



Safety Data Sheet

Date of Issue: 19.09.2024

Date of Expiry: 19.09.2029

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : ECP Limited
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Product Name	Aluminium Chloride Hexahydrate
Product Code	11401
CAS No.	7784-13-6

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 GHS Classification

Skin corrosion/irritation (Category 1B)
Serious eye damage/eye irritation (Category 1)
Specific target organ toxicity - repeated exposure (Category 1), Lungs

2.2 GHS Label elements, including precautionary statements

Pictogram



DANGER

Hazard Statements

H314 Causes severe skin burns and eye damage.
H372 Causes damage to organs (Lungs) through prolonged or repeated exposure.

Precautionary Statements

Prevention

P260 Do not breathe dust.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

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 + P310 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call
a POISON CENTER/ doctor.

2.3 Other hazards

Corrosive to the respiratory tract.

3: Composition/information on ingredients

3.1 Substances

Formula	:	AlCl ₃ · 6H ₂ O
Molecular weight	:	241.43 g/mol
CAS-No.	:	7784-13-6
EC-No.	:	231-208-1
Index-No.	:	013-003-00-7

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.

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

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

Hydrogen chloride gas

Aluminum oxide

Not combustible.

Fire may cause evolution of:

Hydrogen chloride gas

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.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. 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.

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.

7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

No metal containers.

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

7.3 Specific end use(s)

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

8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

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.

Body Protection

Complete suit protecting against chemicals. 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 particle respirator type or respirator cartridge 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.

9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	White to light yellow.
Appearance	:	Crystalline powder or crystals. Deliquescent crystals.
Molecular mass	:	241.45 g/mol
Odour	:	Odourless.
Odour threshold	:	Not available
Melting point	:	100 °C (decomposes)
Freezing point	:	Not applicable
Boiling point	:	Not available
Flammability	:	Non flammable.
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	> 100 °C
pH	:	2.5 – 3.5 at 20 °C
pH solution concentration	:	5 %
Viscosity, kinematic	:	Not applicable
Solubility : Water	:	458 g/l (20 °C) - Soluble in water
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	1.333 Pa at 99 °C
Vapour pressure at 50°C	:	Not available
Density	:	2.398 g/cm ³
Relative density	:	Not available
Relative vapour density at 20°C	:	Not applicable
Particle size	:	Not available

10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Alkenes , Alcohols, Alkali metals, Alkaline earth metals, Ethylene oxide, halogen oxides, Oxidizing agents, organic nitro compounds, phenols, Bases.

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Metals

10.6 Hazardous decomposition products

In the event of fire: see section 5

11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 3,311 mg/kg

Remarks: (RTECS)

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach., Nausea, Vomiting

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

LD50 Dermal - Rabbit - > 2,000 mg/kg

Remarks: (RTECS)

(anhydrous substance)

The value is given in analogy to the following substances: aluminium(III) chloride, anhydrous

Skin corrosion/irritation

Skin - In vitro study

Result: Corrosive

(OECD Test Guideline 435)

Remarks: The value is given in analogy to the following substances: aluminium(III) chloride, anhydrous

Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Respiratory or skin sensitization

Sensitisation test: - Guinea pig

Result: negative

(OECD Test Guideline 406)

Remarks: The value is given in analogy to the following substances: aluminium(III) chloride, anhydrous

Germ cell mutagenicity

Test Type: Mammal

Test system: lymphocyte

Remarks: DNA damage

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Corrosive to the respiratory tract.

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure. - Lungs

Aspiration hazard

No data available

11.2 Additional Information

Cough, Shortness of breath, Headache, Nausea, Vomiting

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

The following applies to aluminium compounds in general: After swallowing: only slightly absorbable via the gastrointestinal tract. Serious disorders in man (from about 4000 mg aluminium up): phosphate metabolism, calcium metabolism.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

12: Ecological information

12.1 Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 36.6 mg/l - 96 h

Remarks: (External MSDS)

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 27.3 mg/l - 48 h

12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to 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

PBT/vPvB assessment not available as chemical safety assessment not required/not Conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

May be harmful to aquatic organisms due to the shift of the pH. Avoid release to the environment.

Biological effects:

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

The following may develop after reaction of the product with water:

Hydrogen chloride gas

Discharge into the environment must be avoided.

13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation :

Disposal must be done according to official regulations.

Waste treatment methods :

Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations :

Disposal must be done according to official regulations.

Product/Packaging disposal recommendations :

Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.

Additional information :

Do not re-use empty containers.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	3260	3260	3260
14.2	UN Proper Shipping name	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (aluminium chloride hexahydrate)	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (aluminium chloride hexahydrate)	Corrosive solid, acidic, inorganic, n.o.s. (aluminum chloride hexahydrate)
14.3	Transport Hazard Class	8	8	8
14.4	Packaging group	II	II	II
14.5	Environmental Hazards	No	No	No
14.6	Special precautions for user	None		

Other regulations

Hazchem Code : 2X

15: Regulatory information

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

National regulatory information

HSNO Approval Code:

HSNO Group Standard Approval: not required

Tracking Required: not required

Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone

using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company 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 the company has been advised of the possibility of such damages.

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