



**LEONID CHEMICALS PVT. LTD.,  
BANGALORE**

**An ISO-9001:2008 Certified Company**

**Quality Assurance Department**

(CODE) DOCUMENT : WI

(CODE) SECTION : WI/SM

(DATE) : 01.04.2011



Issue : 02

Rev.: 00

Title: MATERIAL SAFETY DATA SHEET (MSDS): ALLYL CHLORIDE

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## SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Allyl chloride

Catalog Numbers: A439

Synonyms: 3-Chloropropene

CAS-No. : 107-05-1

Company Information:

**LEONID CHEMICALS Pvt Ltd,**  
62/A2, 1<sup>st</sup> Stage,  
Yeshwanthpur Industrial Suburb,  
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## SECTION 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flammable liquids (Category 2)

Carcinogenicity (Category 2)

Germ cell mutagenicity (Category 2)

Acute toxicity, Inhalation (Category 4)

Acute toxicity, Dermal (Category 4)

Acute toxicity, Oral (Category 4)

Specific target organ toxicity - repeated exposure (Category 2)

Eye irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

Skin irritation (Category 2)

Acute aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Highly flammable. Limited evidence of a carcinogenic effect. Possible risk of irreversible effects. Harmful by inhalation, in contact with skin and if swallowed. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms.

### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Hazard statement(s)



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H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

#### Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### Supplemental Hazard

Statements none

According to European Directive 67/548/EEC as amended.

#### Hazard symbol(s)

##### R-phrase(s)

R11	Highly flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R40	Limited evidence of a carcinogenic effect.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R68	Possible risk of irreversible effects.
R50	Very toxic to aquatic organisms.

##### S-phrase(s)

S16	Keep away from sources of ignition - No smoking.
S25	Avoid contact with eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37	Wear suitable protective clothing and gloves.
S46	If swallowed, seek medical advice immediately and show this container or label.
S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.



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### 2.3 Other hazards

Lachrymator.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : 3-Chloro-1-propene  
Formula : C<sub>3</sub>H<sub>5</sub>Cl  
Molecular Weight : 76,52 g/mol

Component	Concentration
<b>3-Chloro-1-propene</b>	
CAS-No. 107-05-1	-
EC-No. 203-457-6	
Index-No. 602-029-00-X	

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting

### 4.3 Indication of any immediate medical attention and special treatment needed



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no data available

## SECTION 5: Firefighting measures

- 5.1 Extinguishing media**  
Suitable extinguishing media  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- 5.2 Special hazards arising from the substance or mixture**  
Carbon oxides, Hydrogen chloride gas
- 5.3 Advice for firefighters**  
Wear self contained breathing apparatus for fire fighting if necessary.
- 5.4 Further information**  
Use water spray to cool unopened containers.

## SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- 6.2 Environmental precautions**  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- 6.3 Methods and materials for containment and cleaning up**  
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).
- 6.4 Reference to other sections**  
For disposal see section 13.

## SECTION 7: Handling and storage

- 7.1 Precautions for safe handling**  
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
- 7.2 Conditions for safe storage, including any incompatibilities**



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Store in cool place. 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

- 7.3 Specific end use(s)  
no data available

## SECTION 8: Exposure controls/personal protection

- 8.1 Control parameters  
Components with workplace control parameters

- 8.2 Exposure controls  
Appropriate engineering controls  
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.  
Personal protective equipment

### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

### Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

### Splash protection

Material: Fluorinated rubber  
Minimum layer thickness: 0,7 mm  
Break through time: 60 min  
Material tested: Vitoject  
test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection





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Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- a) Appearance Form : clear, liquid
- Colour : colourless
- b) Odour : no data available
- c) Odour Threshold : no data available
- d) pH : no data available
- e) Melting point/freezing point : Melting point/range: -130 °C - lit.
- f) Initial boiling point and boiling range : 44 - 46 °C - lit.
- g) Flash point : -32 °C - closed cup
- h) Evaporation rate : no data available
- i) Flammability (solid, gas) : no data available
- j) Upper/lower flammability or explosive limits : Upper explosion limit: 11,2 %(V)  
Lower explosion limit: 3,2 %(V)
- k) Vapour pressure : 393,577 hPa at 20 °C  
1.418,532 hPa at 55 °C
- l) Vapour density : 2,64 - (Air = 1.0)
- m) Relative density : 0,939 g/cm<sup>3</sup> at 25 °C
- n) Water solubility : no data available
- o) Partition coefficient: noctanol/water : no data available
- p) Auto-ignition temperature : no data available
- q) Decomposition temperature : no data available
- r) Viscosity : no data available
- s) Explosive properties : no data available
- t) Oxidizing properties : no data available



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**9.2 Other safety information**  
no data available

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**  
no data available

**10.2 Chemical stability**  
no data available

**10.3 Possibility of hazardous reactions**  
no data available

**10.4 Conditions to avoid**  
Heat, flames and sparks. Extremes of temperature and direct sunlight.

**10.5 Incompatible materials**  
Strong oxidizing agents Boron trifluoride, Sulfuric acid, Nitric acid, Strong oxidizing agents

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

Acute toxicity  
LC50 Inhalation - rat - 4 h - 2100 ppm  
Skin corrosion/irritation  
Skin - rabbit -

Serious eye damage/eye irritation  
Eyes - rabbit -

Respiratory or skin sensitization  
no data available

Germ cell mutagenicity  
In vitro tests showed mutagenic effects

Carcinogenicity  
Limited evidence of carcinogenicity in animal studies  
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans  
(3-Chloro-1-propene)

Reproductive toxicity  
no data available  
Specific target organ toxicity - single exposure



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May cause damage to organs.  
May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

no data available

Aspiration hazard

no data available

**Potential health effects**

Inhalation Toxic if inhaled. Causes respiratory tract irritation.

Ingestion Harmful if swallowed.

Skin Harmful if absorbed through skin. Causes skin irritation.

Eyes Causes serious eye irritation.

**Signs and Symptoms of Exposure**

spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting

**Additional Information**

RTECS: UC7350000

**SECTION 12: Ecological information**

**12.1 Toxicity**

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 250 mg/l - 24 h

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

Very toxic to aquatic life.

**SECTION 13: Disposal considerations**





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### 13.1 Waste treatment methods

#### 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.

#### Contaminated packaging

Dispose of as unused product.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1100 IMDG: 1100 IATA: 1100

### 14.2 UN proper shipping name

ADR/RID: ALLYL CHLORIDE

IMDG: ALLYL CHLORIDE

IATA: Allyl chloride

Passenger Aircraft: Not permitted for transport

### 14.3 Transport hazard class(es)

ADR/RID: 3 (6.1) IMDG: 3 (6.1) IATA: 3 (6.1)

### 14.4 Packaging group

ADR/RID: I IMDG: I IATA: I

### 14.5 Environmental hazards

ADR/RID: yes IMDG Marine Pollutant: yes IATA: no

### 14.6 Special precautions for user

no data available

## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

### 15.2 Chemical Safety Assessment

no data available



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## SECTION 16 - ADDITIONAL INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Leonid Chemicals Pvt. Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Leonid Chemicals Pvt. Ltd. has been advised of the possibility of such damages.

