

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>Pesticide Control Sample Mixture</b>	
<b>Other means of identification</b>		
<b>Item</b>	M-CSM8080U99	
<b>Recommended use</b>	For Laboratory Use Only	
<b>Recommended restrictions</b>	None known.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	Chem Service, Inc.	
<b>Address</b>	660 Tower Lane West Chester, PA 19380 United States	
<b>Telephone</b>	Toll Free	800-452-9994
	Direct	610-692-3026
<b>Website</b>	www.chemservice.com	
<b>E-mail</b>	info@chemservice.com	
<b>Emergency phone number</b>	Chemtrec US	800-424-9300
	Chemtrec outside US	+1 703-527-3887

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 2
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Reproductive toxicity	Category 1A
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		



**Signal word**

Danger

**Hazard statement**

Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled. May cause drowsiness or dizziness. May damage fertility or the unborn child. 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. 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/vapors. 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. Rinse mouth. Do NOT induce vomiting. 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. If exposed or concerned: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off 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

None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Toluene		108-88-3	99.934
4,4'-DDD		72-54-8	0.01
4,4'-DDT		50-29-3	0.01
b-Endosulfan		33213-65-9	0.01
Endosulfan sulfate		1031-07-8	0.01
Endrin		72-20-8	0.01
4,4'-DDE		72-55-9	0.002
a-Endosulfan		959-98-8	0.002
Aldrin		309-00-2	0.002
BHC (alpha isomer)		319-84-6	0.002
BHC (beta isomer)		319-85-7	0.002
Dieldrin		60-57-1	0.002
Heptachlor		76-44-8	0.002
Heptachlor epoxide (Isomer B)		1024-57-3	0.002

## 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. Call a poison center or doctor/physician if you feel unwell.

### Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

### Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

### Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

### Most important symptoms/effects, acute and delayed

Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

### Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

<b>General information</b>	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
<b>5. Fire-fighting measures</b>	
<b>Suitable extinguishing media</b>	Water fog. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Highly flammable liquid and vapor.
<b>6. Accidental release measures</b>	
<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. 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.
<b>Methods and materials for containment and cleaning up</b>	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. 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. 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: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. 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.
<b>Environmental precautions</b>	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

## 7. Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist/vapors. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

### Conditions for safe storage, including any incompatibilities

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

## 8. Exposure controls/personal protection

### Occupational exposure limits

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

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

Components	Type	Value
4,4'-DDT (CAS 50-29-3)	PEL	1 mg/m <sup>3</sup>
Aldrin (CAS 309-00-2)	PEL	0.25 mg/m <sup>3</sup>
Dieldrin (CAS 60-57-1)	PEL	0.25 mg/m <sup>3</sup>
Endrin (CAS 72-20-8)	PEL	0.1 mg/m <sup>3</sup>
Heptachlor (CAS 76-44-8)	PEL	0.5 mg/m <sup>3</sup>

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

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
4,4'-DDT (CAS 50-29-3)	TWA	1 mg/m <sup>3</sup>	
a-Endosulfan (CAS 959-98-8)	TWA	0.1 mg/m <sup>3</sup>	Inhalable fraction and vapor.
Aldrin (CAS 309-00-2)	TWA	0.05 mg/m <sup>3</sup>	Inhalable fraction and vapor.
b-Endosulfan (CAS 33213-65-9)	TWA	0.1 mg/m <sup>3</sup>	Inhalable fraction and vapor.
Dieldrin (CAS 60-57-1)	TWA	0.1 mg/m <sup>3</sup>	Inhalable fraction and vapor.
Endrin (CAS 72-20-8)	TWA	0.1 mg/m <sup>3</sup>	
Heptachlor (CAS 76-44-8)	TWA	0.05 mg/m <sup>3</sup>	

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)	TWA	0.05 mg/m <sup>3</sup>	
Toluene (CAS 108-88-3)	TWA	20 ppm	

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
4,4'-DDT (CAS 50-29-3)	TWA	0.5 mg/m <sup>3</sup>
a-Endosulfan (CAS 959-98-8)	TWA	0.1 mg/m <sup>3</sup>
Aldrin (CAS 309-00-2)	TWA	0.25 mg/m <sup>3</sup>
b-Endosulfan (CAS 33213-65-9)	TWA	0.1 mg/m <sup>3</sup>
Dieldrin (CAS 60-57-1)	TWA	0.25 mg/m <sup>3</sup>
Endrin (CAS 72-20-8)	TWA	0.1 mg/m <sup>3</sup>
Heptachlor (CAS 76-44-8)	TWA	0.5 mg/m <sup>3</sup>
Toluene (CAS 108-88-3)	STEL	560 mg/m <sup>3</sup>
		150 ppm
	TWA	375 mg/m <sup>3</sup>
		100 ppm

**Biological limit values****ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*

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

**Exposure guidelines****US - California OELs: Skin designation**

4,4'-DDT (CAS 50-29-3)	Can be absorbed through the skin.
a-Endosulfan (CAS 959-98-8)	Can be absorbed through the skin.
Aldrin (CAS 309-00-2)	Can be absorbed through the skin.
b-Endosulfan (CAS 33213-65-9)	Can be absorbed through the skin.
Dieldrin (CAS 60-57-1)	Can be absorbed through the skin.
Endrin (CAS 72-20-8)	Can be absorbed through the skin.
Heptachlor (CAS 76-44-8)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**

a-Endosulfan (CAS 959-98-8)	Skin designation applies.
Aldrin (CAS 309-00-2)	Skin designation applies.
b-Endosulfan (CAS 33213-65-9)	Skin designation applies.
Dieldrin (CAS 60-57-1)	Skin designation applies.
Endrin (CAS 72-20-8)	Skin designation applies.
Heptachlor (CAS 76-44-8)	Skin designation applies.
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)	Skin designation applies.
Toluene (CAS 108-88-3)	Skin designation applies.

**US - Tennessee OELs: Skin designation**

4,4'-DDT (CAS 50-29-3)	Can be absorbed through the skin.
a-Endosulfan (CAS 959-98-8)	Can be absorbed through the skin.
Aldrin (CAS 309-00-2)	Can be absorbed through the skin.
b-Endosulfan (CAS 33213-65-9)	Can be absorbed through the skin.
Dieldrin (CAS 60-57-1)	Can be absorbed through the skin.
Endrin (CAS 72-20-8)	Can be absorbed through the skin.
Heptachlor (CAS 76-44-8)	Can be absorbed through the skin.

## US ACGIH Threshold Limit Values: Skin designation

a-Endosulfan (CAS 959-98-8)	Danger of cutaneous absorption
Aldrin (CAS 309-00-2)	Danger of cutaneous absorption
b-Endosulfan (CAS 33213-65-9)	Danger of cutaneous absorption
Dieldrin (CAS 60-57-1)	Danger of cutaneous absorption
Endrin (CAS 72-20-8)	Danger of cutaneous absorption
Heptachlor (CAS 76-44-8)	Danger of cutaneous absorption
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)	Danger of cutaneous absorption

## US NIOSH Pocket Guide to Chemical Hazards: Skin designation

a-Endosulfan (CAS 959-98-8)	Can be absorbed through the skin.
Aldrin (CAS 309-00-2)	Can be absorbed through the skin.
b-Endosulfan (CAS 33213-65-9)	Can be absorbed through the skin.
Dieldrin (CAS 60-57-1)	Can be absorbed through the skin.
Endrin (CAS 72-20-8)	Can be absorbed through the skin.
Heptachlor (CAS 76-44-8)	Can be absorbed through the skin.

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

4,4'-DDT (CAS 50-29-3)	Can be absorbed through the skin.
Aldrin (CAS 309-00-2)	Can be absorbed through the skin.
Dieldrin (CAS 60-57-1)	Can be absorbed through the skin.
Endrin (CAS 72-20-8)	Can be absorbed through the skin.
Heptachlor (CAS 76-44-8)	Can be absorbed through the skin.

**Appropriate engineering controls** Explosion-proof general and local exhaust ventilation. Good general ventilation 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 and safety shower.

## Individual protection measures, such as personal protective equipment

**Eye/face protection** Chemical respirator with organic vapor cartridge and full facepiece.

### Skin protection

**Hand protection** Wear appropriate chemical resistant gloves.

### Other

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

**Respiratory protection** Chemical respirator with organic vapor cartridge and full facepiece.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** Observe any medical surveillance requirements. When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

**Physical state** Liquid.

**Form** Liquid.

**Color** Not available.

**Odor** Not available.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** -138.82 °F (-94.9 °C) estimated

**Initial boiling point and boiling range** 231.08 °F (110.6 °C) estimated

**Flash point** 40.0 °F (4.4 °C) estimated

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not applicable.

### Upper/lower flammability or explosive limits

**Explosive limit - lower (%)** 1.27 % estimated

**Explosive limit - upper (%)** 7 % estimated

**Vapor pressure** 29.3 hPa estimated

<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	896 °F (480 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	0.86385 g/cm3 estimated
<b>Explosive properties</b>	Not explosive.
<b>Flammability class</b>	Flammable IB estimated
<b>Oxidizing properties</b>	Not oxidizing.
<b>Percent volatile</b>	99.93 % estimated
<b>Specific gravity</b>	0.86 estimated
<b>VOC</b>	99.93 % estimated

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Harmful if inhaled. May cause drowsiness or dizziness. Headache. Nausea, vomiting.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
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### Information on toxicological effects

<b>Acute toxicity</b>	May be fatal if swallowed and enters airways. Harmful if inhaled.
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Components	Species	Test Results
4,4'-DDD (CAS 72-54-8)		
<u>Acute</u>		
<b>Dermal</b>		
LD50	Rabbit	1200 mg/kg
<b>Oral</b>		
LD50	Rat	113 mg/kg
4,4'-DDE (CAS 72-55-9)		
<u>Acute</u>		
<b>Oral</b>		
LD50	Rat	880 mg/kg

Components	Species	Test Results
4,4'-DDT (CAS 50-29-3)		
<u>Acute</u>		
<b>Dermal</b>		
LD50	Rabbit	300 mg/kg
<b>Oral</b>		
LD50	Rat	87 - 113 mg/kg
a-Endosulfan (CAS 959-98-8)		
<u>Acute</u>		
<b>Dermal</b>		
LD50	Rat	34 mg/kg
<b>Inhalation</b>		
LC50	Rat	80 mg/m3, 4 Hours
Aldrin (CAS 309-00-2)		
<u>Acute</u>		
<b>Oral</b>		
LD50	Rat	39 mg/kg
b-Endosulfan (CAS 33213-65-9)		
<u>Acute</u>		
<b>Dermal</b>		
LD50	Rat	34 mg/kg
<b>Inhalation</b>		
LC50	Rat	80 mg/m3, 4 Hours
BHC (alpha isomer) (CAS 319-84-6)		
<u>Acute</u>		
<b>Oral</b>		
LD50	Rat	177 mg/kg
BHC (beta isomer) (CAS 319-85-7)		
<u>Acute</u>		
<b>Oral</b>		
LD50	Rat	6 g/kg
Dieldrin (CAS 60-57-1)		
<u>Acute</u>		
<b>Oral</b>		
LD50	Rat	24 mg/kg
Endrin (CAS 72-20-8)		
<u>Acute</u>		
<b>Dermal</b>		
LD50	Rat	12 mg/kg
<b>Oral</b>		
LD50	Rat	3 mg/kg
Heptachlor (CAS 76-44-8)		
<u>Acute</u>		
<b>Dermal</b>		
LD50	Rat	119 mg/kg
<b>Inhalation</b>		
LC50	Rat	2 - 200 mg/l, 4 Hours
<b>Oral</b>		
LD50	Rat	40 - 100 mg/kg



Components	Species	Test Results
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	500 - 2000 mg/kg
<b>Oral</b>		
LD50	Rat	40 - 100 mg/kg
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	Not classifiable as to carcinogenicity to humans.	
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>		
4,4'-DDT (CAS 50-29-3)	2A Probably carcinogenic to humans.	
Aldrin (CAS 309-00-2)	2A Probably carcinogenic to humans.	
BHC (alpha isomer) (CAS 319-84-6)	2B Possibly carcinogenic to humans.	
BHC (beta isomer) (CAS 319-85-7)	2B Possibly carcinogenic to humans.	
Dieldrin (CAS 60-57-1)	2A Probably carcinogenic to humans.	
Endrin (CAS 72-20-8)	3 Not classifiable as to carcinogenicity to humans.	
Heptachlor (CAS 76-44-8)	2B Possibly carcinogenic to humans.	
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.	
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>		
Not listed.		
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>		
4,4'-DDT (CAS 50-29-3)	Reasonably Anticipated to be a Human Carcinogen.	
BHC (alpha isomer) (CAS 319-84-6)	Reasonably Anticipated to be a Human Carcinogen.	
BHC (beta isomer) (CAS 319-85-7)	Reasonably Anticipated to be a Human Carcinogen.	
<b>Reproductive toxicity</b>	May damage fertility or the unborn child.	
<b>Specific target organ toxicity - single exposure</b>	May cause drowsiness or dizziness.	
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure.	
<b>Aspiration hazard</b>	May be fatal if swallowed and enters airways.	
<b>Chronic effects</b>	Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.	

## 12. Ecological information

Components	Species	Test Results
Ecotoxicity Very toxic to aquatic life with long lasting effects.		
4,4'-DDD (CAS 72-54-8)		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EC50	Water flea (Daphnia pulex) >= 0.0023 - <= 0.0044 mg/l, 48 hours
Fish	LC50	Walleye (Stizostedion vitreum vitreum) >= 0.011 - <= 0.019 mg/l, 96 hours
4,4'-DDE (CAS 72-55-9)		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EC50	Brown shrimp (Penaeus aztecus) 0.028 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss) >= 0.026 - <= 0.04 mg/l, 96 hours

Components	Species		Test Results
4,4'-DDT (CAS 50-29-3)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea ( <i>Daphnia pulex</i> )	0.0004 mg/l, 48 hours
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	>= 0.0009 - <= 0.0016 mg/l, 96 hours
a-Endosulfan (CAS 959-98-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea ( <i>Daphnia carinata</i> )	0.18 mg/l, 48 hours
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	>= 0.137 - <= 0.186 mg/l, 48 hours
Fish	LC50	Snake-head catfish ( <i>Channa punctata</i> )	>= 0.0001 - <= 0.0002 mg/l, 96 hours
Aldrin (CAS 309-00-2)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Ostracod, Seed shrimp ( <i>Cypridopsis vidua</i> )	>= 0.015 - <= 0.021 mg/l, 48 hours
Fish	LC50	Walking catfish ( <i>Clarias batrachus</i> )	>= 0.0012 - <= 0.0018 mg/l, 96 hours
b-Endosulfan (CAS 33213-65-9)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea ( <i>Daphnia carinata</i> )	0.18 mg/l, 48 hours
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	>= 0.137 - <= 0.186 mg/l, 48 hours
Fish	LC50	Snake-head catfish ( <i>Channa punctata</i> )	>= 0.0066 - <= 0.0067 mg/l, 96 hours
BHC (alpha isomer) (CAS 319-84-6)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	>= 0.6 - <= 1 mg/l, 48 hours
Fish	LC50	Zebra danio ( <i>Danio rerio</i> )	>= 0.82 - <= 1.51 mg/l, 96 hours
BHC (beta isomer) (CAS 319-85-7)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea ( <i>Daphnia pulex</i> )	0.68 mg/l, 48 hours
Crustacea	EC50	Water flea ( <i>Daphnia pulex</i> )	0.68 mg/l, 48 hours
Fish	LC50	Guppy ( <i>Poecilia reticulata</i> )	>= 1 - <= 3.55 mg/l, 96 hours
Dieldrin (CAS 60-57-1)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	>= 0.074 - <= 0.0854 mg/l, 48 hours
Fish	LC50	Chinook salmon ( <i>Oncorhynchus tshawytscha</i> )	>= 0.0009 - <= 0.0024 mg/l, 96 hours
Endrin (CAS 72-20-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> )	0.0042 mg/l, 48 hours
Fish	LC50	Cutthroat trout ( <i>Oncorhynchus clarki</i> )	>= 0.0001 - <= 0.0001 mg/l, 96 hours
Heptachlor (CAS 76-44-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea ( <i>Daphnia pulex</i> )	>= 0.021 - <= 0.063 mg/l, 48 hours
Fish	LC50	Striped bass ( <i>Morone saxatilis</i> )	>= 0.001 - <= 0.006 mg/l, 96 hours

Components	Species	Test Results
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia pulex) >= 0.021 - <= 0.063 mg/l, 48 hours
<i>Acute</i>		
Fish	LC50	Bluegill (Lepomis macrochirus) >= 0.0039 - <= 0.0072 mg/l, 96 hours
Toluene (CAS 108-88-3)		
<b>Aquatic</b>		
<i>Acute</i>		
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

**Persistence and degradability** No data is available on the degradability of any ingredients in the mixture.

#### Bioaccumulative potential

##### Partition coefficient n-octanol / water (log Kow)

4,4'-DDD	6.02
4,4'-DDE	6.51
4,4'-DDT	6.91
a-Endosulfan	3.83
Aldrin	6.5
b-Endosulfan	3.83
BHC (alpha isomer)	3.8
BHC (beta isomer)	3.78
Dieldrin	5.4
Endosulfan sulfate	3.66
Endrin	5.2
Heptachlor	6.1
Heptachlor epoxide (Isomer B)	5.4
Toluene	2.73

**Mobility in soil** No data available.

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

### 13. Disposal considerations

**Disposal instructions** Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. 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** D001: Waste Flammable material with a flash point <140 F  
D012: Waste Endrin  
D031: Waste Heptachlor (and its epoxide).  
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

a-Endosulfan (CAS 959-98-8)	P050
Aldrin (CAS 309-00-2)	P004
b-Endosulfan (CAS 33213-65-9)	P050
Dieldrin (CAS 60-57-1)	P037
Endrin (CAS 72-20-8)	P051
Heptachlor (CAS 76-44-8)	P059

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

<b>UN number</b>	UN1294
<b>UN proper shipping name</b>	Toluene, solution (Toluene RQ = 1001 LBS), MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	3
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	IB2, T4, TP1
<b>Packaging exceptions</b>	150
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	242

### IATA

<b>UN number</b>	UN1294
<b>UN proper shipping name</b>	Toluene solution (Toluene)
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	3L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed with restrictions.
<b>Cargo aircraft only</b>	Allowed with restrictions.

### IMDG

<b>UN number</b>	UN1294
<b>UN proper shipping name</b>	TOLUENE SOLUTION (Toluene), MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-E, S-D
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not established.

### DOT



IATA; IMDG



Marine pollutant



General information

IMDG Regulated Marine Pollutant. DOT 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.

#### Toxic Substances Control Act (TSCA)

One or more components of the mixture are not on the TSCA 8(b) inventory or are designated "inactive".

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

4,4'-DDT (CAS 50-29-3)

0.1 % One-Time Export Notification only.

Endrin (CAS 72-20-8)

1.0 % One-Time Export Notification only.

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

4,4'-DDD (CAS 72-54-8)

Listed.

4,4'-DDE (CAS 72-55-9)

Listed.

4,4'-DDT (CAS 50-29-3)

Listed.

a-Endosulfan (CAS 959-98-8)

Listed.

Aldrin (CAS 309-00-2)

Listed.

b-Endosulfan (CAS 33213-65-9)

Listed.

BHC (alpha isomer) (CAS 319-84-6)

Listed.

BHC (beta isomer) (CAS 319-85-7)

Listed.

Dieldrin (CAS 60-57-1)

Listed.

Endosulfan sulfate (CAS 1031-07-8)

Listed.

Endrin (CAS 72-20-8)

Listed.

Heptachlor (CAS 76-44-8)

Listed.

Heptachlor epoxide (Isomer B) (CAS 1024-57-3)

Listed.

Toluene (CAS 108-88-3)

Listed.

#### SARA 304 Emergency release notification

Aldrin; 1,4:5,8-Dimethanonaphthalene,

1 LBS

1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro-  
(1.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a.beta.)-  
(CAS 309-00-2)

Endosulfan (CAS 33213-65-9)

1 LBS

Endosulfan (CAS 959-98-8)

1 LBS

Endrin (CAS 72-20-8)

1 LBS

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
b-Endosulfan	33213-65-9	1		10	10000
Endrin	72-20-8	1		500	10000
a-Endosulfan	959-98-8	1		10	10000
Aldrin	309-00-2	1		500	10000

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories**

- Flammable (gases, aerosols, liquids, or solids)
- Acute toxicity (any route of exposure)
- Skin corrosion or irritation
- Serious eye damage or eye irritation
- Reproductive toxicity
- Specific target organ toxicity (single or repeated exposure)
- Aspiration hazard
- Hazard not otherwise classified (HNOC)

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Toluene	108-88-3	99.934

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

- 4,4'-DDD (CAS 72-54-8)
- 4,4'-DDE (CAS 72-55-9)
- 4,4'-DDT (CAS 50-29-3)
- Heptachlor (CAS 76-44-8)
- Toluene (CAS 108-88-3)

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

Not regulated.

**Safe Drinking Water Act (SDWA)** Contains component(s) regulated under the Safe Drinking Water Act.

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

Toluene (CAS 108-88-3) 6594

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

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

**DEA Exempt Chemical Mixtures Code Number**

Toluene (CAS 108-88-3) 594

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

- 4,4'-DDD (CAS 72-54-8)
- 4,4'-DDE (CAS 72-55-9)
- 4,4'-DDT (CAS 50-29-3)
- Toluene (CAS 108-88-3)

**California Proposition 65**

**WARNING:** This product can expose you to chemicals including 4,4'-DDT, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

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

4,4'-DDD (CAS 72-54-8)	Listed: January 1, 1989
4,4'-DDE (CAS 72-55-9)	Listed: January 1, 1989
4,4'-DDT (CAS 50-29-3)	Listed: October 1, 1987
Aldrin (CAS 309-00-2)	Listed: July 1, 1988
BHC (alpha isomer) (CAS 319-84-6)	Listed: October 1, 1989
BHC (beta isomer) (CAS 319-85-7)	Listed: October 1, 1989
Dieldrin (CAS 60-57-1)	Listed: July 1, 1988

Heptachlor (CAS 76-44-8) Listed: July 1, 1988  
Heptachlor epoxide (Isomer B) (CAS 1024-57-3) Listed: July 1, 1988

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

4,4'-DDE (CAS 72-55-9) Listed: March 30, 2010  
4,4'-DDT (CAS 50-29-3) Listed: May 15, 1998  
Endrin (CAS 72-20-8) Listed: May 15, 1998  
Heptachlor (CAS 76-44-8) Listed: August 20, 1999  
Toluene (CAS 108-88-3) Listed: January 1, 1991

**California Proposition 65 - CRT: Listed date/Female reproductive toxin**

4,4'-DDT (CAS 50-29-3) Listed: May 15, 1998

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

4,4'-DDE (CAS 72-55-9) Listed: March 30, 2010  
4,4'-DDT (CAS 50-29-3) Listed: May 15, 1998

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
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
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

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

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

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

**Issue date** 08-05-2015  
**Revision date** 05-17-2023  
**Version #** 03  
**NFPA ratings** Health: 2  
Flammability: 3  
Instability: 0

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**Revision information**