

Material Safety Data Sheet

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Version 1.5

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	ALLYL CHLORIDE, 98%
Product Number	A30702
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
ALLYL CHLORIDE	107-05-1	203-457-6	602-029-00-X

Formula	C3H5Cl
Molecular Weight	76.53 AMU
Synonyms	Allile (cloruro di) (Italian) * p-Aminopropiofenon (Czech) * Allylchlorid (German) * Allyl chloride (ACGIH:OSHA) * Allyle (chlorure d') (French) * Chlorallylene * Chloroallylene * 3-Chloroprene * 1-Chloro propene-2 * 3-Chloropropene-1 * 3-Chloropropene * 1-Chloro-2-propene * alpha-Chloropropylene * 3-Chloropropylene * 3-Chloro-1-propylene * 3-Chlorpropen (German) * NCI-C04615 * 1-Propene, 3-chloro- * 2-Propenyl chloride

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Highly flammable. Very toxic by inhalation. Very toxic to aquatic organisms.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixtures in air.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.
Store at 2-8°C

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	3 mg/m3

1 ppm

EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	3 mg/m3
		1 ppm

Remarks: =1=

EXPOSURE LIMITS - NORWAY

Source	Type	Value
	OEL	3 mg/m3
		1 ppm

Remarks: H

EXPOSURE LIMITS - SWEDEN

Source	Type	Value
	LLV (Level)	3 mg/m3
		1 ppm

Remarks: H

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	3 mg/m3
		1 ppm

Remarks: H*

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	LTEL	3 mg/m3
		1 ppm
OEL	STEL	6 mg/m3
		2 ppm

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Clear liquid
	Color: Colorless

Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	44 - 46 °C	760 mmHg
MP/MP Range	-130 °C	
Flash Point	-32 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 3.2 % Upper: 11.2 %	
Vapor Pressure	295.207 mmHg	20 °C
SG/Density	0.935 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	2.6 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	

Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	N/A

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: UC7350000

ACUTE TOXICITY

LCLO
Inhalation
Human
3,000 ppm

LD50
Oral
Rat
460 mg/kg
Remarks: Behavioral:Tremor. Behavioral:Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration:Dyspnea.

LC50
Inhalation
Rat
11,000 mg/m3
2H
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation. Gastrointestinal:Ulceration or bleeding from duodenum. Lungs, Thorax, or Respiration:Respiratory depression.

LD50
Oral
Mouse
425 mg/kg
Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Tremor. Lungs, Thorax, or Respiration:Dyspnea.

LC50
Inhalation
Mouse
11,500 mg/m3
2H

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation. Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Respiratory depression.

LD50
Intraperitoneal
Mouse
155 MG/KG

LD50
Skin
Rabbit
2066 mg/kg

LC50
Inhalation
Guinea pig
5,800 mg/m3
2H

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation. Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Respiratory depression.

IRRITATION DATA

Eyes
Rat
290 ppm
6H

Skin
Rabbit
10 mg
24H
Remarks: Open irritation test

Eyes
Rabbit
500 mg
Remarks: Moderate irritation effect

Eyes
Guinea pig
290 ppm
6H

SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

ROUTE OF EXPOSURE

Skin Contact: Causes burns.
Skin Absorption: Harmful if absorbed through skin. Readily absorbed through skin.
Eye Contact: Causes burns. Lachrymator.
Inhalation: Harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper

respiratory tract.
Ingestion: Harmful if swallowed.

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Mouse

Route of Application: Oral

Exposure Time: 78W

Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Gastrointestinal:Tumors.

Mouse

Route of Application: Intraperitoneal

Exposure Time: 8W

Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration:Tumors.

Mouse

Route of Application: Oral

Exposure Time: 78W

Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Gastrointestinal:Tumors.

IARC CARCINOGEN LIST

Rating: Group 3

CHRONIC EXPOSURE - MUTAGEN

Human

1 MMOL/L

Cell Type: HeLa cell

Unscheduled DNA synthesis

CHRONIC EXPOSURE - TERATOGEN

Species: Rat

Dose: 300 PPM/7H

Route of Application: Inhalation

Exposure Time: (6-15D PREG)

Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Mouse

Dose: 4 GM/KG

Route of Application: Oral

Exposure Time: (7-14D PREG)

Result: Effects on Embryo or Fetus: Fetal death.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat

Dose: 1200 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (1-15D PREG)

Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Other

developmental abnormalities.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 1100
Class: 3
PG: I
Proper Shipping Name: Allyl chloride

IMDG

UN#: 1100
Class: 3
PG: I
Subrisk: 6.1
Proper Shipping Name: Allyl chloride
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1100
Class: 3
PG: I
Subrisk: 6.1
Proper Shipping Name: Allyl chloride
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 602-029-00-X

NOTA: D

INDICATION OF DANGER: F T+ N

Highly Flammable. Very toxic. Dangerous for the environment.

R-PHRASES: 11 26 50

Highly flammable. Very toxic by inhalation. Very toxic to aquatic organisms.

S-PHRASES: 16 29 33 45 61

Keep away from sources of ignition - no smoking. Do not empty into drains. Take precautionary measures against static discharges. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 2

SWITZERLAND
SWISS POISON CLASS: 1

NORWAY

Labelling for organic solvents where the package is 1liter or more.

YL-tall m3/l: 626666

YL-group: 5

Safety phrases: 38 42 210

In case of insufficient ventilation, wear suitable respiratory equipment. During fumigation/spraying wear suitable respiratory equipment. Use compressed air- or fresh air line breathing apparatus in confined spaces.

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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