

1. Identification

Product identifier	Chlorinated Acids Mixture #2 - 515.1	
Other means of identification		
Item	M-CA515AB1	
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
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	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 or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection. Wear protective gloves/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. Call a poison center/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.
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	%
Acetone		67-64-1	99 - 100
2,4,5-T (TM)		93-76-5	0.01
2,4-D		94-75-7	0.01
2,4-DB		94-82-6	0.01
3,5-Dichlorobenzoic acid		51-36-5	0.01
4-Nitrophenol		100-02-7	0.01
Acifluorfen		50594-66-6	0.01
Bentazon		25057-89-0	0.01
Chloramben		133-90-4	0.01
Dalapon		75-99-0	0.01
Dicamba		1918-00-9	0.01
Dichlorprop		120-36-5	0.01
Dinoseb		88-85-7	0.01
Pentachlorophenol		87-86-5	0.01
Picloram		1918-02-1	0.01
Silvex		93-72-1	0.01
Tetrachloroterephthalic acid		2136-79-0	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 attention if irritation develops and persists.

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 and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

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. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Alcohol resistant foam. Water fog. 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. Avoid breathing 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). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: 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 discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling 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 or vapor. Avoid contact with eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. 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

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

Components	Type	Value	Form
2,4,5-T (TM) (CAS 93-76-5)	PEL	10 mg/m3	
2,4-D (CAS 94-75-7)	PEL	10 mg/m3	

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

Components	Type	Value	Form
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 (TM) (CAS 93-76-5)	TWA	10 mg/m3	Inhalable fraction.
2,4-D (CAS 94-75-7)	TWA	10 mg/m3	
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 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 (TM) (CAS 93-76-5)	TWA	10 mg/m3
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)	50 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

2,4-D (CAS 94-75-7) Can be absorbed through the skin.

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

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 (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. Suitable gloves can be recommended by the glove supplier.
Other	Wear suitable protective clothing.
Respiratory protection	Chemical respirator with organic vapor cartridge and full facepiece.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	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.

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

Flammability limit - lower (%)	2.6 % estimated
Flammability limit - upper (%)	12.8 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure	309.3 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	869 °F (465 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Density	0.79048 g/cm3 estimated
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	99.84 % estimated
Specific gravity	0.79 estimated
VOC (Weight %)	99.85 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
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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 and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

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

Information on toxicological effects

Acute toxicity Narcotic effects.

Components	Species	Test Results
2,4,5-T (TM) (CAS 93-76-5)		
Acute		
Oral		
LD50	Dog	> 100 mg/kg
	Guinea pig	381 mg/kg
	Mouse	389 mg/kg
	Rat	500 mg/kg
2,4-D (CAS 94-75-7)		
Acute		
Dermal		
LD50	Rabbit	1400 mg/kg
	Rat	2000 mg/kg
Oral		
LD50	Dog	100 mg/kg
	Fischer 344 rat	270 - 1103 mg/kg
	Guinea pig	469 mg/kg
	Hamster	500 mg/kg
	Mouse	300 mg/kg
	Rabbit	800 mg/kg
	Rat	275 mg/kg
2,4-DB (CAS 94-82-6)		
Acute		
Oral		
LD50	Mouse	400 mg/kg
	Rat	700 mg/kg
4-Nitrophenol (CAS 100-02-7)		
Acute		
Oral		
LD50	Mouse	380 mg/kg

Components	Species	Test Results
	Mouse, Rat	220 - 620 mg/kg
	Mouse; Rabbit; Rat	220 mg/kg
	Rat	220 - 620 mg/kg
Acetone (CAS 67-64-1)		
<u>Acute</u>		
Dermal		
LD50	Guinea pig	> 7426 mg/kg, 24 Hours > 9.4 ml/kg, 24 Hours
	Rabbit	> 7426 mg/kg, 24 Hours > 9.4 ml/kg, 24 Hours
Inhalation		
<i>Vapor</i>		
LC50	Rat	55700 ppm, 3 Hours 132 mg/l, 3 Hours
LC50	Rat	76 mg/l, 4 Hours
<i>Vapor</i>		
LC50	Rat	50.1 mg/l
LC50	Rat	50.1 mg/l, 8 Hours
Oral		
LD50	Mouse	5.2 g/kg
	Rat	5800 mg/kg 2.2 ml/kg
Bentazon (CAS 25057-89-0)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	4000 mg/kg
	Rat	2500 mg/kg
Oral		
LD50	Cat	500 mg/kg
	Dog	450 mg/kg
	Mouse	400 mg/kg
	Quail	720 mg/kg
	Rabbit	750 mg/kg
	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	Chicken	5660 mg/kg
	Cow	> 4000 mg/kg
	Guinea pig	3860 mg/kg

Components	Species	Test Results
	Mouse	> 4600 mg/kg
	Rabbit	3860 mg/kg
	Rat	6936 mg/kg
Dicamba (CAS 1918-00-9)		
<u>Acute</u>		
Dermal		
LD50	Rat	2000 mg/kg
Oral		
LD50	Guinea pig	566 - 3000 mg/kg
	Rabbit	566 - 2000 mg/kg
	Rat	757 mg/kg
Dichlorprop (CAS 120-36-5)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg
Inhalation		
LC50	Rat	> 0.65 mg/l, 4 Hours
Oral		
LD50	Mouse	309.4 mg/kg
	Rat	344 mg/kg
Dinoseb (CAS 88-85-7)		
<u>Acute</u>		
Dermal		
LD50	Guinea pig	100 mg/kg
	Rat	30 mg/kg, 24 Hours
		0.12 ml/kg, 24 Hours
Oral		
LD100	Rat	60 mg/kg
LD50	Rat	27 mg/kg
Pentachlorophenol (CAS 87-86-5)		
<u>Acute</u>		
Dermal		
LD50	Rat	96 mg/kg
Oral		
LD50	Rat	146 mg/kg
Picloram (CAS 1918-02-1)		
<u>Acute</u>		
Oral		
LD50	Cattle	> 750 mg/kg
	Rat	8200 mg/kg
	Sheep	> 100 mg/kg
Silvex (CAS 93-72-1)		
<u>Acute</u>		
Oral		
LD50	Chicken	2000 mg/kg
	Guinea pig	850 mg/kg
	Mouse	276 mg/kg
	Rabbit	850 mg/kg

Components	Species	Test Results
	Rat	650 mg/kg

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

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	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	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

2,4,5-T (TM) (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.
Dichlorprop (CAS 120-36-5)	2B Possibly carcinogenic to humans.
Pentachlorophenol (CAS 87-86-5)	2B Possibly carcinogenic to humans.
Picloram (CAS 1918-02-1)	3 Not classifiable as to carcinogenicity to humans.

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

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause drowsiness and 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 The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
2,4,5-T (TM) (CAS 93-76-5)		
Aquatic		
Fish	LC50	Carp (Cyprinus carpio) 5.3 mg/l, 96 hours
2,4-D (CAS 94-75-7)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia pulex) 2.4 - 4.3 mg/l, 48 hours
Fish	LC50	Fish (Labeo boga) 3.8 mg/l, 96 hours
2,4-DB (CAS 94-82-6)		
Aquatic		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss) 1.2 - 3.2 mg/l, 96 hours
4-Nitrophenol (CAS 100-02-7)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 3.1 - 7.1 mg/l, 48 hours
Fish	LC50	Zebra danio (Danio rerio) 5.6 - 13.9 mg/l, 96 hours
Acetone (CAS 67-64-1)		
Aquatic		
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

Components	Species	Test Results
Bentazon (CAS 25057-89-0)		
Aquatic		
Fish	LC50	Carp (Cyprinus carpio)
		890 - 1100 mg/l, 96 hours
Chloramben (CAS 133-90-4)		
Aquatic		
Fish	LC50	Bluegill (Lepomis macrochirus)
		> 10 mg/l, 96 hours
Dalapon (CAS 75-99-0)		
Aquatic		
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		
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
Dichlorprop (CAS 120-36-5)		
Aquatic		
Fish	LC50	Brown trout (Salmo trutta)
		78 mg/l, 96 hours
Dinoseb (CAS 88-85-7)		
Aquatic		
Fish	LC50	Lake trout, siscowet (Salvelinus namaycush)
		0.024 - 0.054 mg/l, 96 hours
Pentachlorophenol (CAS 87-86-5)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna)
		0.273 - 0.375 mg/l, 48 hours
Fish	LC50	Atlantic salmon (Salmo salar)
		0.042 - 0.083 mg/l, 96 hours
Picloram (CAS 1918-02-1)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna)
		59 - 97 mg/l, 48 hours
Fish	LC50	Lake trout, siscowet (Salvelinus namaycush)
		1.6 - 2.9 mg/l, 96 hours
Silvex (CAS 93-72-1)		
Aquatic		
Crustacea	EC50	Water flea (Simocephalus serrulatus)
		2 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)
		0.5 - 0.8 mg/l, 96 hours

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

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

2,4,5-T (TM)	4
2,4-D	2.81
2,4-DB	3.53
4-Nitrophenol	1.91
Acetone	-0.24
Bentazon	2.8
Chloramben	1.11
Dalapon	0.778
Dicamba	2.21
Pentachlorophenol	5.12
Silvex	3.8

Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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

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 = 5008 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
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	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1090
UN proper shipping name	ACETONE SOLUTION (Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
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



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

One or more components are not listed on TSCA.

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

Dichlorprop (CAS 120-36-5) 0.1 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

2,4,5-T (TM) (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

Dinoseb (CAS 88-85-7) 1000 LBS

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

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
Dinoseb	88-85-7	1000		100 lbs	10000 lbs

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

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) Not regulated.**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

US state regulations**US - New Jersey RTK - Substances: Listed substance**

2,4,5-T (TM) (CAS 93-76-5)
 2,4-D (CAS 94-75-7)
 2,4-DB (CAS 94-82-6)
 4-Nitrophenol (CAS 100-02-7)
 Acetone (CAS 67-64-1)
 Bentazon (CAS 25057-89-0)
 Chloramben (CAS 133-90-4)
 Dalapon (CAS 75-99-0)
 Dicamba (CAS 1918-00-9)
 Dichlorprop (CAS 120-36-5)
 Dinoseb (CAS 88-85-7)
 Pentachlorophenol (CAS 87-86-5)
 Picloram (CAS 1918-02-1)
 Silvex (CAS 93-72-1)

US - Pennsylvania RTK - Hazardous Substances: Special hazard

Pentachlorophenol (CAS 87-86-5)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

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)

US. Massachusetts RTK - Substance List

2,4,5-T (TM) (CAS 93-76-5)
 2,4-D (CAS 94-75-7)
 4-Nitrophenol (CAS 100-02-7)
 Acetone (CAS 67-64-1)
 Chloramben (CAS 133-90-4)
 Dalapon (CAS 75-99-0)
 Dicamba (CAS 1918-00-9)
 Dinoseb (CAS 88-85-7)
 Pentachlorophenol (CAS 87-86-5)
 Picloram (CAS 1918-02-1)
 Silvex (CAS 93-72-1)

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

2,4,5-T (TM) (CAS 93-76-5)
 2,4-D (CAS 94-75-7)
 2,4-DB (CAS 94-82-6)
 4-Nitrophenol (CAS 100-02-7)

Chloramben (CAS 133-90-4)
Dicamba (CAS 1918-00-9)
Dichlorprop (CAS 120-36-5)
Dinoseb (CAS 88-85-7)
Pentachlorophenol (CAS 87-86-5)
Picloram (CAS 1918-02-1)

US. Pennsylvania RTK - Hazardous Substances

2,4,5-T (TM) (CAS 93-76-5)
2,4-D (CAS 94-75-7)
4-Nitrophenol (CAS 100-02-7)
Acetone (CAS 67-64-1)
Chloramben (CAS 133-90-4)
Dalapon (CAS 75-99-0)
Dicamba (CAS 1918-00-9)
Dinoseb (CAS 88-85-7)
Pentachlorophenol (CAS 87-86-5)
Picloram (CAS 1918-02-1)
Silvex (CAS 93-72-1)

US. Pennsylvania Worker and Community Right-to-Know Law

2,4,5-T (TM) (CAS 93-76-5)
2,4-D (CAS 94-75-7)
4-Nitrophenol (CAS 100-02-7)
Acetone (CAS 67-64-1)
Chloramben (CAS 133-90-4)
Dalapon (CAS 75-99-0)
Dicamba (CAS 1918-00-9)
Dinoseb (CAS 88-85-7)
Pentachlorophenol (CAS 87-86-5)
Picloram (CAS 1918-02-1)
Silvex (CAS 93-72-1)

US. Rhode Island RTK

2,4,5-T (TM) (CAS 93-76-5)
2,4-D (CAS 94-75-7)
2,4-DB (CAS 94-82-6)
4-Nitrophenol (CAS 100-02-7)
Acetone (CAS 67-64-1)
Chloramben (CAS 133-90-4)
Dalapon (CAS 75-99-0)
Dicamba (CAS 1918-00-9)
Dichlorprop (CAS 120-36-5)
Dinoseb (CAS 88-85-7)
Pentachlorophenol (CAS 87-86-5)
Picloram (CAS 1918-02-1)
Silvex (CAS 93-72-1)

US. California Proposition 65

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

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

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

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

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

US - 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 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

Country(s) or region	Inventory name	On inventory (yes/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
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	08-25-2016
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.