzene (CA 1,3-Dichlorobenzene (CA 1,4-Dichlorobenzene (CA 2-Chlorotoluene (CAS 95 4-Chlorotoluene (CAS 10 Benzene (CAS 71-43-2) Bromobenzene (CAS 100- Chlorobenzene (CAS 100- Isopropylbenzene (CAS 100- Isopropylbenzene (CAS 100- Isopropylbenzene (CAS 100- Naphthalene (CAS 91-20 n-Butylbenzene (CAS 10 n-Propylbenzene (CAS 10 n-Propylbenzene (CAS 10 n-Propylbenzene (CAS 10 n-Propylbenzene (CAS 10 p-Isopropyltoluene (CAS p-Xylene (CAS 100-42-3) Styrene (CAS 100-42-5) tert-Butylbenzene (CAS 108-88-3)	(CAS 95-63-6) AS 95-50-1) (CAS 108-67-8) AS 541-73-1) AS 106-46-7) 5-49-8) 06-43-4) 8-86-1) 8-86-1) 8-90-7) -41-4) 98-82-8) 3) 0-3) 04-51-8) 103-65-1) 999-87-6) -) 98-06-6)	
	azardous Substances: Special	hazard
1,4-Dichlorobenzene (CA		
Benzene (CAS 71-43-2)		
US. California Controlled S	ubstances. CA Department of	Justice (California Health and Safety Code Section 11100)
(a))		er Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd.
1,2,3-Trichlorobenzene ( 1,2,4-Trichlorobenzene ( 1,2,4-Trimethylbenzene ( 1,2-Dichlorobenzene (CA 1,3,5-Trimethylbenzene (CA 1,3-Dichlorobenzene (CA 1,4-Dichlorobenzene (CA 2-Chlorotoluene (CAS 95 4-Chlorotoluene (CAS 10 Benzene (CAS 71-43-2) Chlorobenzene (CAS 100- Ethylbenzene (CAS 100-	CAS 120-82-1) (CAS 95-63-6) AS 95-50-1) (CAS 108-67-8) AS 541-73-1) AS 106-46-7) 5-49-8) 06-43-4) 8-90-7)	

Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1) 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) Toluene (CAS 108-88-3) **US. Massachusetts RTK - Substance List** 1,2,3-Trichlorobenzene (CAS 87-61-6) 1,2,4-Trichlorobenzene (CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,3-Dichlorobenzene (CAS 541-73-1) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8) 4-Chlorotoluene (CAS 106-43-4) Benzene (CAS 71-43-2) Bromobenzene (CAS 108-86-1) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1) 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-Isopropyltoluene (CAS 99-87-6) p-Xylene (CAS 106-42-3) sec-Butylbenzene (CAS 135-98-8) Styrene (CAS 100-42-5) tert-Butylbenzene (CAS 98-06-6) Toluene (CAS 108-88-3) US. New Jersey Worker and Community Right-to-Know Act 1,2,4-Trichlorobenzene (CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1.3-Dichlorobenzene (CAS 541-73-1) 1,4-Dichlorobenzene (CAS 106-46-7) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1) 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) Toluene (CAS 108-88-3) US. Pennsylvania RTK - Hazardous Substances 1,2,3-Trichlorobenzene (CAS 87-61-6) 1,2,4-Trichlorobenzene (CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,3-Dichlorobenzene (CAS 541-73-1) 1.4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8)

4-Chlorotoluene (CAS 106-43-4) Benzene (CAS 71-43-2) Bromobenzene (CAS 108-86-1) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1) 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-Isopropyltoluene (CAS 99-87-6) p-Xylene (CAS 106-42-3) sec-Butylbenzene (CAS 135-98-8) Styrene (CAS 100-42-5) tert-Butylbenzene (CAS 98-06-6) Toluene (CAS 108-88-3) US. Pennsylvania Worker and Community Right-to-Know Law 1,2,3-Trichlorobenzene (CAS 87-61-6) 1,2,4-Trichlorobenzene (CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3,5-Trimethylbenzene (CAS 108-67-8) 1,3-Dichlorobenzene (CAS 541-73-1) 1,4-Dichlorobenzene (CAS 106-46-7) 2-Chlorotoluene (CAS 95-49-8) 4-Chlorotoluene (CAS 106-43-4) Benzene (CAS 71-43-2) Bromobenzene (CAS 108-86-1) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1) 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-Isopropyltoluene (CAS 99-87-6) p-Xylene (CAS 106-42-3) sec-Butylbenzene (CAS 135-98-8) Styrene (CAS 100-42-5) tert-Butylbenzene (CAS 98-06-6) Toluene (CAS 108-88-3) **US. Rhode Island RTK** 1,2,3-Trichlorobenzene (CAS 87-61-6) 1,2,4-Trichlorobenzene (CAS 120-82-1) 1,2,4-Trimethylbenzene (CAS 95-63-6) 1,2-Dichlorobenzene (CAS 95-50-1) 1,3-Dichlorobenzene (CAS 541-73-1) 1,4-Dichlorobenzene (CAS 106-46-7) Benzene (CAS 71-43-2) Chlorobenzene (CAS 108-90-7) Ethylbenzene (CAS 100-41-4) Isopropylbenzene (CAS 98-82-8) Methanol (CAS 67-56-1) 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) Toluene (CAS 108-88-3)

#### **US. California Proposition 65**

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

US - California Prop	osition 65 - CRT: Listed da	ate/Carcinogenic substance	
1,4-Dichlorobenzene (CAS 106-46-7)		Listed: January 1, 1989	
Benzene (CAS 71-43-2)		Listed: February 27, 1987	
Ethylbenzene (CAS 100-41-4)		Listed: June 11, 2004	
Isopropylbenzene (CAS 98-82-8)		Listed: April 6, 2010	
Naphthalene (CA	,	Listed: April 19, 2002	
•	osition 65 - CRT: Listed d	ate/Developmental toxin Listed: December 26, 1997	
·	Benzene (CAS 71-43-2)		
Methanol (CAS 6		Listed: March 16, 2012	
Toluene (CAS 10	,	Listed: January 1, 1991 ate/Female reproductive toxin	
•		•	
Toluene (CAS 10	,	Listed: August 7, 2009 ate/Male reproductive toxin	
•		•	
Benzene (CAS 7	1-43-2)	Listed: December 26, 1997	
International Inventories			
Country(s) or region	Inventory name		On inventory (yes/no)*
<b>Country(s) or region</b> Australia	•	of Chemical Substances (AICS)	<b>On inventory (yes/no)*</b> Yes
	•		• • •
Australia	Australian Inventory o	s List (DSL)	Yes
Australia Canada	Australian Inventory o Domestic Substances Non-Domestic Substa	s List (DSL)	Yes Yes
Australia Canada Canada	Australian Inventory o Domestic Substances Non-Domestic Substa Inventory of Existing C	s List (DSL) ances List (NDSL) Chemical Substances in China (IECSC) f Existing Commercial Chemical	Yes Yes No
Australia Canada Canada China	Australian Inventory o Domestic Substances Non-Domestic Substa Inventory of Existing ( European Inventory of Substances (EINECS	s List (DSL) ances List (NDSL) Chemical Substances in China (IECSC) f Existing Commercial Chemical	Yes Yes No Yes
Australia Canada Canada China Europe	Australian Inventory o Domestic Substances Non-Domestic Substa Inventory of Existing ( European Inventory of Substances (EINECS European List of Notif	ances List (DSL) ances List (NDSL) Chemical Substances in China (IECSC) f Existing Commercial Chemical )	Yes Yes No Yes Yes
Australia Canada Canada China Europe Europe	Australian Inventory o Domestic Substances Non-Domestic Substa Inventory of Existing ( European Inventory of Substances (EINECS European List of Notif	ances List (DSL) Ences List (NDSL) Chemical Substances in China (IECSC) f Existing Commercial Chemical ) fied Chemical Substances (ELINCS) and New Chemical Substances (ENCS)	Yes Yes No Yes Yes No
Australia Canada Canada China Europe Europe Japan	Australian Inventory o Domestic Substances Non-Domestic Substa Inventory of Existing O European Inventory of Substances (EINECS European List of Notif Inventory of Existing a	a List (DSL) ances List (NDSL) Chemical Substances in China (IECSC) f Existing Commercial Chemical ) fied Chemical Substances (ELINCS) and New Chemical Substances (ENCS) st (ECL)	Yes Yes No Yes Yes No Yes

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s) A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date	09-12-2014
Revision date	09-07-2016
Version #	02
NFPA ratings	Health: 4 Flammability: 3 Instability: 0

Yes

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.
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Revision Information	This product is furnished FOR LABORATORY USE ONLY. Composition / Information on Ingredients: Ingredients