

1. Identification

Product identifier	Organochlorine Pesticides Mixture-608/625/8080/8081	
Other means of identification		
Item	M-PPO8AC1	
Recommended use	Not available.	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Chem Service, Inc.	
Address	660 Tower Lane West Chester, PA 19380 United States	
Telephone	Toll Free	800-452-9994
	Direct	610-692-3026
Website	www.chemservice.com	
E-mail	info@chemservice.com	
Emergency phone number	Chemtrec US	800-424-9300
	Chemtrec outside US	+1 703-527-3887

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, dermal	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 1
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
OSHA defined hazards	Not classified.	
Label elements		

**Signal word**

Danger

Hazard statement

Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May damage fertility or the unborn child. 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. 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. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.

Storage

Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

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	%
n-Hexane		110-54-3	49 - 50
Toluene		108-88-3	49 - 50
4,4'-DDD		72-54-8	0.01
4,4'-DDE		72-55-9	0.01
4,4'-DDT		50-29-3	0.01
a-Endosulfan		959-98-8	0.01
Aldrin (TM)		309-00-2	0.01
b-Endosulfan		33213-65-9	0.01
BHC (alpha isomer)		319-84-6	0.01
BHC (beta isomer)		319-85-7	0.01
BHC (delta isomer)		319-86-8	0.01
Dieldrin		60-57-1	0.01
Endosulfan sulfate		1031-07-8	0.01
Endrin		72-20-8	0.01
Endrin aldehyde		7421-93-4	0.01
Heptachlor		76-44-8	0.01
Heptachlor epoxide (Isomer B)		1024-57-3	0.01
Lindane (BHC gamma isomer)		58-89-9	0.01

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical advice/attention if you feel unwell. 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 and 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.
General information	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.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	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 or vapor. 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). 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.
Environmental precautions	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 or vapor. 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. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. 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 original 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 ³
Aldrin (TM) (CAS 309-00-2)	PEL	0.25 mg/m ³
Dieldrin (CAS 60-57-1)	PEL	0.25 mg/m ³
Endrin (CAS 72-20-8)	PEL	0.1 mg/m ³
Heptachlor (CAS 76-44-8)	PEL	0.5 mg/m ³
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)	PEL	0.5 mg/m ³
Lindane (BHC gamma isomer) (CAS 58-89-9)	PEL	0.5 mg/m ³
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m ³ 500 ppm

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 ³	
a-Endosulfan (CAS 959-98-8)	TWA	0.1 mg/m ³	Inhalable fraction and vapor.
Aldrin (TM) (CAS 309-00-2)	TWA	0.05 mg/m ³	Inhalable fraction and vapor.
b-Endosulfan (CAS 33213-65-9)	TWA	0.1 mg/m ³	Inhalable fraction and vapor.
Dieldrin (CAS 60-57-1)	TWA	0.1 mg/m ³	Inhalable fraction and vapor.
Endrin (CAS 72-20-8)	TWA	0.1 mg/m ³	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Heptachlor (CAS 76-44-8)	TWA	0.05 mg/m3	
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)	TWA	0.05 mg/m3	
Lindane (BHC gamma isomer) (CAS 58-89-9)	TWA	0.5 mg/m3	
n-Hexane (CAS 110-54-3)	TWA	50 ppm	
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/m3
a-Endosulfan (CAS 959-98-8)	TWA	0.1 mg/m3
Aldrin (TM) (CAS 309-00-2)	TWA	0.25 mg/m3
b-Endosulfan (CAS 33213-65-9)	TWA	0.1 mg/m3
Dieldrin (CAS 60-57-1)	TWA	0.25 mg/m3
Endrin (CAS 72-20-8)	TWA	0.1 mg/m3
Heptachlor (CAS 76-44-8)	TWA	0.5 mg/m3
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)	TWA	0.5 mg/m3
Lindane (BHC gamma isomer) (CAS 58-89-9)	TWA	0.5 mg/m3
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3 50 ppm
Toluene (CAS 108-88-3)	STEL	560 mg/m3 150 ppm
	TWA	375 mg/m3 100 ppm

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*
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 (TM) (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.
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)	Can be absorbed through the skin.
Lindane (BHC gamma isomer) (CAS 58-89-9)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	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 (TM) (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)
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)
Lindane (BHC gamma isomer) (CAS 58-89-9)
Toluene (CAS 108-88-3)

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

US - Tennessee OELs: Skin designation

4,4'-DDT (CAS 50-29-3)
a-Endosulfan (CAS 959-98-8)
Aldrin (TM) (CAS 309-00-2)
b-Endosulfan (CAS 33213-65-9)
Dieldrin (CAS 60-57-1)
Endrin (CAS 72-20-8)
Heptachlor (CAS 76-44-8)
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)
Lindane (BHC gamma isomer) (CAS 58-89-9)

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

US ACGIH Threshold Limit Values: Skin designation

a-Endosulfan (CAS 959-98-8)
Aldrin (TM) (CAS 309-00-2)
b-Endosulfan (CAS 33213-65-9)
Dieldrin (CAS 60-57-1)
Endrin (CAS 72-20-8)
Heptachlor (CAS 76-44-8)
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)
Lindane (BHC gamma isomer) (CAS 58-89-9)
n-Hexane (CAS 110-54-3)

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

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

a-Endosulfan (CAS 959-98-8)
Aldrin (TM) (CAS 309-00-2)
b-Endosulfan (CAS 33213-65-9)
Dieldrin (CAS 60-57-1)
Endrin (CAS 72-20-8)
Heptachlor (CAS 76-44-8)
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)
Lindane (BHC gamma isomer) (CAS 58-89-9)

Can be absorbed through the skin.
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US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

4,4'-DDT (CAS 50-29-3)
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Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.
Can be absorbed through the skin.

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. Eye wash fountain and emergency showers are recommended.

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	155.66 °F (68.7 °C) estimated
Flash point	-7.0 °F (-21.7 °C) estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.1 % estimated
Flammability limit - upper (%)	7.5 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	115.16 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	437 °F (225 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.86555 g/cm3 estimated
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	50 % estimated
Specific gravity	0.87 estimated
VOC	50 % 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	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
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Skin contact Harmful in contact with skin. Causes skin irritation.

Eye contact Causes serious eye irritation.

Ingestion Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Harmful in contact with skin.

Components	Species	Test Results
4,4'-DDD (CAS 72-54-8)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	1200 mg/kg
Oral		
LD50	Rat	113 mg/kg
4,4'-DDE (CAS 72-55-9)		
<u>Acute</u>		
Oral		
LD50	Rat	880 mg/kg
4,4'-DDT (CAS 50-29-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	300 mg/kg
Oral		
LD50	Rat	87 mg/kg
a-Endosulfan (CAS 959-98-8)		
<u>Acute</u>		
Dermal		
LD50	Rat	34 mg/kg
Inhalation		
LC50	Rat	0.08 mg/l, 4 Hours
Aldrin (TM) (CAS 309-00-2)		
<u>Acute</u>		
Dermal		
LD50	Rat	98 mg/kg
b-Endosulfan (CAS 33213-65-9)		
<u>Acute</u>		
Dermal		
LD50	Rat	34 mg/kg
Inhalation		
LC50	Rat	0.08 mg/l, 4 Hours
BHC (alpha isomer) (CAS 319-84-6)		
<u>Acute</u>		
Dermal		
LD50	Rat	0.9 mg/kg
Oral		
LD50	Rat	177 mg/kg

Components	Species	Test Results
BHC (beta isomer) (CAS 319-85-7)		
Acute		
Dermal		
LD50	Rat	0.9 mg/kg
BHC (delta isomer) (CAS 319-86-8)		
Acute		
Dermal		
LD50	Rat	0.9 mg/kg
Dieldrin (CAS 60-57-1)		
Acute		
Dermal		
LD50	Rat	56 mg/kg
Endrin (CAS 72-20-8)		
Acute		
Dermal		
LD50	Rat	12 mg/kg
Oral		
LD50	Rat	3 mg/kg
Lindane (BHC gamma isomer) (CAS 58-89-9)		
Acute		
Dermal		
LD50	Rabbit	50 mg/kg
Inhalation		
LC50	Rat	1.56 mg/l
Oral		
LD50	Rat	76 mg/kg
n-Hexane (CAS 110-54-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 4 Hours
Toluene (CAS 108-88-3)		
Acute		
Inhalation		
LC50	Rat	12.5 - 28.8 mg/l, 4 Hours

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

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	
4,4'-DDT (CAS 50-29-3)	2A Probably carcinogenic to humans.
Aldrin (TM) (CAS 309-00-2)	3 Not classifiable as to carcinogenicity 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.
BHC (delta isomer) (CAS 319-86-8)	2B Possibly carcinogenic to humans.
Dieldrin (CAS 60-57-1)	3 Not classifiable as to carcinogenicity 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.
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)	2B Possibly carcinogenic to humans.
Lindane (BHC gamma isomer) (CAS 58-89-9)	1 Carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

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.
BHC (delta isomer) (CAS 319-86-8)	Reasonably Anticipated to be a Human Carcinogen.
Lindane (BHC gamma isomer) (CAS 58-89-9)	Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity May damage fertility or the unborn child.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

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

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components	Species	Test Results
4,4'-DDD (CAS 72-54-8)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia pulex</i>) 0.0023 - 0.0044 mg/l, 48 hours
Fish	LC50	Walleye (<i>Stizostedion vitreum vitreum</i>) 0.011 - 0.019 mg/l, 96 hours
4,4'-DDE (CAS 72-55-9)		
Aquatic		
Crustacea	EC50	Brown shrimp (<i>Penaeus aztecus</i>) 0.028 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>) 0.026 - 0.04 mg/l, 96 hours
4,4'-DDT (CAS 50-29-3)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 0.0005 - 0.001 mg/l, 48 hours
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) 0.0013 - 0.002 mg/l, 96 hours
a-Endosulfan (CAS 959-98-8)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia carinata</i>) 0.18 mg/l, 48 hours
Fish	LC50	Snake-head catfish (<i>Channa punctata</i>) 0.0001 - 0.0002 mg/l, 96 hours
Aldrin (TM) (CAS 309-00-2)		
Aquatic		
Crustacea	EC50	Ostracod, Seed shrimp (<i>Cypridopsis vidua</i>) 0.015 - 0.021 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>) 0.0023 - 0.0045 mg/l, 96 hours
b-Endosulfan (CAS 33213-65-9)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia carinata</i>) 0.18 mg/l, 48 hours
Fish	LC50	Snake-head catfish (<i>Channa punctata</i>) 0.0066 - 0.0067 mg/l, 96 hours

Components		Species	Test Results
BHC (alpha isomer) (CAS 319-84-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.6 - 1 mg/l, 48 hours
Fish	LC50	Zebra danio (Danio rerio)	0.82 - 1.51 mg/l, 96 hours
BHC (beta isomer) (CAS 319-85-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	0.68 mg/l, 48 hours
Fish	LC50	Guppy (Poecilia reticulata)	1 - 3.55 mg/l, 96 hours
BHC (delta isomer) (CAS 319-86-8)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	0.68 mg/l, 48 hours
Fish	LC50	Zebra danio (Danio rerio)	1.15 - 2.17 mg/l, 96 hours
Dieldrin (CAS 60-57-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.074 - 0.0854 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.001 - 0.0013 mg/l, 96 hours
Endrin (CAS 72-20-8)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	0.013 - 0.03 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	0.0002 - 0.0006 mg/l, 96 hours
Heptachlor (CAS 76-44-8)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	0.021 - 0.063 mg/l, 48 hours
Fish	LC50	Pinfish (Lagodon rhomboides)	0.002 - 0.0088 mg/l, 96 hours
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	0.021 - 0.063 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	0.0039 - 0.0072 mg/l, 96 hours
Lindane (BHC gamma isomer) (CAS 58-89-9)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	0.386 - 0.547 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.02 - 0.027 mg/l, 96 hours
n-Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours

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

Persistence and degradability

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

4,4'-DDD	6.02
4,4'-DDE	6.51
4,4'-DDT	6.91

Partition coefficient n-octanol / water (log Kow)

a-Endosulfan	3.83
Aldrin (TM)	6.5
b-Endosulfan	3.83
BHC (alpha isomer)	3.8
BHC (beta isomer)	3.78
BHC (delta isomer)	4.14
Dieldrin	5.4
Endosulfan sulfate	3.66
Endrin	5.2
Endrin aldehyde	5.6
Heptachlor	6.1
Heptachlor epoxide (Isomer B)	5.4
Lindane (BHC gamma isomer)	3.72
n-Hexane	3.9
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 Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste P List: Reference

a-Endosulfan (CAS 959-98-8)	P050
Aldrin (TM) (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
Heptachlor epoxide (Isomer B) (CAS 1024-57-3)	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**

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Toluene RQ = 2000 LBS, n-Hexane RQ = 10000 LBS), MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
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UN proper shipping name Flammable liquid, n.o.s. (Toluene, n-Hexane)
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards Yes
ERG Code 3H
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Other information
Passenger and cargo aircraft Allowed with restrictions.
Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN1993
UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Toluene, n-Hexane), MARINE POLLUTANT
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards
Marine pollutant Yes
EmS F-E, S-E
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

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

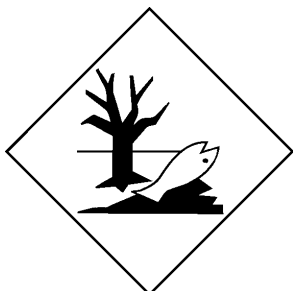
DOT



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.

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 (TM) (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.
 BHC (delta isomer) (CAS 319-86-8) Listed.
 Dieldrin (CAS 60-57-1) Listed.
 Endosulfan sulfate (CAS 1031-07-8) Listed.
 Endrin (CAS 72-20-8) Listed.
 Endrin aldehyde (CAS 7421-93-4) Listed.
 Heptachlor (CAS 76-44-8) Listed.
 Heptachlor epoxide (Isomer B) (CAS 1024-57-3) Listed.
 Lindane (BHC gamma isomer) (CAS 58-89-9) Listed.
 n-Hexane (CAS 110-54-3) Listed.
 Toluene (CAS 108-88-3) Listed.

SARA 304 Emergency release notification

a-Endosulfan (CAS 959-98-8) 1 LBS
 Aldrin (TM) (CAS 309-00-2) 1 LBS
 b-Endosulfan (CAS 33213-65-9) 1 LBS
 Endrin (CAS 72-20-8) 1 LBS
 Lindane (BHC gamma isomer) (CAS 58-89-9) 1 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
a-Endosulfan	959-98-8	1		10	10000
Aldrin (TM)	309-00-2	1		500	10000
b-Endosulfan	33213-65-9	1		10	10000
Endrin	72-20-8	1		500	10000
Lindane (BHC gamma isomer)	58-89-9	1		1000	10000

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
n-Hexane	110-54-3	49 - 50
Toluene	108-88-3	49 - 50

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)
 Heptachlor epoxide (Isomer B) (CAS 1024-57-3)
 Lindane (BHC gamma isomer) (CAS 58-89-9)
 n-Hexane (CAS 110-54-3)
 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) Not regulated.

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

Toluene (CAS 108-88-3) 6594

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

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

DEA Exempt Chemical Mixtures Code Number

Toluene (CAS 108-88-3) 594

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

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

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 (TM) (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
 BHC (delta isomer) (CAS 319-86-8) Listed: October 1, 1987
 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
 Lindane (BHC gamma isomer) (CAS 58-89-9) Listed: October 1, 1989

US - 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
 Heptachlor epoxide (Isomer B) (CAS 1024-57-3) Listed: August 20, 1999
 Toluene (CAS 108-88-3) Listed: January 1, 1991

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

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

US - 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

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)
 n-Hexane (CAS 110-54-3)
 Toluene (CAS 108-88-3)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

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

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

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

Issue date 10-07-2014

Revision date 01-26-2021

Version # 02

NFPA ratings
 Health: 2
 Flammability: 3
 Instability: 0

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Revision information

This document has undergone significant changes and should be reviewed in its entirety.