



### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

Product name : Aluminum chloride  
REACH No. : 01-2119459371-39-XXXX  
CAS-No. : 7446-70-0  
Index-No. : CH-S8-A017

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : VALERIAN LABS HOLDING CORP  
Address : 1130-1971 BROADWAY STREETPORT  
COQUITLAM, BC V3C 0C9 CANADA  
Telephone : +1 (604)-710-0869  
E-mail: [info@valerianlabs.com](mailto:info@valerianlabs.com)

#### 1.4 Emergency telephone

**Number:**

1-888-226-8832 CANUTEC (CANADA)  
1-800-424-9300 CHEMTREC (USA)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**In accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)**

Skin corrosion (Sub-category 1B), H314  
Serious eye damage (Category 1), H318

#### 2.2 Label elements

**Labelling in accordance with GHS Standards**

Pictogram



Signal Word

Danger





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### Hazard statement(s)

H314 Causes severe skin burns and eye damage.

### Precautionary statement(s)

P260 Do not breathe dusts or mists.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P363 Wash contaminated clothing before reuse.

### Supplemental Hazard information (EU)

EUH014 Reacts violently with water.

EUH071 Corrosive to the respiratory tract.

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Reacts violently with water.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula :  $\text{AlCl}_3$   
Molecular weight : 133,34 g/mol  
CAS-No. : 7446-70-0  
EC-No. : 231-208-1  
Index-No. : CH-S8-A017

Component	Classification	Concentration
<b>aluminium(III) chloride, anhydrous</b>		
CAS-No. 7446-70-0 EC-No. 231-208-1	Skin Corr. 1B; Eye Dam. 1; H314, H318	<= 100 %

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.





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### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

### If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Dry powder Sand

#### Unsuitable extinguishing media

Foam Water

### 5.2 Special hazards arising from the substance or mixture

- Hydrogen chloride gas Aluminum oxide
- Not combustible.
- May not get in touch with: Water
- Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.





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### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Keep workplace dry. Do not allow product to come into contact with water.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Tightly closed. Dry.

Never allow product to get in contact with water during storage.

Handle and store under inert gas. Reacts violently with water.

#### Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

#### Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Systemic effects	1 mg/m <sup>3</sup>
Worker DNEL, acute	inhalation	Local effects	2 mg/m <sup>3</sup>
Worker DNEL, long-term	inhalation	Systemic effects	0,2 mg/m <sup>3</sup>
Worker DNEL, long-term	inhalation	Local effects	0,2 mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,025 mg/l
Sea water	0,0025 mg/l
Aquatic intermittent release	0,074 mg/l
Soil	4,94 mg/kg
Sewage treatment plant	100 mg/l





### 8.2 Exposure controls

#### Personal protective equipment

##### Eye/Face Protection:

- Select eye protection equipment that has been tested and approved in accordance with the relevant government standards, such as NIOSH (US) or EN 166 (EU). Utilize tightly fitting safety goggles.

##### Skin Protection:

- When handling, wear gloves that are inspected before use.
- Employ the correct glove removal technique (avoiding contact with the outer surface of the gloves) to prevent skin contact with this product. Dispose of contaminated gloves in accordance with applicable
- laws and good laboratory practices. Thoroughly wash and dry your hands.
- If this product is used in a solution, mixed with other substances, or under conditions that differ from EN 374, please contact the supplier of EC approved gloves.
- This recommendation serves as advisory guidance and should be evaluated by an industrial hygienist and safety officer who are familiar with the specific usage circumstances of our customers. It should not be interpreted as providing approval for any particular use scenario.

##### Body Protection:

- Wear acid-resistant protective clothing.

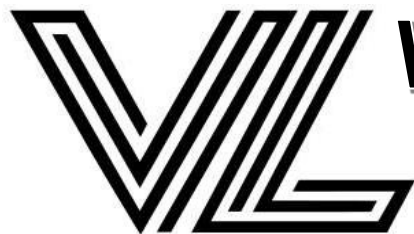
##### Respiratory Protection:

- In situations where the risk assessment indicates that air-purifying respirators are appropriate, utilize a full-face particle respirator type N100 (US) or type P3 (EN 143)
- respirator cartridges as a backup to engineering controls.
- If the respirator is the sole means of protection, use a full-face supplied air respirator. Employ respirators and components that have been tested and approved in accordance with the relevant government standards, such as NIOSH (US) or CEN (EU).

##### Control of Environmental Exposure:

- Prevent the product from entering drains.





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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

- |   |  |
|---|--|
| a) Physical state                               | solid  |
| b) Color  | No data available  |
| c) Odor   | stinging   |
| d) Melting point/freezing point                 | Melting point/range: 190 °C - lit.   |
| e) Initial boiling point and boiling range      | 181,2 °C at 1.013 hPa - (ECHA)   |
| f) Flammability (solid, gas)                    | The product is not flammable.  |
| g) Upper/lower flammability or explosive limits | No data available  |
| h) Flash point                                  | Not applicable   |
| i) Autoignition temperature                     | No data available  |
| j) Decomposition temperature                    | No data available  |
| k) pH   | 2,4 at 100 g/l at 20 °C  |
| l) Viscosity                                    | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| m) Water solubility                             | 450 g/l at 20 °C - (decomposition)   |
| n) Partition coefficient: n-octanol/water       | Not applicable for inorganic substances  |
| o) Vapor pressure                               | 1 hPa at 20 °C   |
| p) Density                                      | 2,44 g/cm <sup>3</sup> at 20 °C  |
| Relative density                                | No data available  |
| q) Relative vapor density                       | No data available  |
| r) Particle characteristics                     | No data available  |
| s) Explosive properties                         | No data available  |
| t) Oxidizing properties                         | none   |

#### 9.2 Other safety information

No data available





### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Reacts violently with water.

#### 10.2 Chemical stability

sensitive to moisture

#### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Water

alkenes

Alcohols

Alkali metals

Alkaline earth metals

Ethylene oxide

halogen oxides

Oxidizing agents

organic nitro compounds

phenols

Bases

#### 10.4 Conditions to avoid

Moisture.

#### 10.5 Incompatible materials

Strong oxidizing agents

#### 10.6 Hazardous decomposition products

In the event of fire: see section 5

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

LD50 Oral - Rat - 3.450 mg/kg

Remarks: (RTECS)

Inhalation: No data available

LD50 Dermal - Rabbit - > 2.000 mg/kg

Remarks: (RTECS)

##### Skin corrosion/irritation

Skin - Human

Result: Causes burns.

Remarks: (IUCLID)

Skin - In vitro study

Result: Corrosive

(OECD Test Guideline 435)

##### Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Eyes - Human

Result: Causes burns.

Remarks: (IUCLID)





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### Respiratory or skin sensitization

Patch test: - Human

Result: negative

Remarks: (IUCLID)

Sensitisation test: - Guinea pig

Result: negative

(OECD Test Guideline 406)

### Germ cell mutagenicity

Test Type: In vivo micronucleus test

Species: Rat

Cell type: Bone marrow

Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

Remarks: (in analogy to similar products)

### Carcinogenicity

No data available

### Reproductive toxicity

No data available

### Specific target organ toxicity - single exposure

No data available

### Specific target organ toxicity - repeated exposure

No data available

### Aspiration hazard

No data available

## 11.2 Additional Information

### Endocrine disrupting properties

#### **Product:**

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect level) - 1.000 mg/kg

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., 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, prolonged or repeated exposure can cause:, Damage to the lungs.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.







### SECTION 12: Ecological information

#### 12.1 Toxicity

Toxicity to daphnia and other aquatic invertebrates      static test EC50 - Daphnia magna (Water flea) - 27,3 mg/l - 48 h (EG 84/449)  
Remarks: (ECHA)

Toxicity to bacteria      EC10 - activated sludge - > 1.000 mg/l - 180 min (OECD Test Guideline 209)

#### 12.2 Persistence and degradability

Not applicable for inorganic substances

#### 12.3 Bioaccumulative potential

No data available

#### 12.4 Mobility in soil

No data available

#### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### 12.6 Endocrine disrupting properties

##### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### 12.7 Other adverse effects

No data available

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

No data available

### SECTION 14: Transport information

#### 14.1 UN number

ADR/RID: 1726

IMDG: 1726

IATA: 1726

#### 14.2 UN proper shipping name

ADR/RID: ALUMINIUM CHLORIDE, ANHYDROUS (aluminium(III) chloride, anhydrous)

IMDG: ALUMINIUM CHLORIDE, ANHYDROUS (aluminium(III) chloride, anhydrous)

IATA: Aluminium chloride, anhydrous (aluminium(III) chloride, anhydrous)

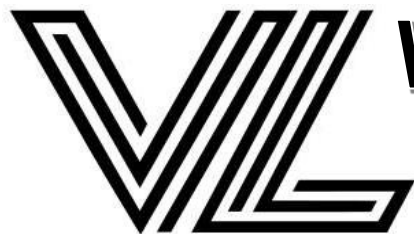
#### 14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8





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### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

### 14.6 Special precautions for user

Tunnel restriction code : (E)

Further information : No data available

## SECTION 15: Regulatory information

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

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

#### National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

#### Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Full text of other abbreviations

These are abbreviations and acronyms commonly used in the field of chemical safety, regulation, and transportation:

1. ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
2. ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
3. AIIC - Australian Inventory of Industrial Chemicals
4. ASTM - American Society for the Testing of Materials
5. bw - Body weight
6. CMR - Carcinogen, Mutagen, or Reproductive Toxicant
7. DIN - Standard of the German Institute for Standardization
8. DSL - Domestic Substances List (Canada)
9. ECx - Concentration associated with x% response
10. ELx - Loading rate associated with x% response
11. EmS - Emergency Schedule
12. ENCS - Existing and New Chemical Substances (Japan)

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13. ErCx - Concentration associated with x% growth rate response
14. GHS - Globally Harmonized System
15. GLP - Good Laboratory Practice
16. IARC - International Agency for Research on Cancer
17. IATA - International Air Transport Association
18. IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
19. IC50 - Half maximal inhibitory concentration
20. ICAO - International Civil Aviation Organization
21. IECSC - Inventory of Existing Chemical Substances in China
22. IMDG - International Maritime Dangerous Goods
23. IMO - International Maritime Organization
24. ISHL - Industrial Safety and Health Law (Japan)
25. ISO - International Organization for Standardization
26. KECI - Korea Existing Chemicals Inventory
27. LC50 - Lethal Concentration to 50% of a test population
28. LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
29. MARPOL - International Convention for the Prevention of Pollution from Ships
30. n.o.s. - Not Otherwise Specified
31. NO(A)EC - No Observed (Adverse) Effect Concentration
32. NO(A)EL - No Observed (Adverse) Effect Level
33. NOELR - No Observable Effect Loading Rate
34. NZIoC - New Zealand Inventory of Chemicals
35. OECD - Organization for Economic Co-operation and Development
36. OPPTS - Office of Chemical Safety and Pollution Prevention
37. PBT - Persistent, Bio accumulative, and Toxic substance
38. PICCS - Philippines Inventory of Chemicals and Chemical Substances
39. (Q)SAR - (Quantitative) Structure Activity Relationship
40. REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals
41. RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
42. SADT - Self-Accelerating Decomposition Temperature
43. SDS - Safety Data Sheet
44. TCSI - Taiwan Chemical Substance Inventory
45. TECI - Thailand Existing Chemicals Inventory
46. TSCA - Toxic Substances Control Act (United States)
47. UN - United Nations
48. UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

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49. vPvB - Very Persistent and Very Bio accumulative

### Additional information

The provided information is considered accurate but is not intended to cover every aspect and should be regarded as a general reference. The content in this document is derived from our current understanding and is relevant to the product concerning the necessary safety measures.





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