ionz

SAFETY DATA SHEET

Updated on 26/09/2024

1. Material Identification

Product Name : Allyl chloride
Catalog Number : io-1683
CAS Number : 107-05-1
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

>> H225 (100%): Highly Flammable liquid and vapor [Danger Flammable liquids]

>> H301+H311+H331 (65.7%): Toxic if swallowed, in contact with skin or if inhaled [Danger Acute toxicity, oral; acute toxicity, dermal; acute toxicity, inhalation]

>> H301 (73.2%): Toxic if swallowed [Danger Acute toxicity, oral]

>> H302 (26.7%): Harmful if swallowed [Warning Acute toxicity, oral]

>> H311 (73.2%): Toxic in contact with skin [Danger Acute toxicity, dermal]

>> H312 (26.7%): Harmful in contact with skin [Warning Acute toxicity, dermal]

>> H315 (100%): Causes skin irritation [Warning Skin corrosion/irritation]

>> H318 (51.2%): Causes serious eye damage [Danger Serious eye damage/eye irritation]

>> H319 (48.8%): Causes serious eye irritation [Warning Serious eye damage/eye irritation]

>> H331 (73.2%): Toxic if inhaled [Danger Acute toxicity, inhalation]

>> H332 (26.7%): Harmful if inhaled [Warning Acute toxicity, inhalation]

>> H335 (98.4%): May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation]

>> H341 (100%): Suspected of causing genetic defects [Warning Germ cell mutagenicity]

>> H351 (100%): Suspected of causing cancer [Warning Carcinogenicity]

>> H372 (26.4%): Causes damage to organs through prolonged or repeated exposure [Danger Specific target organ toxicity, repeated exposure]

>> H373 (77.9%): May causes damage to organs through prolonged or repeated exposure [Warning Specific target organ toxicity, repeated exposure]

>> H400 (100%): Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard]

Precautionary Statement Codes

>> P203, P210, P233, P240, P241, P242, P243, P260, P261, P262, P264, P264+P265, P270, P271, P273, P280, P301+P316, P301+P317, P302+P352, P303+P361+P353, P304+P340, P305+P351+P338, P305+P354+P338, P316, P317, P318, P319, P321, P330, P332+P317, P337+P317, P361+P364, P362+P364, P370+P378, P391, P403+P233, P403+P235, P405, and P501

NFPA 704 Diamond

NFPA Health Rating

>> 3 - Materials that, under emergency conditions, can cause serious or permanent 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

>> 1 - Materials that in themselves are normally stable but that can become unstable at elevated temperatures and pressures.

Highly Hazardous Substance:

This section provides information on this chemical as a highly hazardous substance (due to potential safety and hazards issues from its high toxicity and/or reactivity). The information in this section is from two sources: (1) Annex XVII to REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) from the European Chemicals Agency (ECHA), (2) ECHA's Candidate List of Substances of Very High Concern (SVHC) for Authorisation and (3) the List of Highly Hazardous Chemicals, Toxics and Reactives (29 CFR 1910.119 Appendix A).

OSHA Highly Hazardous Chemicals, Toxics and Reactives

>> Chemical: Allyl Chloride

>> Threshold: 1000 [lb]

>> Note: Allyl Chloride in quantities at or above above 1000lb presents a potential for a catastrophic event as a toxic or reactive highly hazardous chemical.

Health Hazards:

>> Causes marked irritation of skin and may burn. Burns the eyes; effect may be delayed. (USCG, 1999)

>> Special Hazards of Combustion Products: Releases irritating hydrogen chloride gas on combustion (USCG, 1999)

>> Highly flammable. Gives off irritating or toxic fumes (or gases) in a fire. Vapour/air mixtures are explosive. Risk of fire and explosion on contact with incompatible substances. See Chemical Dangers.

3. Composition/Information On Ingredients

Chemical name : Allyl chloride
CAS Number : 107-05-1
Molecular Formula : C3H5Cl
Molecular Weight : 76.5200 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. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

>> INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. 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. Volatile chemicals 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. IMMEDIATELY transport the victim 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, the exposure level and the route of exposure. (NTP, 1992)

First Aid Measures

Inhalation First Aid

>> Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Skin 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 a slurry of activated charcoal in water to drink. Give one or two glasses of water to drink. Refer for medical attention .

5. Fire Fighting Measures

>> Vapor is heavier than air (vapor-air density at 100 °F, 2.2) and may travel considerable distance to source of ignition and flash back.

>> Excerpt from ERG Guide 131 [Flammable Liquids - Toxic; polymerization hazard]:

>> CAUTION: The majority of these products have a very low flash point. Use of water spray when fighting fire may be inefficient. CAUTION: Methanol (UN1230) will burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.).

>> SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam.

>> LARGE FIRE: Water spray, fog or alcohol-resistant foam. If it can be done safely, move undamaged containers away from the area around the fire. Dike runoff from fire control for later disposal. Avoid aiming straight or solid streams directly onto the product.

>> 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 powder, AFFF, 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 131 [Flammable Liquids - Toxic; polymerization hazard]:

>> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

>> SPILL: Increase the immediate precautionary measure distance, in the downwind direction, as necessary.

>> 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.

>> Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Collect leaking liquid in covered containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer.

7. Handling And Storage

Safe Storage:

>> Fireproof. Separated from food and feedstuffs and incompatible materials. See Chemical Dangers. Dry.

Storage Conditions:

>> Ambient storage temperature, venting should be pressure-vacuum type.

8. Exposure Control/ Personal Protection

REL-TWA (Time Weighted Average)

>> 1 ppm (3 mg/m³)

REL-STEL (Short Term Exposure Limit)

>> 2 ppm (6 mg/m³)

>> TWA 1 ppm (3 mg/m3) ST 2 ppm (6 mg/m3)

>> 1.0 [ppm]

PEL-TWA (8-Hour Time Weighted Average)

>> 1 ppm (3 mg/m³)

>> 1.0 [ppm]

TLV-STEL

>> 2.0 [ppm]

>> 1 ppm as TWA; 2 ppm as STEL; (skin); A3 (confirmed animal carcinogen with unknown relevance to humans).

TLV-TWA (Time Weighted Average)

>> 1 ppm [2010]

TLV-STEL (Short Term Exposure Limit)

>> 2 ppm [2010]

MAK (Maximale Arbeitsplatz Konzentration)

>> skin absorption (H); carcinogen category: 3

>> ERPG-1: 3 ppm - one hour exposure limit: 1 = mild transient health effects or objectionable odor [AIHA]

>> ERPG-2: 40 ppm - one hour exposure limit: 2 = impaired ability to take protective action [AIHA]

>> ERPG-3: 300 ppm - one hour exposure limit: 3 = life threatening health effects [AIHA]

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. Inhalation of high concentrations of the vapour may cause lung oedema. The effects may be delayed.

Effects of Long Term Exposure:

>> The substance may have effects on the peripheral nervous system, cardiovascular system, kidneys and liver. This may result in kidney impairment and liver impairment.

Fire Prevention

>> NO open flames, NO sparks and NO smoking. Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling.

Exposure Prevention

>> STRICT HYGIENE! 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.

Exposure Control and Personal Protection

RD50 (Exposure concentration producing a 50% respiratory rate decrease)

>> 2330.0 [mmHg]

9. Physical And Chemical Properties

Molecular Weight:

>> 76.52

Exact Mass:

>> 76.0079779

Physical Description:

>> Allyl chloride appears as a clear colorless liquid with an unpleasant pungent odor. Flash point -20 °F. Boiling point 113 °F. Less dense than water (7.8 lb / gal) and insoluble in water. Hence floats on water. Vapor irritates skin, eyes and mucous membranes. Vapors are heavier than air. Long exposure to low concentrations or short exposure to high concentrations may have adverse health effects from inhalation or skin absorption.

>> COLOURLESS LIQUID WITH PUNGENT ODOUR.

Color/Form:

>> RED LIQUID

Odor:

>> Pungent, unpleasant odor.

Boiling Point:

>> 113 °F at 760 mmHg (NTP, 1992)

>> 45 °C

Melting Point:

>> -210.1 °F (NTP, 1992)

>> -135 °C

Flash Point:

>> -25 °F (NTP, 1992)

>> -32 °C c.c.

Solubility:

>> 1 to 10 mg/mL at 66 °F (NTP, 1992)

>> Solubility in water, g/100ml at 20 °C: 0.36

Density:

>> 0.94 at 68 °F (USCG, 1999) - Less dense than water; will float

>> Relative density (water = 1): 0.94

Vapor Density:

>> 2.64 (NTP, 1992) - Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 2.6

Vapor Pressure:

>> 340 mmHg at 68 °F ; 440 mmHg at 86 °F (NTP, 1992)

>> Vapor pressure, kPa at 20 °C: 39.3

LogP:

>> 2.1

Autoignition Temperature:

>> 737 °F (USCG, 1999)

>> 390 °C

Corrosivity:

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

>> Allyl chloride will attack some forms of plastics, rubber, and coatings.

Heat of Vaporization:

>> 29.04 KJ/mol

Surface Tension:

>> 0.0289 N/m at 15 °C

Ionization Potential:

>> 10.05 eV

Polymerization:

Polymerization is a process of reacting monomer molecules together in a chemical reaction to form polymer chains or three-dimensional networks.

>> At elevated temp as in fire conditions, polymerization may take place with possible container rupture. Acid catalysts, such as lewis type and ziegler type catalysts, sulfuric acid, ferric chloride, and aluminum chloride, may cause violent polymerization.

Odor Threshold:

>> Odor Threshold Low: 0.48 [mmHg]

>> Odor Threshold High: 5.9 [mmHg]

>> Odor threshold from AIHA

Refractive Index:

>> Index of refraction: 1.4157 at 20 °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% of the compound evaporated after 27 min in water at 25 °C at 1 ppm.

10. Stability And Reactivity

>> Highly flammable. Insoluble in water.

>> Highly Flammable

>> Polymerizable

>> Strong Reducing Agent

11. Toxicological Information

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

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

Chemical

>> 3-Chloropropene

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).

>> CLASSIFICATION: C; possible human carcinogen. BASIS FOR CLASSIFICATION: Classification is based on a low (but biologically important) incidence of forestomach tumors in female mice and positive results in a variety of genetic toxicity tests. Allyl chloride is an alkylating agent and structurally related to probable human carcinogens. HUMAN CARCINOGENICITY DATA: None. ANIMAL CARCINOGENICITY DATA: Limited.

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

>> Allyl chloride

IARC Carcinogenic Classes

>> Group 3: Not classifiable as to its carcinogenicity to humans

IARC Monographs

>> Volume 36: (1985) Allyl Compounds, Aldehydes, Epoxides and Peroxides

>> 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)

>> Volume 125: (2020) Some Industrial Chemical Intermediates and Solvents

Exposure Routes:

>> The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

>> inhalation, skin absorption, ingestion, skin and/or eye contact

Inhalation Exposure

>> Cough. Sore throat. Headache. Dizziness. Weakness. Laboured breathing. Vomiting. Unconsciousness.

Skin Exposure

>> Redness. Burning sensation. Pain.

Eye Exposure

>> Redness. Pain. Blurred vision.

Ingestion Exposure

>> Abdominal pain. Burning sensation. Vomiting.

>> irritation eyes, skin, nose, mucous membrane; pulmonary edema; In Animals: liver, kidney injury

Target Organs:

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

>> Nervous

>> Eyes, skin, respiratory system, liver, kidneys

Adverse Effects:

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

>> Neurotoxin - Sensorimotor

>> 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.

>> Toxic Pneumonitis - Inflammation of the lungs induced by inhalation of metal fumes or toxic gases and vapors.

>> ACGIH Carcinogen - Confirmed Animal.

Toxicity Data:

>> LC50 (rat) = 2000 ppm/4H

Antidote and Emergency Treatment:

>> Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary ... . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport ... . Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal ... . Cover skin burns with dry sterile dressings after decontamination ... . /Dichloropropane, dichloropropene, and related compounds/

Human Toxicity Excerpts:

>> /HUMAN EXPOSURE STUDIES/ Workers exposed to concentrations of allyl chloride ranging from 1-113 ppm (3-350 mg/cu m) for 16 months were reported to have developed liver damage, as determined by serum enzyme activities which was shown to be reversible after cessation or minimization of exposure.

Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ Male ICR mice were administered allyl chloride at dose of 496 mg/kg, 600 mg/kg, 720 mg/kg, 864 mg/kg or 1037 mg/kg by a single sc injection. Sixteen of 25 mice died by the 7th day after the injection and LD50 was calculated 621 mg/kg bw (95% C.I.: 522-739 mg/kg). A marked congestion with severe hemorrhage and edema were observed in the lung. Liver and kidney damages were also found, and these were characterized by the dilated sinusoids, degenerative change of hepatic cells, and focal necrosis in the liver; and necrosis of epithelium in convoluted tubules of the kidneys. Nine mice have survived by the 7th day after the injection and all of them showed a various degree of damages in the testes. The testicular lesions could be classified into two types. One type of the lesion was characterized by degeneration and exfoliation of germ cells, appearance of polynuclear giant cells in the seminiferous tubules, and mild proliferation of Leydig cells in the interstitium. In another type of the lesion, all type of cells in tubules, including Sertoli cells, and Leydig cells became necrotic.

Non-Human Toxicity Values:

>> LD50 Rabbit dermal 2066 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.

>> A bioassay for possible carcinogenicity of technical grade allyl chloride was conducted using Osborne-Mendel rats and B6C3F1 mice. ... Allyl chloride in corn oil was administered by gavage to two groups of each species for 5 days/wk for 78 wk, followed by an observation period of 30 to 33 wk for the rats and 14 wk for the mice. The time weighted avg doses were, respectively, 77 and 57 mg/kg/day for high and low dose male rats; 73 and 55 mg/kg/day for high and low dose female rats; 199 and 172 mg/kg/day for high and low dose male mice; and 258 and 129 mg/kg/day for high and low dose female mice. For each species, 20 animals of each sex were placed on test as vehicle controls. ... Twenty animals of each sex were placed on test as untreated controls for each species. These animals were not intubated. ... Under the conditions of this bioassay, no evidence of carcinogenicity was noted for allyl chloride in Osborne-Mendel rats of either sex. The results are suggestive that allyl chloride is carcinogenic in male and female B6C3F1 mice since the cmpd when admin by gavage, caused a low incidence of neoplastic and nonneoplastic lesions of the forestomach. Levels of Evidence of Carcinogenicity: Male Rats: Negative; Female Rats: Negative; Male Mice: Equivocal; Female Mice: Equivocal.

TSCA Test Submissions:

Under the Toxic Substances Control Act (TSCA), EPA has broad authority to issue regulations designed to require manufacturers (including importers) or processors to test chemical substances and mixtures for health and environmental effects. This section provides information on test reports submitted for this chemical under TSCA.

>> The fate of 3-chloropropene (CP) was studied in male and female Fischer 344 rats (6/sex/group) exposed by gavage to single doses of 1 or 100 mg/kg 14C-CP (in corn oil vehicle). The rats were transferred to Roth-type metabolism cages and expired air, urine, and feces were collected at various times up to 48 hrs after dosing. Blood was collected from females implanted with indwelling jugular cannulas. Also, 4 male rats (implanted with jugular cannulas) were exposed to 100 mg unlabeled CP/kg by gavage. Skin samples were taken from males. The rats were sacrificed at 48 hrs and the carcasses were analyzed for radioactivity. The majority of the radioactivity was eliminated via the urine (37/33% and 35/39% of the low/high dose for females and males, respectively) as polar metabolites or in expired air either as 14CO2 (38/6/5 and 31/5% of the low/high dose for females and males, respectively) or as parent compound. The radioactivity found in the carcass was 3.7/1.5% and 3.7/1.8% of the dose for low/high dose females and males, respectively, and the amounts of radioactivity in the skin of low/high dose males were 1.0/0.7%, respectively. Chromatographic profiles of the urine from 2 male rats dosed by gavage to 100 mg/kg were different than those from previous experiments testing epichlorohydrin (urine from low-dose group not examined). No unchanged CP was excreted via the urine. A one-compartment bimodal absorption model adequately described the data for parent CP blood levels.

12. Ecological Information

Resident Soil (mg/kg)

>> 7.20e-01

Industrial Soil (mg/kg)

>> 3.20e+00

Resident Air (ug/m3)

>> 4.70e-01

Industrial Air (ug/m3)

>> 2.00e+00

Tapwater (ug/L)

>> 7.30e-01

MCL (ug/L)

>> 4.00e+00

Risk-based SSL (mg/kg)

>> 2.30e-04

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

>> 2.10e-02

Inhalation Unit Risk (ug/m3)-1

>> 6e-06

Chronic Inhalation Reference Concentration (mg/m3)

>> 1.00e-03

Volatile

>> Volatile

Mutagen

>> Mutagen

Fraction of Contaminant Absorbed in Gastrointestinal Tract

>> 1

Soil Saturation Concentration (mg/kg)

>> 1.42e+03

ICSC Environmental Data:

>> The substance is harmful to aquatic organisms.

13. Disposal Considerations

Spillage Disposal

>> Evacuate danger area! Consult an expert! Personal protection: complete protective clothing including self-contained breathing apparatus. Collect leaking liquid in covered containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer.

Disposal Methods

>> SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational exposure or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal, aquatic, and plant life; and conformance with environmental and public health regulations.

>> Allyl chloride is a waste chemical stream constituent which may be subjected to ultimate disposal by controlled incineration. 1800 °F, 2 sec minimum.

>> Allyl chloride may be disposed of by atomizing in suitable combustion chamber equipped with an effluent gas cleaning device.

>> Biodegradation: In aqueous wastes allyl chloride is converted after a while to allyl alc, which is biodegraded in sewage treatment plants. The concn of the soln, however, may not exceed 100 ppm, otherwise the micro-organisms will be damaged. Concn wastes are destroyed in special waste disposal facilities.

>> For more Disposal Methods (Complete) data for ALLYL CHLORIDE (6 total), please visit the HSDB record page.

14. Transport Information

DOT

Allyl chloride
3
UN Pack Group: I
Reportable Quantity of 1000 lb or 454 kg

IATA

Allyl chloride
3, 6.1
UN Pack Group: I

15. Regulatory Information

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.

>> Allyl chloride 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.

Regulatory Information

The Australian Inventory of Industrial Chemicals

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

REACH Registered Substance

>> Status: Active Update: 08-02-2021 https://echa.europa.eu/registration-dossier/-/registered-dossier/14318

New Zealand EPA Inventory of Chemical Status

>> Allyl chloride: Does not have an individual approval but may be used under an appropriate group standard

16. Other Information

Toxic Combustion Products:

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

>> Toxic gases and vapors (such as ... phosgene and carbon monoxide) may be released in fire ... .

Other Safety Information

Chemical Assessment

>> IMAP assessments - 1-propene, 3-chloro-: Human health tier II assessment

>> IMAP assessments - 1-Propene, 3-chloro-: 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."