

SAFETY DATA SHEET

1. Identification

Product identifier	Chlorinated Herbicides Mixture - 8151	
Other means of identification		
Item	M-CH8151B4	
Recommended use	For Laboratory Use Only	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Chem Service, Inc.	
Address	660 Tower Lane West Chester, PA 19380 United States	
Telephone	Toll Free	800-452-9994
	Direct	610-692-3026
Website	www.chemservice.com	
E-mail	info@chemservice.com	
Emergency phone number	Chemtrec US	800-424-9300
	Chemtrec outside US	+1 703-527-3887

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May damage fertility or the unborn child. Toxic to aquatic life. 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. Avoid breathing mist/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If 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 or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Wash contaminated clothing 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	98.2% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 98.2% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Acetone		67-64-1	98.2
2,4,5-T		93-76-5	0.1
2,4-D		94-75-7	0.1
2,4-DB		94-82-6	0.1
3,5-Dichlorobenzoic acid		51-36-5	0.1
4-Chloro-o-tolyloxyacetic acid		94-74-6	0.1
4-Nitrophenol		100-02-7	0.1
Acifluorfen		50594-66-6	0.1
Bentazon		25057-89-0	0.1
Chloramben		133-90-4	0.1
Dalapon		75-99-0	0.1
Dicamba		1918-00-9	0.1
Dichlorprop		120-36-5	0.1
Dinoseb		88-85-7	0.1
Mecoprop		7085-19-0	0.1
Pentachlorophenol		87-86-5	0.1
Picloram		1918-02-1	0.1
Silvex		93-72-1	0.1
Tetrachloroterephthalic acid		2136-79-0	0.1

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	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.
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 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. Alcohol resistant foam. Carbon dioxide (CO ₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.
6. Accidental release measures	
Personal precautions, protective equipment and emergency procedures	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. Avoid breathing 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.
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. Put material in suitable, covered, labeled containers. 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. When using do not smoke. 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. Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. 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). Store in freezer (-20 - -25 °C).

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	Form
2,4,5-T (CAS 93-76-5)	PEL	10 mg/m3	
2,4-D (CAS 94-75-7)	PEL	10 mg/m3	
Acetone (CAS 67-64-1)	PEL	2400 mg/m3 1000 ppm	
Pentachlorophenol (CAS 87-86-5)	PEL	0.5 mg/m3	
Picloram (CAS 1918-02-1)	PEL	5 mg/m3 15 mg/m3	Respirable fraction. Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2,4,5-T (CAS 93-76-5)	TWA	10 mg/m3	
2,4-D (CAS 94-75-7)	TWA	10 mg/m3	Inhalable fraction.
Acetone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Dalapon (CAS 75-99-0)	TWA	5 mg/m3	Inhalable fraction.
Pentachlorophenol (CAS 87-86-5)	STEL	1 mg/m3	Inhalable fraction and vapor.
	TWA	0.5 mg/m3	Inhalable fraction and vapor.
Picloram (CAS 1918-02-1)	TWA	10 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2,4,5-T (CAS 93-76-5)	TWA	10 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2,4-D (CAS 94-75-7)	TWA	10 mg/m3
Acetone (CAS 67-64-1)	TWA	590 mg/m3 250 ppm
Dalapon (CAS 75-99-0)	TWA	6 mg/m3 1 ppm
Pentachlorophenol (CAS 87-86-5)	TWA	0.5 mg/m3

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*

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

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

Pentachlorophenol (CAS 87-86-5) Can be absorbed through the skin.

US - Tennessee OELs: Skin designation

Pentachlorophenol (CAS 87-86-5) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Pentachlorophenol (CAS 87-86-5) Danger of cutaneous absorption

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Pentachlorophenol (CAS 87-86-5) Can be absorbed through the skin.

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

Pentachlorophenol (CAS 87-86-5) 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. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties**Appearance**

Physical state Liquid.

Form Liquid.

Color Not available.

Odor Not available.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -138.46 °F (-94.7 °C) estimated

Initial boiling point and boiling range 132.89 °F (56.05 °C) estimated

Flash point	-4.0 °F (-20.0 °C) estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	2.6 % estimated
Explosive limit - upper (%)	12.8 % estimated
Vapor pressure	308.63 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	869 °F (465 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.79748 g/cm3 estimated
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	98 % estimated
Specific gravity	0.8 estimated
VOC	98.3 % estimated 98 % 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	Toxic gas.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
2,4-D (CAS 94-75-7)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	1400 mg/kg
Oral		
LD50	Rat	275 mg/kg
2,4-DB (CAS 94-82-6)		
<u>Acute</u>		
Oral		
LD50	Rat	700 mg/kg
4-Chloro-o-tolyloxyacetic acid (CAS 94-74-6)		
<u>Acute</u>		
Oral		
LD50	Rat	700 mg/kg
4-Nitrophenol (CAS 100-02-7)		
<u>Acute</u>		
Inhalation		
LC50	-	> 4.7 mg/l, 4 Hours
Oral		
LD50	Rat	220 - 620 mg/kg
Bentazon (CAS 25057-89-0)		
<u>Acute</u>		
Dermal		
LD50	Rat	2500 mg/kg
Oral		
LD50	Rat	1100 mg/kg
Chloramben (CAS 133-90-4)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	3136 mg/kg
Oral		
LD50	Rat	3500 mg/kg
Dalapon (CAS 75-99-0)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 5000 mg/kg
Oral		
LD50	Rat	6936 mg/kg
Dicamba (CAS 1918-00-9)		
<u>Acute</u>		
Dermal		
LD50	Rat	2000 mg/kg
Oral		
LD50	Rat	757 mg/kg
Dichlorprop (CAS 120-36-5)		
<u>Acute</u>		
Inhalation		
LC50	-	> 0.65 mg/l, 4 Hours
Oral		
LD50	Rat	344 mg/kg

Components	Species	Test Results
Dinoseb (CAS 88-85-7)		
<u>Acute</u>		
Dermal		
LD50	Rat	30 mg/kg, 24 Hours
Oral		
LD50	Rat	27 mg/kg
Pentachlorophenol (CAS 87-86-5)		
<u>Acute</u>		
Dermal		
LD50	Rat	96 mg/kg
Picloram (CAS 1918-02-1)		
<u>Acute</u>		
Oral		
LD50	Rat	8200 mg/kg
Silvex (CAS 93-72-1)		
<u>Acute</u>		
Oral		
LD50	Rat	650 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Suspected of causing cancer.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
2,4,5-T (CAS 93-76-5)	2B Possibly carcinogenic to humans.	
2,4-D (CAS 94-75-7)	2B Possibly carcinogenic to humans.	
2,4-DB (CAS 94-82-6)	2B Possibly carcinogenic to humans.	
4-Chloro-o-tolyloxyacetic acid (CAS 94-74-6)	2B Possibly carcinogenic to humans.	
Dichlorprop (CAS 120-36-5)	2B Possibly carcinogenic to humans.	
Pentachlorophenol (CAS 87-86-5)	1 Carcinogenic to humans.	
Picloram (CAS 1918-02-1)	3 Not classifiable as to carcinogenicity to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not listed.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Pentachlorophenol (CAS 87-86-5)	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 or dizziness.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful.	
12. Ecological information		
Ecotoxicity	Toxic to aquatic life with long lasting effects.	

Components	Species		Test Results
2,4,5-T (CAS 93-76-5)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Carp (Carassius)	2.9 mg/l, 96 hours
2,4-D (CAS 94-75-7)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia pulex)	>= 2.4 - <= 4.3 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	>= 2.2 - <= 4.3 mg/l, 96 hours
2,4-DB (CAS 94-82-6)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	>= 1.2 - <= 3.2 mg/l, 96 hours
4-Chloro-o-tolyloxyacetic acid (CAS 94-74-6)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 10 mg/l, 96 hours
4-Nitrophenol (CAS 100-02-7)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	>= 3.1 - <= 7.1 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4.82 mg/l, 96 hours
Acetone (CAS 67-64-1)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	>= 10294 - <= 17704 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	>= 4740 - <= 6330 mg/l, 96 hours
Bentazon (CAS 25057-89-0)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Carp (Cyprinus carpio)	>= 890 - <= 1100 mg/l, 96 hours
Chloramben (CAS 133-90-4)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 10 mg/l, 96 hours
Dalapon (CAS 75-99-0)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia pulex)	>= 8.2 - <= 14.7 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	> 100 mg/l, 96 hours
Dicamba (CAS 1918-00-9)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Ostracod, Seed shrimp (Cypridopsis vidua)	> 100 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	28 mg/l, 96 hours

Components	Species	Test Results
Dichlorprop (CAS 120-36-5)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Brown trout (<i>Salmo trutta</i>) 78 mg/l, 96 hours
Dinoseb (CAS 88-85-7)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Lake trout, siscowet (<i>Salvelinus namaycush</i>) $\geq 0.02 - \leq 0.052$ mg/l, 96 hours
Pentachlorophenol (CAS 87-86-5)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) $\geq 0.138 - \leq 0.307$ mg/l, 48 hours
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) $\geq 0.02 - \leq 0.028$ mg/l, 96 hours
Picloram (CAS 1918-02-1)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) $\geq 59 - \leq 97$ mg/l, 48 hours
Fish	LC50	Lake trout, siscowet (<i>Salvelinus namaycush</i>) $\geq 1.55 - \leq 2.84$ mg/l, 96 hours
Silvex (CAS 93-72-1)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (<i>Simocephalus serrulatus</i>) 2 mg/l, 48 hours
Fish	LC50	Coho salmon, silver salmon (<i>Oncorhynchus kisutch</i>) $\geq 0.45 - \leq 0.79$ 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)

2,4,5-T	4
2,4-D	2.81
2,4-DB	3.53
4-Chloro-o-tolyloxyacetic acid	3.25
4-Nitrophenol	1.91
Acetone	-0.24
Bentazon	2.8
Chloramben	1.11
Dalapon	0.78
Dicamba	2.21
Dichlorprop	3.43
Pentachlorophenol	5.12
Picloram	0.3
Silvex	3.8

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
D016: Waste 2,4-D
D017: Waste 2,4,5-/TP (Silvex)
D037: Waste Pentachlorophenol
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

Dinoseb (CAS 88-85-7)

P020

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 UN1090
UN proper shipping name Acetone, solution (Acetone RQ = 5092 LBS), MARINE POLLUTANT (Dinoseb)
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, T4, TP1
Packaging exceptions 150
Packaging non bulk 202
Packaging bulk 242

IATA

UN number UN1090
UN proper shipping name Acetone solution (Acetone)
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 UN1090
UN proper shipping name ACETONE SOLUTION (Acetone), MARINE POLLUTANT (Pentachlorophenol)
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards
Marine pollutant Yes
EmS F-E, S-D
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Pentachlorophenol

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.

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)

3,5-Dichlorobenzoic acid (CAS 51-36-5)

1.0 % One-Time Export Notification only.

Dichlorprop (CAS 120-36-5)

0.1 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

2,4,5-T (CAS 93-76-5)

Listed.

2,4-D (CAS 94-75-7)

Listed.

4-Nitrophenol (CAS 100-02-7)

Listed.

Acetone (CAS 67-64-1)

Listed.

Chloramben (CAS 133-90-4)

Listed.

Dalapon (CAS 75-99-0)

Listed.

Dicamba (CAS 1918-00-9)

Listed.

Dinoseb (CAS 88-85-7)

Listed.

Pentachlorophenol (CAS 87-86-5)

Listed.

Silvex (CAS 93-72-1)

Listed.

SARA 304 Emergency release notification

Dinitrobutyl phenol (CAS 88-85-7)

1000 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)
Dinoseb	88-85-7	1000		100	10000

SARA 311/312 Hazardous chemical

Classified hazard categories Flammable (gases, aerosols, liquids, or solids)
 Serious eye damage or eye irritation
 Respiratory or skin sensitization
 Carcinogenicity
 Reproductive toxicity
 Specific target organ toxicity (single or repeated exposure)
 Hazard not otherwise classified (HNOC)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
2,4-D	94-75-7	0.1
4-Chloro-o-tolyloxyacetic acid	94-74-6	0.1
Dichlorprop	120-36-5	0.1
Pentachlorophenol	87-86-5	0.1

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

2,4-D (CAS 94-75-7)
 4-Nitrophenol (CAS 100-02-7)
 Chloramben (CAS 133-90-4)
 Pentachlorophenol (CAS 87-86-5)

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

Acetone (CAS 67-64-1) 6532

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

Acetone (CAS 67-64-1) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1) 6532

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

Acetone (CAS 67-64-1) Low priority

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

4-Nitrophenol (CAS 100-02-7)
 Acetone (CAS 67-64-1)

California Proposition 65

WARNING: This product can expose you to chemicals including Pentachlorophenol, which is known to the State of California to cause cancer, and 2,4-DB, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Pentachlorophenol (CAS 87-86-5) Listed: January 1, 1990

California Proposition 65 - CRT: Listed date/Developmental toxin

Dinoseb (CAS 88-85-7) Listed: January 1, 1989

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

2,4-DB (CAS 94-82-6) Listed: June 18, 1999
 Dinoseb (CAS 88-85-7) Listed: January 1, 1989

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)	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	09-02-2014
Revision date	05-11-2022
Version #	03
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.