

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Colorless to brown
Odor	pungent
Odor Threshold	No test data available
pH	5.9 <i>CIPAC MT 75.2</i> 1% aqueous solution.
Melting point/range	Not applicable
Freezing point	-85 °C (-121 °F)
Boiling point (760 mmHg)	93 °C (199 °F)
Flash point	closed cup 39 °C (102 °F) <i>Pensky-Martens Closed Cup ASTM D 93</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	No
Lower explosion limit	5.5 % vol (1,3-dichloropropene)
Upper explosion limit	14.5 % vol (1,3-dichloropropene)
Vapor Pressure	30 mmHg at 20 °C (68 °F) (moderately volatile)
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.32 at 23 °C (73 °F) / 4 °C <i>Pyknometer</i>
Water solubility	emulsifiable
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	308 °C (586 °F) <i>92/69/EEC A15</i>
Decomposition temperature	No test data available
Kinematic Viscosity	0.748 mm ² /s at 40 °C (104 °F) 0.938 mm ² /s at 20 °C (68 °F)
Explosive properties	No <i>EEC A14</i>
Oxidizing properties	No
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Unstable at elevated temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid static discharge.

Incompatible materials: Avoid contact with: Amines. Oxidizers. Strong bases. Avoid contact with metals such as: Zinc. Cadmium. Magnesium. Magnesium alloys. Aluminum. Aluminum alloys.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Hydrogen chloride. Nitrogen oxides. Phosgene. Toxic gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Moderate toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Swallowing may result in gastrointestinal irritation or ulceration.

As product:

LD50, Rat, female, 100 - 200 mg/kg

Acute dermal toxicity

Prolonged or widespread skin contact may result in absorption of harmful amounts.

As product:

LD50, Rabbit, > 600 mg/kg

Acute inhalation toxicity

Brief exposure (minutes) to easily attainable concentrations may cause serious adverse effects, even death. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. Excessive exposure may cause lung injury. Easily attainable vapor concentrations may cause serious adverse effects, even death. In confined or poorly ventilated areas, vapor can readily accumulate and can cause unconsciousness and death.

As product:

LC50, Rat, male and female, 4 Hour, dust/mist, > 0.1003 mg/l

Skin corrosion/irritation

Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

May cause depigmentation (white patches on skin).

Classified as corrosive to the skin according to DOT guidelines.

Serious eye damage/eye irritation

May cause moderate eye irritation.

May cause severe corneal injury.

May cause permanent impairment of vision, even blindness.

Vapor may cause lacrimation (tears).

Sensitization

Has caused allergic skin reactions when tested in guinea pigs.

For the active ingredient(s):

Chloropicrin.

May cause allergic respiratory reaction.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause respiratory irritation.

Route of Exposure: Inhalation

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For the active ingredient(s):

In animals, effects have been reported on the following organs:

Liver.

Respiratory tract.

Bladder.

Lung.

Nasal tissue.

Gastrointestinal tract.

Respiratory tract.

Blood-forming organs (Bone marrow & Spleen).

For the minor component(s):

In animals, effects have been reported on the following organs:

Blood.

Kidney.

Liver.

Carcinogenicity

For the active ingredient(s): 1,3-Dichloropropene. Has been shown to cause cancer in laboratory animals by the oral route. Inhalation exposure resulted in an increase in the normal occurrence of benign lung tumors in male mice.

Teratogenicity

For the active ingredient(s): Chloropicrin. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

For the active ingredient(s): 1,3-Dichloropropene. Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

For the minor component(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in laboratory animals only at doses producing severe toxicity in the mother.

Reproductive toxicity

For the active ingredient(s): In animal studies, did not interfere with reproduction.

For the minor component(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Mutagenicity

For the active ingredient(s): Chloropicrin. Has been shown to have mutagenic activity in bacteria. Animal genetic toxicity studies were inconclusive

For the active ingredient(s): 1,3-Dichloropropene. In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

Aspiration Hazard

May be fatal if swallowed and enters airways.

Carcinogenicity

Component	List	Classification
1,3-Dichloropropene	IARC	Group 2B: Possibly carcinogenic to humans
	US NTP	Reasonably anticipated to be a human carcinogen
	ACGIH	A3: Confirmed animal carcinogen with unknown relevance to humans.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

1,3-Dichloropropene

Acute toxicity to fish

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50, Cyprinodon variegatus (sheepshead minnow), 96 Hour, 0.87 mg/l, Method Not Specified.

LC50, Rainbow trout (Oncorhynchus mykiss), 96 Hour, 2.78 mg/l

LC50, Lepomis macrochirus (Bluegill sunfish), 96 Hour, 3.7 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, 3.58 mg/l

EC50, eastern oyster (Crassostrea virginica), 48 Hour, 0.64 mg/l

Acute toxicity to algae/aquatic plants

EbC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, 14.9 mg/l

EC50, diatom Navicula sp., 120 Hour, 2.35 mg/l

EC50, Lemna gibba, 14 d, 14.56 mg/l

Chronic toxicity to fish

NOEC, Pimephales promelas (fathead minnow), flow-through test, 33 d, survival, 0.117 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, water flea Daphnia magna, 0.0701 mg/l

Toxicity to Above Ground Organisms

Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

oral LD50, Colinus virginianus (Bobwhite quail), 139.8mg/kg bodyweight.

dietary LC50, Colinus virginianus (Bobwhite quail), 8 d, > 10.000mg/kg diet.

dietary LC50, Anas platyrhynchos (Mallard duck), > 6243mg/kg diet.

contact LD50, Apis mellifera (bees), 48 Hour, > 6.6micrograms/bee

Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 14 d, 55.6 mg/kg

Chloropicrin

Acute toxicity to fish

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 0.016 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia pulex (Water flea), 48 Hour, 0.63 mg/l, OECD Test Guideline 202 or Equivalent

Balance

Acute toxicity to fish

No relevant data found.

Persistence and degradability

1,3-Dichloropropene

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

10-day Window: Fail

Biodegradation: 4.9 %

Exposure time: 28 d

Method: OECD Test Guideline 301D or Equivalent

Theoretical Oxygen Demand: 1.281 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
	0.148 mg/mg

Stability in Water (1/2-life)

, 2.3 - 4.75 d

Chloropicrin

Biodegradability: Biodegradation may occur under both aerobic and anaerobic conditions (in the presence or absence of oxygen).

Theoretical Oxygen Demand: 0.10 mg/mg

Balance

Biodegradability: No relevant data found.

Bioaccumulative potential

1,3-Dichloropropene

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 1.82 - 2.1 Measured

Chloropicrin

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 2.09 Measured

Balance

Bioaccumulation: No relevant data found.

Mobility in soil

1,3-Dichloropropene

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 44.7 Measured

Chloropicrin

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 36 - 62 Estimated.

Balance

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

Contaminated packaging: Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Toxic by inhalation liquid, flammable, corrosive, n.o.s.(Chloropicrin, 1,3-Dichloropropene)
UN number	UN 3489
Class	6.1 (3, 8)
Packing group	I
Marine pollutant	Chloropicrin, 1,3-Dichloropropene
Reportable Quantity	1,3-Dichloropropene
Toxic-Inhalation Hazard, Zone B	

Classification for SEA transport (IMO-IMDG):

Proper shipping name	TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S.(Chloropicrin, 1,3-Dichloropropene)
UN number	UN 3489
Class	6.1 (3, 8)
Packing group	I
Marine pollutant	Chloropicrin, 1,3-Dichloropropene
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Transport forbidden by regulation

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Flammable (gases, aerosols, liquids, or solids)
 Aspiration hazard
 Acute toxicity (any route of exposure)
 Serious eye damage or eye irritation
 Respiratory or skin sensitisation
 Skin corrosion or irritation
 Carcinogenicity
 Specific target organ toxicity (single or repeated exposure)

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

Components	CASRN
1,3-Dichloropropene	542-75-6
Chloropicrin	76-06-2

Pennsylvania Right To Know

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	CASRN
1,3-Dichloropropene	542-75-6
Chloropicrin	76-06-2

California Prop. 65

WARNING: This product can expose you to chemicals including 1,3-Dichloropropene, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

United States TSCA Inventory (TSCA)

This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number: 95290-5

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER

May cause lung, liver, and kidney damage and respiratory system irritation upon prolonged contact
 Fatal if inhaled, swallowed or absorbed through skin.

Poisonous liquid and vapor.

Corrosive

Liquid causes skin burns and irreversible eye damage.

Do not get in eyes, on skin or on clothing.

Chloropicrin is readily identifiable by smell. Exposures to very low concentrations of vapor will cause irritation of eyes, nose and throat. Continued exposure after irritation occurs, or exposure to higher concentration, may cause painful irritation or temporary blindness.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16. OTHER INFORMATION

Hazard Rating System

NFPA

Health	Flammability	Instability
4	2	1

Revision

Identification Number: 103110556 Issue Date: 11/24/2021 / Version: 1.1

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
SKIN	Absorbed via skin
TWA	8-hour time weighted average

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

SALT LAKE HOLDING LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is

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