## 1. Identification

**Product Name**  
Aluminium chloride

**Cat No.**  
AC195780000; AC195780010; AC195780050; AC195780051; AC195785000

**CAS-No**  
7446-70-0

**Synonyms**  
Aluminium trichloride

**Recommended Use**  
Laboratory chemicals.

**Uses advised against**  
Food, drug, pesticide or biocidal product use.

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

**Company**

- **Fisher Scientific**  
  One Reagent Lane  
  Fair Lawn, NJ 07410  
  Tel: (201) 796-7100

- **Acros Organics**  
  One Reagent Lane  
  Fair Lawn, NJ 07410

**Emergency Telephone Number**

- **For information US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
- **Emergency Number US**: 001-201-796-7100 / **Europe**: +32 14 57 52 99
- **CHEMTREC Tel. No.US**: 001-800-424-9300 / **Europe**: 001-703-527-3887

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1 B</td>
<td>Skin Corrosion/Irritation</td>
</tr>
<tr>
<td>Category 1</td>
<td>Serious Eye Damage/Eye Irritation</td>
</tr>
<tr>
<td>Category 3</td>
<td>Specific target organ toxicity (single exposure)</td>
</tr>
<tr>
<td></td>
<td>Target Organs - Respiratory system.</td>
</tr>
</tbody>
</table>

### Label Elements

**Signal Word**

- Danger

**Hazard Statements**

- Causes severe skin burns and eye damage
- May cause respiratory irritation
Precautionary Statements
Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Response
Immediately call a POISON CENTER or doctor/physician
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Ingestion
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Reacts violently with water

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum chloride</td>
<td>7446-70-0</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Ingestion
Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.
Aluminium chloride

Most important symptoms and effects
Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
CO₂, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable Extinguishing Media
DO NOT USE WATER

Flash Point
Method -
No information available

Autoignition Temperature
No information available

Explosion Limits
Upper
No data available
Lower
No data available

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
The product causes burns of eyes, skin and mucous membranes. Reacts violently with water.

Hazardous Combustion Products

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>2</td>
<td>W</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

Environmental Precautions
Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up
Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Do not expose spill to water.

7. Handling and storage

Handling
Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. Do not allow contact with water. Handle under an inert atmosphere.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Keep away from water or moist air. Do not store in metal containers. Store under an inert atmosphere. Protect from moisture.

8. Exposure controls / personal protection

Exposure Guidelines
Aluminium chloride

**9. Physical and chemical properties**

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium chloride</td>
<td>(Vacated) TWA: 2 mg/m³</td>
<td>TWA: 2 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend**

OSHA - Occupational Safety and Health Administration  
NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures**

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

- **Eye/face Protection**: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
- **Skin and body protection**: Wear appropriate protective gloves and clothing to prevent skin exposure.
- **Respiratory Protection**: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- **Hygiene Measures**: Handle in accordance with good industrial hygiene and safety practice.

**Physical State**: Solid  
**Appearance**: Yellow  
**Odor**: Pungent  
**Odor Threshold**: No information available  
**pH**: 2.4, 100 g/L aq.sol  
**Melting Point/Range**: 194 °C / 381.2 °F  
**Boiling Point/Range**: No information available  
**Flash Point**: No information available  
**Evaporation Rate**: Not applicable  
**Flammability (solid,gas)**: No information available  
**Flammability or explosive limits**: No data available  
**Upper**: No data available  
**Lower**: No data available  
**Vapor Pressure**: No information available  
**Vapor Density**: Not applicable  
**Specific Gravity**: 2.440  
**Solubility**: Water reactive  
**Partition coefficient; n-octanol/water**: No data available  
**Autoignition Temperature**: No information available  
**Decomposition Temperature**: No information available  
**Viscosity**: Not applicable  
**Molecular Formula**: Al Cl₃  
**Molecular Weight**: 133.34

**10. Stability and reactivity**

- **Reactive Hazard**: Yes  
- **Stability**: Stable under normal conditions.  
- **Conditions to Avoid**: Excess heat. Incompatible products. Exposure to moist air or water. Exposure to moisture.
11. Toxicological information

Acute Toxicity

Product Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum chloride</td>
<td>LD50 = 3470 mg/kg (Rat)</td>
<td>LD50 &gt; 2 g/kg (Rabbit)</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation
Causes burns by all exposure routes

Sensitization
No information available

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum chloride</td>
<td>7446-70-0</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects
No information available

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

STOT - single exposure
Respiratory system

STOT - repeated exposure
None known

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
The product contains following substances which are hazardous for the environment. Contains a substance which is: Toxic to aquatic organisms. Reacts with water so no ecotoxicity data for the substance is available.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum chloride</td>
<td>Not listed</td>
<td>Gambusia affinis: LC50=27.1 mg/L 97h</td>
<td>Not listed</td>
<td>EC50: 3.9 mg/L 48h</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC50: 27.3 mg/L 48h</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation
No information available.
Mobility
Is not likely mobile in the environment.

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
- UN-No: UN1726
- Proper Shipping Name: ALUMINUM CHLORIDE, ANHYDROUS
- Hazard Class: 8
- Packing Group: II

TDG
- UN-No: UN1726
- Proper Shipping Name: ALUMINUM CHLORIDE, ANHYDROUS
- Hazard Class: 8
- Packing Group: II

IATA
- UN-No: UN1726
- Proper Shipping Name: ALUMINUM CHLORIDE, ANHYDROUS
- Hazard Class: 8
- Packing Group: II

IMDG/IMO
- UN-No: UN1726
- Proper Shipping Name: ALUMINUM CHLORIDE, ANHYDROUS
- Hazard Class: 8
- Packing Group: II

15. Regulatory information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum chloride</td>
<td>7446-70-0</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
TSCA - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
- - Not Listed

TSCA 12(b) - Notices of Export | Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum chloride</td>
<td>7446-70-0</td>
<td>X</td>
<td></td>
<td>231-208-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>KE-01045</td>
</tr>
</tbody>
</table>

U.S. Federal Regulations

SARA 313 | Not applicable
SARA 311/312 Hazard Categories | See section 2 for more information
CWA (Clean Water Act) | Not applicable
Aluminium chloride

Clean Air Act
Not applicable

OSHA - Occupational Safety and Health Administration
Not applicable

CERCLA
Not applicable

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum chloride</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant: N
DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security
This product contains the following DHS chemicals:

Legend - STQs = Screening Threshold Quantities, APA = A placarded amount

Other International Regulations
Mexico - Grade
No information available

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
10-Sep-2010
Revision Date
27-May-2019
Print Date
27-May-2019
Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS