

1. Material Identification

Product Name : 1,3-Dichloropropylene

Catalog Number : io-2192

CAS Number : 542-75-6

Identified uses : Laboratory chemicals, manufacture of chemical compounds

Company : IonZ

>> R&D Use only

2. Hazards Identification

GHS Classification:

Flammable liquid (category 2)

Acute toxicity, oral (Category 3)

Acute toxicity, dermal (Category 3)

Acute toxicity, inhalation (Category 3)

Specific target organ toxicity, single exposure (Category 1)

Pictogram(s)



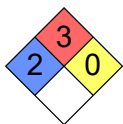
GHS Hazard Statements

- >> H226 (98.3%): Flammable liquid and vapor [Warning Flammable liquids]
- >> H301+H311 (13.2%): Toxic if swallowed or in contact with skin [Danger Acute toxicity, oral; acute toxicity, dermal]
- >> H301 (100%): Toxic if swallowed [Danger Acute toxicity, oral]
- >> H304 (88.4%): May be fatal if swallowed and enters airways [Danger Aspiration hazard]
- >> H311 (88.8%): Toxic in contact with skin [Danger Acute toxicity, dermal]
- >> H312 (11.2%): Harmful in contact with skin [Warning Acute toxicity, dermal]
- >> H315 (100%): Causes skin irritation [Warning Skin corrosion/irritation]
- >> H317 (100%): May cause an allergic skin reaction [Warning Sensitization, Skin]
- >> H319 (100%): Causes serious eye irritation [Warning Serious eye damage/eye irritation]
- >> H331 (30.6%): Toxic if inhaled [Danger Acute toxicity, inhalation]
- >> H332 (67.8%): Harmful if inhaled [Warning Acute toxicity, inhalation]
- >> H335 (99.6%): May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation]
- >> H400 (100%): Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard]
- >> H410 (90.9%): Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard]

Precautionary Statement Codes

- >> P210, P233, P240, P241, P242, P243, P261, P262, P264, P264+P265, P270, P271, P272, P273, P280, P301+P316, P302+P352, P303+P361+P353, P304+P340, P305+P351+P338, P316, P317, P319, P321, P330, P331, P332+P317, P333+P317, P337+P317, P361+P364, P362+P364, P370+P378, P391, P403+P233, P403+P235, P405, and P501

NFPA 704 Diamond



NFPA Health Rating

>> 2 – Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA Fire Rating

>> 3 – Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions.

NFPA Instability Rating

>> 0 – Materials that in themselves are normally stable, even under fire conditions.

Health Hazards:

- >> VAPOR: Irritating to eyes, nose and throat. LIQUID: Will burn skin and eyes. Harmful if swallowed. (USCG, 1999)
- >> FLAMMABLE. POISONOUS GASES ARE PRODUCED IN FIRE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Toxic and irritating gases may be generated. (USCG, 1999)
- >> Flammable. Gives off irritating or toxic fumes (or gases) in a fire. Above 25 °C explosive vapour/air mixtures may be formed.

3. Composition/Information On Ingredients

Chemical name : 1,3-Dichloropropylene

CAS Number : 542-75-6

Molecular Formula : C₃H₄Cl₂

Molecular Weight : 110.9700 g/mol

4. First Aid Measures

First Aid:

- >> EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.
- >> SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop. IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.
- >> INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing.
- >> INGESTION: DO NOT INDUCE VOMITING. Corrosive chemicals will destroy the membranes of the mouth, throat, and esophagus and, in addition, have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. Transport the victim IMMEDIATELY to a hospital.

- >> OTHER: Since this chemical is a known or suspected carcinogen you should contact a physician for advice regarding the possible long term health effects and potential recommendation for medical monitoring. Recommendations from the physician will depend upon the specific compound, its chemical, physical and toxicity properties, the exposure level, length of exposure, and the route of exposure. (NTP, 1992)

First Aid Measures

Inhalation First Aid

- >> Fresh air, rest. Refer for medical attention.

Skin First Aid

- >> Wear protective gloves when administering first aid. Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .

Eye First Aid

- >> First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Ingestion First Aid

- >> Rinse mouth. Give one or two glasses of water to drink. Do NOT induce vomiting. Refer for medical attention .

5. Fire Fighting Measures

- >> Vapors are heavier than air and may travel to a source of ignition and flash back.
- >> Excerpt from ERG Guide 129 [Flammable Liquids (Water-Miscible / Noxious)]:
- >> CAUTION: The majority of these products have a very low flash point. Use of water spray when fighting fire may be inefficient.
- >> SMALL FIRE: Dry chemical, CO₂, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane (UN1261) or nitroethane (UN2842).
- >> LARGE FIRE: Water spray, fog or alcohol-resistant foam. Avoid aiming straight or solid streams directly onto the product. If it can be done safely, move undamaged containers away from the area around the fire.
- >> FIRE INVOLVING TANKS, RAIL TANK CARS OR HIGHWAY TANKS: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks in direct contact with flames. For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2024)
- >> Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

6. Accidental Release Measures

Isolation and Evacuation:

Isolation and evacuation measures to take when a large amount of this chemical is accidentally released in an emergency.

- >> Excerpt from ERG Guide 129 [Flammable Liquids (Water-Miscible / Noxious)]:
- >> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- >> LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet).
- >> FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

Spillage Disposal:

Methods for containment and safety measures to protect workers dealing with a spillage of this chemical.

- >> Ventilation. Remove all ignition sources. Personal protection: chemical protection suit including self-contained breathing apparatus. Collect leaking and spilled liquid in sealable plastic containers as far as possible. Do NOT let this chemical enter the environment.

7. Handling And Storage

Safe Storage:

- >> Fireproof. Separated from metals and oxidants. Well closed. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.

Storage Conditions:

- >> Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Recommended storage temperature 2 – 8 °C.

8. Exposure Control/ Personal Protection

REL-TWA (Time Weighted Average)

- >> 1 ppm (5 mg/m³)
- >> Ca TWA 1 ppm (5 mg/m³) [skin] See Appendix A
- >> none See Appendix G
- >> 1.0 [ppm]
- >> 1 ppm as TWA; (skin); A3 (confirmed animal carcinogen with unknown relevance to humans).

TLV-TWA (Time Weighted Average)

- >> 1 ppm [2003]

MAK (Maximale Arbeitsplatz Konzentration)

- >> skin absorption (H); sensitization of skin (SH); carcinogen category: 2

Inhalation Risk:

- >> A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20 °C.

Effects of Short Term Exposure:

- >> The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the central nervous system.

Effects of Long Term Exposure:

- >> Repeated or prolonged contact may cause skin sensitization. This substance is possibly carcinogenic to humans.

Fire Prevention

- >> NO open flames, NO sparks and NO smoking. Above 25 °C use a closed system, ventilation and explosion-proof electrical equipment.

Exposure Prevention

- >> AVOID ALL CONTACT! PREVENT GENERATION OF MISTS! IN ALL CASES CONSULT A DOCTOR!

Inhalation Prevention

- >> Use ventilation, local exhaust or breathing protection.

Skin Prevention

- >> Protective gloves. Protective clothing.

Eye Prevention

>> Wear safety goggles or eye protection in combination with breathing protection.

Ingestion Prevention

>> Do not eat, drink, or smoke during work.

9. Physical And Chemical Properties

Molecular Weight:

>> 110.97

Exact Mass:

>> 109.9690055

Physical Description:

>> 1,3-dichloropropene appears as a clear colorless liquid. Flash point 95 °F. Denser (at 10.2 lb / gal) than water and insoluble in water. Vapors are heavier than air. Used to make other chemicals and as soil fumigant.

>> COLOURLESS LIQUID WITH PUNGENT ODOUR.

Color/Form:

>> Colorless to straw-colored liquid

Odor:

>> Pungent odor

Taste:

The sensation of flavor perceived in the mouth and throat on contact with a substance.

>> Bitter

Boiling Point:

>> 219 °F at 760 mmHg (NTP, 1992)

>> 108 °C

Melting Point:

>> -119 °F (NTP, 1992)

Flash Point:

>> 95 °F (NTP, 1992)

>> 25 °C c.c.

Solubility:

>> less than 0.1 mg/mL at 61.7 °F (NTP, 1992)

>> Solubility in water, g/100ml at 20 °C: 0.2

Density:

>> 1.2 at 68 °F (USCG, 1999) – Denser than water; will sink

>> Relative density (water = 1): 1.22

Vapor Density:

>> 3.83 (NTP, 1992) – Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 3.8

Vapor Pressure:

>> 27.9 mmHg at 68 °F ; 28 mmHg at 77 °F (NTP, 1992)

>> Vapor pressure, kPa at 20 °C: 3.7

LogP:

>> log Kow = 2.06 (cis-isomer), 2.03 (trans-isomer) at 25 °C

>> 1.82

Stability/Shelf Life:

>> Stable under recommended storage conditions.

Decomposition:

>> Hazardous decomposition products formed under fire conditions – Carbon oxides, hydrogen chloride gas

Corrosivity:

The ability of a chemical to damage or destroy other substances when it comes into contact.

>> Corrosive to aluminum, magnesium, and alloys of these metals

Heat of Vaporization:

>> 113 BTu/lb = 62.8 cal/g = 2.63×10^5 J/kg (est latent heat)

Surface Tension:

>> 31.2 dynes/cm = 0.0312 N/m at 24 °C

Odor Threshold:

>> Odor Threshold Low: 1.0 [mmHg]

>> Odor Threshold High: 3.0 [mmHg]

>> Odor thresholds (detection) from CHEMINFO

Refractive Index:

>> Index of refraction: 1.4735 at 22 °C/D

Relative Evaporation Rate:

The rate at which a material will vaporize (evaporate, change from liquid to vapor), compared to the rate of vaporization of a specific known material.

>> 50% after 31 minutes from water at 25 °C of 1 ppm solution

10. Stability And Reactivity

>> Highly flammable. Insoluble in water.

>> Highly Flammable

11. Toxicological Information

Toxicity Summary:

>> IDENTIFICATION AND USE: 1,3-Dichloropropene is a colorless to amber colored liquid with a penetrating, irritating, chloroform-like odor. It has been widely used in agriculture as a pre-plant soil fumigant for the control of nematodes in vegetables, potatoes, and tobacco. It often appears as part of a mixture also including 1,2-dichloropropane. Application is primarily by soil injection. HUMAN EXPOSURE AND TOXICITY: Irritation of the eyes and the upper respiratory mucosa appears promptly after exposure. Dermal exposure caused severe skin irritations. Inhalation may result in serious signs and symptoms of poisoning with lower exposures resulting in depression of the central nervous system and irritation of the respiratory system. Some poisoning incidents have occurred in which persons were hospitalized with signs and symptoms of irritation of the mucous membrane, chest discomfort, headache, nausea, vomiting, dizziness and, occasionally, loss of consciousness and decreased libido. The fertility status of workers employed in the production of chlorinated three-carbon compounds was compared with a control group. There was no indication of an association between decreased fertility and exposure. ANIMAL STUDIES: The acute oral toxicity of 1,3-dichloropropene in animals is moderate to high. Acute dermal exposure is moderately toxic. Acute intoxication showed central nervous and respiratory system involvement. Severe reactions were seen in rabbit skin and eye irritation tests. Degeneration of the olfactory epithelium and hyperplasia were seen in inhalation studies with mice and rats. Cis- and trans-1,3-dichloropropene and mixtures were mutagenic in bacteria with, and without, metabolic activation. In mice, increased incidences of hyperplasia of the urinary bladder, the forestomach, and the nasal mucosa were observed. There was an increase in the incidence of benign lung tumors. Some toxic changes in the olfactory mucosa of the nasal cavity were also seen in rats, but no increase in tumor incidence. ECOTOXICITY STUDIES: The acute toxicity of 1,3-dichloropropene to saltwater aquatic life occurs at concn as low as 790 mg/L. In a test conducted on a mixed assemblage of emerald shiners and fathead minnows exposed to 1,3-dichloropropene, 100% of the fish survived 3 days at 1,000 ug/L, and none

survived at 10,000 ug/L. 1,3-Dichloropropene at 20 ug/mL of air, killed 100% of microsclerotia after incubation for 30 hr, and at 100 ug/g of soil moisture after incubation for 3 days. Higher temperatures increased the toxicity.

USGS Health-Based Screening Levels for Evaluating Water-Quality:

This section provides the USGS Health-Based Screening Levels for Evaluating Water-Quality data.

Chemical

>> 1,3-Dichloropropene

USGS Parameter Code

>> 34561

Noncancer HBSL (Health-Based Screening Level)[µg/L]

>> 100

Cancer HBSL [µg/L]

>> 0.2-20

Benchmark Remarks

>> Uses non-linear approach (RfD) that adequately accounts for all chronic toxicity including carcinogenicity; synonym Telone; also see CASRN 10061015 and CASRN 10061026.

Reference

>> Smith, C.D. and Nowell, L.H., 2024. Health-Based Screening Levels for evaluating water-quality data (3rd ed.). DOI:10.5066/F71C1TWP

Evidence for Carcinogenicity:

Evidence that this chemical does or may cause cancer. The information here is collected from various sources by the Hazardous Substances Data Bank (HSDB).

>> Evaluation: No epidemiological data relevant to the carcinogenicity of 1,3-dichloropropene were available. There is sufficient evidence in experimental animals for the carcinogenicity of mixed isomers of 1,3-dichloropropene (technical grade). Overall evaluation: 1,3-Dichloropropene (technical grade) is possibly carcinogenic to humans (Group 2B).

Carcinogen Classification:

This section provides the International Agency for Research on Cancer (IARC) Carcinogenic Classification and related monograph links. In the IARC Carcinogenic classification, chemicals are categorized into four groups: Group 1 (carcinogenic to humans), Group 2A (probably carcinogenic to humans), Group 2B (possibly carcinogenic to humans), and Group 3 (not classifiable as to its carcinogenicity to humans).

IARC Carcinogenic Agent

>> 1,3-Dichloropropene (technical-grade)

IARC Carcinogenic Classes

>> Group 2B: Possibly carcinogenic to humans

IARC Monographs

>> Volume 41: (1986) Some Halogenated Hydrocarbons and Pesticide Exposures
>> Volume Sup 7: Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42, 1987; 440 pages; ISBN 92-832-1411-0 (out of print)
>> Volume 71: (1999) Re-evaluation of Some Organic Chemicals, Hydrazine and Hydrogen Peroxide (Part 1, Part 2, Part 3)

Exposure Routes:

>> The substance can be absorbed into the body by inhalation of its vapour, through the skin and by ingestion.
>> inhalation, skin absorption, ingestion, skin and/or eye contact

Inhalation Exposure

>> Cough. Sore throat. Headache. Dizziness. Nausea. Vomiting.

Skin Exposure

>> Redness.

Eye Exposure

>> Redness.

Ingestion Exposure

>> Abdominal pain.

- >> irritation eyes, skin, respiratory system; eye, skin burns; lacrimation (discharge of tears); headache, dizziness; in animals; liver, kidney damage; [potential occupational carcinogen]

Target Organs:

Organs that are affected by exposure to this chemical. Information in this section reflects human data unless otherwise noted.

- >> Gastrointestinal
- >> Respiratory
- >> Eyes, skin, respiratory system, central nervous system, liver, kidneys

Cancer Sites:

The site in which cancer develops due to exposure to this compound. Cancers are casually referred to based on their primary sites (e.g., skin, lung, breasts, prostate, colon and rectum).

- >> Hepatic
- >> Respiratory
- >> Urinary
- >> [in animals: cancer of the bladder, liver, lung & forestomach]

Adverse Effects:

An adverse effect is an undesired harmful effect resulting from a medical treatment or other intervention.

- >> Neurotoxin – Acute solvent syndrome
- >> Occupational hepatotoxin – Secondary hepatotoxins: the potential for toxic effect in the occupational setting is based on cases of poisoning by human ingestion or animal experimentation.
- >> Nephrotoxin – The chemical is potentially toxic to the kidneys in the occupational setting.
- >> Dermatotoxin – Skin burns.
- >> Lacrimator (Lachrymator) – A substance that irritates the eyes and induces the flow of tears.
- >> Skin Sensitizer – An agent that can induce an allergic reaction in the skin.
- >> IARC Carcinogen – Class 3: Chemicals are not classifiable by the International Agency for Research on Cancer.
- >> NTP Carcinogen – Reasonably anticipated to be a human carcinogen.
- >> ACGIH Carcinogen – Confirmed Animal.

Toxicity Data:

- >> LCLo (rat) = 1000 ppm/2H

Interactions:

- >> ... Treatment /of mouse lung/ with vinyl carbamate (VC) +/- 1,3-D resulted in a 100% gross adenoma incidence. The total number of adenomas was similar between the VC group and those receiving VC and 1,3-D (976 vs. 980 adenomas per 20 mice). ...

Antidote and Emergency Treatment:

- >> If this chemical gets into the eyes, remove any contact lenses at once and irrigate immediately for at least 15 min, occasionally lifting upper and lower lids. Seek medical attention immediately. If this chemical contacts the skin, remove contaminated clothing and wash immediately with soap and water. Seek medical attention immediately. If this chemical has been inhaled, remove from exposure, begin rescue breathing (using universal precautions, including resuscitation mask) if breathing has stopped and CPR if heart action has stopped. Transfer promptly to a medical facility. /Dichloropropenes/

Human Toxicity Excerpts:

- >> /HUMAN EXPOSURE STUDIES/ Seven of 10 volunteers detected 1,3-dichloropropene at an air concentration of 3 ppm; some reported fatigue of the sense of smell after few minutes. The same proportion of volunteers detected 1 ppm, but the odor was noticeably fainter.

Non-Human Toxicity Excerpts:

- >> /LABORATORY ANIMALS: Acute Exposure/ Levels of glutathione in various tissues were studied in male Sprague-Dawley rats following acute inhalation exposure to 1,3-dichloropropene for 1 hr in a dynamic, nose only system. Glutathione content was determined in nasal tissue, heart, kidney, liver, lung, and testes. No 1,3-dichloropropene was detected in the blood of rats 2 hr after exposure to up to 955 ppm 1,3-dichloropropene. When one rat was exposed to 100 mg/kg 1,3-dichloropropene orally, both cis and trans isomers of 1,3-dichloropropene were detected in the blood 2 hr after exposure. Nasal tissue glutathione content was decreased to 27% of control at 5 ppm 1,3-dichloropropene, to 23% at 31

ppm, to 18% at 71 ppm, and to 12% at 223 ppm. In lung tissue, glutathione content remained relatively constant at 68 to 82% of control after exposure of 2–955 ppm 1,3-dichloropropene. Exposure to up to 955 ppm 1,3-dichloropropene had little or no effect on the glutathione levels of heart and testes. Significantly decreased glutathione levels in heart, lung, liver, and testes were observed after exposure to 1716 ppm 1,3-dichloropropene. A concn dependent decr of glutathione levels in the liver was observed for exposure between 772 and 1716 ppm 1,3-dichloropropene. No change in lung wet wt was observed for any exposure. Serum lactate dehydrogenase activity, when measured 6 hr after 1,3-dichloropropene exposure, was decreased only for the highest 1,3-dichloropropene concn. The results showed that, at least at low levels, 1,3-dichloropropene was detoxified by conjugation to glutathione in nasal tissue.

Non-Human Toxicity Values:

>> LD50 Rat oral 140 + or – 25 mg/kg

National Toxicology Program Studies:

Reports from the National Toxicology Program, an interagency program supported by three government agencies (NIH, FDA, and CDC) within the Department of Health and Human Services. This program plays a critical role in generating, interpreting, and sharing toxicological information about chemicals of public health concerns.

>> Toxicology and carcinogenesis studies of Telone II (a soil fumigant containing approx 89% cis- and trans-1,3-dichloropropene, 2.5% 1,2-dichloropropane, 1.5% of a trichloropropene isomer, and 1.0% epichlorohydrin) were conducted by administering the commercial-grade formulation in corn oil by gavage to groups of 52 male and 52 female F344/N rats at doses of 0, 25, or 50 mg/kg and to groups of 50 male and 50 female B6C3F1 mice at doses of 0, 50, or 100 mg/kg. Doses were administered three times per week for 104 weeks. Ancillary studies were conducted in which dose groups containing five male and five female rats were killed after receiving Telone II for 9, 16, 21, 24, or 27 months. The primary organs affected were the forestomach (rats and mice), urinary bladder (mice), lung (mice), and liver (rats). Compound related non-neoplastic lesions included basal cell or epithelial hyperplasia of the forestomach (rats and mice), epithelial hyperplasia of the urinary bladder (mice), and kidney hydronephrosis (mice). Neoplastic lesions associated with administration of Telone II included squamous cell papillomas of the forestomach, squamous cell carcinoma of the forestomach, transitional cell carcinoma of the urinary bladder, alveolar/bronchiolar adenomas, and neoplastic nodules of the liver. Development of lesions in the forestomach (basal cell hyperplasia and squamous cell papilloma) was observed to be time dependent. The results of the scheduled kills supported the findings of the carcinogenesis studies. /Telone II (Technical grade 1,3-Dichloropropene, containing 1.0% epichlorohydrin as a stabilizer)/

12. Ecological Information

Resident Soil (mg/kg)

>> 1.80e+00

Industrial Soil (mg/kg)

>> 8.20e+00

Resident Air (ug/m3)

>> 7.00e-01

Industrial Air (ug/m3)

>> 3.10e+00

Tapwater (ug/L)

>> 4.70e-01

MCL (ug/L)

>> 5.00e+00

Risk-based SSL (mg/kg)

>> 1.70e-04

Oral Slope Factor (mg/kg-day)-1

>> 1.00e-01

Inhalation Unit Risk (ug/m3)-1

>> 4e-06

Chronic Oral Reference Dose (mg/kg-day)

>> 3.00e-02

Chronic Inhalation Reference Concentration (mg/m3)

>> 2.00e-02

Volatile

>> Volatile

Mutagen

>> Mutagen

Fraction of Contaminant Absorbed in Gastrointestinal Tract

>> 1

Soil Saturation Concentration (mg/kg)

>> 1.57e+03

ICSC Environmental Data:

>> The substance is very toxic to aquatic organisms. The substance may cause long-term effects in the aquatic environment. It is strongly advised not to let the chemical enter into the environment.

Sediment/Soil Concentrations:

Concentrations of this compound in sediment/soil.

>> SOIL: Data from the USEPA STORET Data Base reports a 5.44 ppb mean, 500 ppb maximum on dry weight basis of 341 observations(1).

Fish/Seafood Concentrations:

Concentrations of this compound in fish or seafood.

>> The USEPA STORET Data Base (146 observations) 0.19 ppm mean, 20.0 ppm maximum(1).

13. Disposal Considerations

Spillage Disposal

>> Ventilation. Remove all ignition sources. Personal protection: chemical protection suit including self-contained breathing apparatus. Collect leaking and spilled liquid in sealable plastic containers as far as possible. Do NOT let this chemical enter the environment.

Disposal Methods

>> Generators of waste (equal to or greater than 100 kg/mo) containing this contaminant, EPA hazardous waste number U084, must conform with USEPA regulations in storage, transportation, treatment and disposal of waste.

>> SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state and federal requirements for disposal.

>> Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material; Contaminated packaging: Dispose of as unused product.

>> Incineration, preferably after mixing with another combustible fuel. Care must be exercised to assure complete combustion to prevent the formulation of phosgene. An acid scrubber is necessary to remove the halo acids produced. In accordance with 40CFR165, follow recommendations for the disposal of pesticides and pesticide containers. Must be disposed properly by following package label directions or by contacting your local or federal environmental control agency or by contacting your regional EPA office. Consult with environmental regulatory agencies for guidance on acceptable disposal practices. Generators of waste containing this contaminant (>=100 kg/mo) must conform with EPA regulations governing storage, transportation, treatment, and waste disposal. /Dichloropropenes/

>> For more Disposal Methods (Complete) data for 1,3-DICHLOROPROPENE (11 total), please visit the HSDB record page.

14. Transport Information

DOT

1,3-Dichloropropylene

3

UN Pack Group: III

Reportable Quantity of 100 lb or 45

IATA

1,3-Dichloropropylene

3,

UN Pack Group: III

15. Regulatory Information

State Drinking Water Standards:

State drinking water standards (e.g. maximum containment level (MCL)) for this chemical. These standards are legally enforceable.

>> (CA) CALIFORNIA 0.5 ug/L

Clean Water Act Requirements:

The Clean Water Act (CWA) of 1972 establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under CWA, the U.S. Environmental Protection Agency (EPA) developed the Toxic Pollutant List (40 CFR Part 401.15) and the Priority Pollutant List (40 CFR Part 423, Appendix A). These lists are to be used by EPA and States to develop the Effluent Guidelines regulations and ensure water quality criteria and standards.

>> 1,3-Dichloropropene is designated as a hazardous substance under section 311(b)(2)(A) of the Federal Water Pollution Control Act and further regulated by the Clean Water Act Amendments of 1977 and 1978. These regulations apply to discharges of this substance. This designation includes any isomers and hydrates, as well as any solutions and mixtures containing this substance.

TSCA Requirements:

This section provides information on requirements concerning this chemical under the Toxic Substances Control Act (TSCA) of 1976. TSCA provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides.

>> Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting Rule. The section 8(d) model rule requires manufacturers, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. Propene, 1,3-dichloro- is included on this list. Effective date: 6/1/87; Sunset date: 6/1/97.

Regulatory Information

The Australian Inventory of Industrial Chemicals

>> Chemical: 1-Propene, 1,3-dichloro-

REACH Registered Substance

>> Status: Active Update: 29-05-2018 <https://echa.europa.eu/registration-dossier/-/registered-dossier/24728>

New Zealand EPA Inventory of Chemical Status

>> 1-Propene, 1,3-dichloro-: HSNO Approval: HSR001383 Approved with controls

16. Other Information

Toxic Combustion Products:

Toxic products (e.g., gases and vapors) produced from the combustion of this chemical.

>> Combustion may produce irritants and toxic gases. Combustion by-products include hydrogen chloride.

Other Safety Information

Chemical Assessment

>> IMAP assessments – CMR chemicals not registered under REACH: Human health tier II assessment

>> IMAP assessments – 1-Propene, 1,3-dichloro-: Environment tier I assessment

"The information provided is believed to be accurate but is not comprehensive and should be used as a reference. It reflects our current knowledge and is intended for safety guidance related to the product. This document does not constitute a warranty of the product's properties. Ionz is not responsible for any damages resulting from handling or contact with the product incorrectly."