Material Safety Data Sheet

Allyl Chloride (RXSOL-19-1221-025)

1. Product and Company Identifaction

Product Name	Allyl Chloride
Product Type	RXSOL-19-1221-025

Company Details:
RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Phone	+91 22 65113333/ 5555 / 9999 / 27611360 / 27815540
Fax	+91 22 2781 1318 :::AOH :0091 9322594669
Email	mail@rxmarine.com

2. Composition / informationon ingredients

Composition:

Name	CAS #	% by Weight
Allyl Chloride	107-05-1	100

Toxicological Data on Ingredients:

Allyl Chloride: ORAL (LD50): Acute: 460 mg/kg [Rat]. 425 mg/kg [Mouse]. DERMAL (LD50): Acute: 2066 mg/kg [Rabbit]. VAPOR (LC50): Acute: 11000 mg/m 2 hours [Rat]. 5800 mg/m 3 2 hours [Guinea pig].

3. Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator). Severe over-exposure can result in death.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 3 (Equivocal evidence.) by NTP, C (Possible for human.) by EPA. Classified None. by OSHA, None. by NIOSH. 3 (Not classifiable for human.) by IARC.

MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY:

Not available. The substance may be toxic to kidneys, lungs, liver, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a

4. First Aid Measures

Eye Contact:	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention.
Skin Contact:	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact:	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation:	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion:	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion:	Not available.

5. Fire-fighting Measures

Flammability of the Product:	Flammable.
Auto-Ignition Temperature:	485°C (905°F)
Flash Points:	CLOSED CUP: -31.7°C (-25.1°F). OPEN CUP: -28.9°C (-20°F).
Flammable Limits:	LOWER: 2.9% UPPER: 11.2%
Products of Combustion:	Not available.
Fire Hazards in Presence of Various Substances:	Highly flammable in presence of open flames and sparks, of heat.
Explosion Hazards in Presence of Various Substances:	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions:	Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam,water spray or fog.
Special Remarks on Fire Hazards:	Not available.
Special Remarks on Explosion Hazards:	Not available.

6. Accidental Release Measures

Small Spill:
Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:
Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth,sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS
and with local authorities.

7. Handling and Storage

Precautions:
Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

Storage:
Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Do not store above 23°C (73.4°F).

8. Exposure controls and personal protection

Engineering Controls:	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection:	Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill:	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits:	TWA: 1 STEL: 2 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 1 STEL: 2 (ppm) [Canada] TWA: 1 STEL: 2 from NIOSH TWA: 3 STEL: 6 from NIOSH TWA: 1 STEL: 2 (ppm) from OSHA (PEL) [United States] TWA: 3 STEL: 6 (mg/m3) from OSHA (PEL) [United States]Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state and appearance:	Liquid.
Odor:	Pungent. Irritant. Sharp
Taste:	Not available.
Molecular Weight:	76.53 g/mole
Color:	Clear Colorless.
pH (1% soln/water):	Not available.
Boiling Point:	45°C (113°F)
Melting Point:	-135.5°C (-211.9°F)
Critical Temperature:	241.11°C (466°F)
Specific Gravity:	0.94 (Water = 1)
Vapor Pressure:	39.3 kPa (@ 20°C)
Vapor Density:	2.6 (Air = 1)
Volatility:	Not available.
Odor Threshold:	0.47 ppm
Water/Oil Dist. Coeff.:	Not available.
Ionicity (in Water):	The product is more soluble in water; log(oil/water) = -0.2
Dispersion Properties:	Not available.
Solubility:	Very slightly soluble in cold water.

10. Stability and reactivity

Stability:	The product is stable.
Instability Temperature:	Not available.
Conditions of Instability:	High temperatures, ignition sources, mechanical shock, incompatible materials. Allyl chloride produces hydrogen chloride upon storage and can similarly undergo hydrolysis in water to allyl alcohol and hydrogen chloride. This process is inhibited by the compound's low solubility, but accelerated by caustics. Exposure to sunlight and heat can lead to degradation of the unsaturated bond.
Incompatibility with various substances:	Reactive with oxidizing agents, acids.
Corrosivity:	Not available.
Special Remarks on Reactivity:	Incompatible with strong oxidizers, acids, amines, iron, aluminum chlorides, magnesium and zinc.
Special Remarks on Corrosivity:	Allyl will attack some forms of plastics, rubber, and coatings
Polymerization:	Will not occur.

11. Toxicological information

Routes of Entry:	Absorbed through skin. Eye contact. Inhalation.
Toxicity to Animals:	WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 425 mg/kg [Mouse]. Acute dermal toxicity (LD50): 2066 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50):5800 mg/m 2 hours [Guinea pig]. 3
Chronic Effects on Humans:	CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 3 (Equivocal evidence.) by NTP, C (Possible for human.) by EPA. Classified None. by OSHA, None. by NIOSH. 3 (Not classifiable for human.) by IARC.MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. May cause damage to the following organs: kidneys, lungs, liver, upper respiratory tract, skin, eyes.
Other Toxic Effects on Humans:	Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).
Special Remarks on Toxicity to Animals:	Not available.
Special Remarks on Chronic Effects on Humans:	May cause tumorigenic effects (respiratory and gastrointestinal tracts) based on animal data. No human data found. May affect genetic material and may cause adverse reproductive and birth defects based on animal data. No human data found.
Special Remarks on other Toxic Effects on Humans:	Acute Potential Health Effects:] Skin: May cause severe irritation and possible burns especially if the skin is wet or moist. Eye: Causes severe irritation, and possible eye burns. Ingestion: Harmful if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May affect behavior (tremors, convulsions) and respiratory system(respiratory depression, dyspnea). May affect peripheral nerves and spinal cord. Inhalation: May cause irritation of the respiratory tract with burning pain in the nose, throat, coughing, wheezing, shortness of breath and pulmonary edema, and respiratory depression. May cause lung damage. Vapors may cause dizziness or suffocation. May affect liver, urinary system,blood metabolism, endocrine system and nervous system and behavior (somnolence or general depressed activity). Chronic Potential Health Effects: May cause liver and kidney damage. May cause cancer according to animal studies. May cause lung damage

12. Ecological information

Ecotoxicity:	Ecotoxicity in water (LC50): 20 mg/l 96 hours [Fathead minnow]. 42 mg/l 72 hours [Bluegill]. 21 ppm 96 hours [Goldfish].
BOD5 and COD:	Not available.
Products of Biodegradation:	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation:	The products of degradation are as toxic as the original product.
Special Remarks on the Products of Biodegradation:	Not available.

13. Disposal considerations

Waste Disposal:

14. Transport information

DOT Classification:
CLASS 3: Flammable liquid. CLASS 6.1: Poisonous material.

Identification: :
Allyl Chloride UNNA: 1100 PG: I

Special Provisions for Transport:
Not available.

15. Regulatory information

Federal and State Regulations:

California prop. 65 (no significant risk level): Allyl Chloride: 30000 mg/day (value) New York release reporting list: Allyl Chloride Rhode Island RTK hazardous substances: Allyl Chloride Pennsylvania RTK: Allyl Chloride Florida: Allyl Chloride Minnesota: Allyl Chloride Massachusetts RTK: Allyl Chloride New Jersey: Allyl Chloride California Director's List of Hazardous Substances (8 CCR 339): Allyl Chloride Tennessee: Allyl Chloride TSCA 8(b) inventory: Allyl Chloride SARA 313 toxic chemical notification and release reporting: Allyl Chloride CERCLA: Hazardous substances.: Allyl Chloride: 1000 lbs. (453.6 kg)

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:
WHMIS (Canada):
CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2B: Material causing other toxic effects(TOXIC).

HMIS (U.S.A.):
Health Hazard: 2
Fire Hazard: 3
Reactivity: 0
Personal Protection: h
National Fire Protection Association (U.S.A.):
Health: 3
Flammability: 3
Reactivity: 1
Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

16. Other information

The data given here is based on current knowledge and experience. This Safety Data Sheet describes the product in terms of safety requirements and does not signify any warranty with regard to the product's properties The data given here only applies when product used for proper application(s). The product is not sold as suitable for other applications usage in such may cause risks not mentioned in this sheet. Do not use for other application(s) without seeking advice from manufacturer.

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