AB CHLORIDE

AB CHLORIDE INDIA PRIVATE LIMITED

SAFETY DATA SHEET

SDS according to Regulation (EC) No. 1907/2006

Aluminium Chloride, Anhydrous

Ref: SDS/ABC/GDM/ACA
Revision-0/ Feb, 2022

SECTION 1:- IDENTIFICATION

Chemical Name	Aluminium Chloride, Anhydrous
CAS Number:	7446-70-0
EC Number	231-208-1
Manufacturer/Supplier	AB Chloride India Pvt. Ltd. Bhimasar, Gandhidham, Dist. Kutch (Gujarat) 370201, INDIA www.abchloride.com
Information Centre	Office no. 502, Near Rani Bagh, BTW Aggarwal Perstige Mall, Pitampura, North West DELHI - 110034
Emergency telephone number	Telephone: +91-8401102193

Relevant identified uses of the product:-

It is predominantly used as a catalyst in Freidel-crafts reaction. In addition, it is also used in host of other chemical reactions, for manufacturing a wide variety of products.

SECTION 2:- HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Physical Hazards	Substances/mixtures corrosive to metal	Category 1
Health Hazards	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1

2.2 Label elements

According to Regulation(EC) No 1272/2008[CLP]

Signal Word: Danger

Hazard Pictogram

GHS 08 - Health Hazard

GHS 05 - Corrosive

Hazard Statements

- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary Statements

Prevention

- P260 - Do not breathe dust/fume/gas/mist/vapours/spray
- P260i - Do not breathe dust/gas/mist/vapours.
- P260g - Do not breathe dust or mist.
- P264 - Wash … thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P280 Wear protective gloves/protective clothing/eye protection/face protection

Response

- P305 + P351 + P338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. continue rinsing
- P311 Call a POISON CENTER or doctor/physician
- P303 + P361 +P352 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Take off contaminated clothing and wash before reuse.
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P301 + P330 IF SWALLOWED: Rinse mouth

Storage	• P405:- Store locked up
Disposal	• P501:- Dispose of contents / containers to hazardous / special waste collection point
Supplemental label elements	Protect from moisture, keep container tightly closed, and keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Used only with adequate ventilation
2.3 Other Hazards	React violently with water

SECTION 3:- COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Aluminium chloride, Anhydrous
CAS Number:	7446-70-0
EC Number	231-208-1
Index Number	013-003-00-7

SECTION 4:- FIRST AID MEASURES

Skin Contact	After contact with skin, remove material using a soft cloth and wash immediately with plenty of water & soap. Get medical attention if irritation develops or persists.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.
Inhalation	Remove to fresh air. Get medical attention for any breathing difficulty
Ingestion	Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice

SECTION 5:- FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Carbon dioxide, dry chemical powder. Suitable extinguishing media for surrounding fire should be used. Used water spray to cool container.
Unsuitable extinguishing media for safety reasons	Water
Special hazard arising from substance or mixture	Corrosive. Contact with water liberate toxic gas. Hydrochloric acid HCl. In combustion emits toxic fumes. Metal oxide released.
Special Protection Equipment for fire-fighting	Wear self-contained breathing apparatus. Wear fully protective suit.

SECTION 6:- ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment. Avoid dust fumes & breathing dust. Ensure ventilation. Evacuate personnel to safe place. Breathing protection required
Environmental precautions	Neutralization of the product is required before discharging sewage into treatment plants due to the pH-value
Methods and material for containment and cleaning up	Pickup and arrange disposal without creating dust. Keep material in suitable, closed containers for disposal. Sweep / shovel up the material & Disposal of absorbed material in accordance with regulations
Reference to other sections	Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13

SECTION 7:- HANDLING AND STORAGE

Precautions for safe handling

Avoid formation of dust & aerosols. Provide exhaust ventilation at places where dust is formed. Normal measures for preventing fire protection
Handle in accordance with good industrial hygiene and safety practices.

Safe storage conditions

Store in cool place. Keep containers tightly closed in a dry well-ventilated place. Before opening venting of container is recommended; caution against escaping gases and vapours.

Protection against fire and explosion: The substance / product is non-combustible.

Storage stability: Product is hygroscopic

Improper storage may result in pressure build up in the drums.

SECTION 8:- EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:-

Ingredients with limit values that require monitoring at the workplace:-

7446-70-0:aluminium chloride, Anhydrous	TWA value 2 mg/m^3 (EH40 (UK))
7647-01-0:hydrogen chloride, Anhydrous	TWA value 8 mg/m^3 ,5 ppm (OEL (EU)) Indicative STEL value 15 mg/m^3 ; 10 ppm (OEL (EU)) Indicative TWA value 2 mg/m^3 ;1 ppm (EH40 (UK)),Gas and aerosol mists STEL value 8 mg/m^3 ; 5 ppm (EH40(UK)),gas and aerosol mists

PNEC

Marine water	0.025 mg/l
Freshwater	0.025 mg/l
Intermittent release	0.074 mg/l
Sediment(freshwater):	3.736 mg/kg
Sediment(marine water):	3.736 mg/kg
Soil:	4.94 mg/kg
STP	100 mg/l

DNEL

Worker

- Short-term exposure-systemic effects,inhalation:1 mg/m^3
- Short- term exposure-local effects.Inhalation:2 mg/m^3
- Long-term exposure-systemic effects.Inhalation:0.2 mg/m^3
- Long-term exposure-local effects,Inhalation:0.2 mg/m^3

Exposure controls

Personal protective equipment:-

Respiratory protection:

- Where risk assessment shows air-purifying respirators are appropriate, use a full face particle respirator / Gas filter for gases / vapours of inorganic compounds (e.g. EN 14387 Type B)
- Combination filter for gases/ vapours of organic, inorganic, acid inorganic. alkaline compounds and toxic particles(e.g. EN 14387 Type ABEK-P3)

Protection of Hands:

the glove material to be resistant to the product (EN 374)

Gloves Material

- Polyvinyl chloride(PVC) – 0.7 mm coating thickness
- Nitrile rubber (NBR) – 0.4 mm coating thickness
- Penetration time of glove material
- Value for the permeation : Level $\geq$ 6

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Face shield and safety glasses (cage goggles).

Body protection:

Chemical / Protection work clothing as per EN 14605

Hygiene measures:-

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday

SECTION 9:- PHYSICAL AND CHEMICAL PROPERTIES

Form:	Powder or granule
Color	Yellowish to white
odour	Pungent odour
pH value	2.4 (100g/l)
Melting point	190°C (2,500 hPa)
Boiling point	Study scientifically not justified
Flash point	Not applicable
Flammability	Not Flammable
Sublimation temperature:	181.2°C(1,013.25 hPa) Literature data
Vapor pressure	< 1 mbar (20°C)
Density	2.44 g/cm^3 (25°C) Literature data
Bulk Density	1,200 kg/m^3
Molar mass	133.34 g/mol
Solubility in water	450 g/l (20°C)
Partitioning coefficient n-octanol/water (log Kow):	Not applicable
Self-ignition	Based on its structural properties the product is not classified as self-igniting
Thermal decomposition	No decomposition if correctly stored and Handled
Explosion hazard	Product does not have explosive properties
Fire promoting properties	Non oxidizing
Grain size distribution	0 – 15 mm Product is commercially sold in many particle sizes as per customers' requirements 0 - 1 mm, 1 - 5mm, 5 – 10 mm, 5 – 15 mm etc.

SECTION 10:- STABILITY AND REACTIVITY

Chemical stability	Product is Stable if stored and handled under recommended storage conditions
Condition to avoid	Sensitive to Moisture / Humidity. Further refer MSDS section 7 – Handling and storage

Possible hazardous reaction	Reacts violently with water. Develops hydrochloric acid on contact with water. The formation of gaseous decomposition products builds up pressure in tightly closed containers
Incompatible Substances	Water is an incompatible substance

Reactivity

No hazardous reactions if stored and handled under recommended storage conditions

Corrosion to metals:	Corrodes metals in the presence of water or Moisture
Formation of flammable gases	No flammable gases in presence of water are produced

Hazardous decomposition products: - Contact with water liberates toxic gas

SECTION 11:- TOXICOLOGICAL INFORMATION

Acute toxicity	The toxicity of the product is based on its Corrosivity. Oral:- LD50 3,450 – 3,470 mg/kg (rat) Dermal: Study does not need to be conducted.

Primary Irritation effects

Assessment of irritating effects	Corrosive! Damage on skin and in eyes.
Skin corrosion / irritation:	Skin – Human – Severe skin irritation: EU has classified this substance under “Causes burns”(R34).
Respiratory or Skin sensitization	Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals Skin sensitizing effects were not observed in animal studies
Germ cell mutagenicity	Data available is not consistent on mutagenicity
Carcinogenicity	No reliable data available. The chemical structure does not suggest a specific alert for such an effect
Reproductive toxicity	The results of animal studies gave no indication of a fertility impairing effect
Developmental toxicity	Causes developmental effects in animals at high, maternally toxic doses. Repeated dose toxicity and Specific target organ toxicity(repeated exposure)

The substance may cause damage to the central nervous system after repeated ingestion of high doses. The substance may cause damage to the lung after repeated inhalation. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

SECTION 12:- ECOLOGICAL INFORMATION

Toxicity

Acutely toxic for aquatic organisms, effects depends on the pH-value

Toxicity to fish	LC50 (96h) 36.6mg/l. Salmo gairdneri, (other)
Daphnia & other Aquatic invertebrates	EC50 (48h) 7.4 mg/l , Daphnia magna(static) EC50 (48h) 27.3 mg/l, Daphnia magna (Directive 84/449/EEC,C.2,static)
Aquatic plants	EC50 (96h) 2.8 mg/l (growth rate), Selenastrum capricornutum (static)

The statement of the toxic effect relates to the analytically determined concentration. Literature data

Microorganisms/Effect on activated sludge:	EC10(180min) > 1,000 mg/l (OECD Guideline 209,aerobic)

The details of the toxic effect relate to the nominal concentration.

Chronic toxicity to fish:	No observed effect concentration (45 d) 0.25 mg/l, Salmo gairdneri,syn. O. mykiss (other)

The statement of the toxic effect relates to the analytically determined concentration. Literature data

Chronic toxicity to aquatic invertebrates: LC50 (21 d) 6.9 mg/l, Daphnia magna (other)
Literature data

Soil living organisms:LC50 (14d) > 1,000 mg/kg, Eisenia sp.(Range-finding-stud, artificial soil)
The product has not been tested. The statement has been derived from products of a similar structure or composition.

Persistence and degradability	Elimination and biodegradation in water; product being inorganic, elimination from water by biological process is not accepted. By flocculation/precipitation it can be eliminated from water. (No data available)
Bio-accumulative potential	(No data available)
Mobility in soil	No data available
Results of PBT and vPvB assessment	Not applicable for inorganic substances

Other Adverse Effects:- No data Available

SECTION 13:- DISPOSAL CONSIDERATIONS

Product

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Contaminated Packaging:

Contaminated packaging's should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned

SECTION 14:- TRANSPORT INFORMATION

UN Number UN 1726

Label

Land Transport (ADR/RID)

UN Number	UN 1726
UN proper shipping Name	ALUMINIUM CHLORIDE, ANHYDROUS
Hazard class:	8
Hazard label:	8
Packaging group	II
Environmental Hazard	No
Special Precaution for user	Not relevant

Inland Waterway Transport (ADNR)

UN Number	UN 1726
UN proper shipping Name	ALUMINIUM CHLORIDE, ANHYDROUS
Hazard class:	8
Hazard label:	8
Packaging group	II

Environmental Hazard	No

Sea Transport (IMDG)

UN Number	UN 1726
UN proper shipping Name	ALUMINIUM CHLORIDE, ANHYDROUS
Hazard class:	8
Hazard label:	8
Packaging group	II
Environmental Hazard	No
Marine Pollutant	No
EmS No.	F-A, S-B

Air Transport (IATA/ICAO)

UN Number	UN 1726
UN proper shipping Name	ALUMINIUM CHLORIDE, ANHYDROUS
Hazard class:	8
Hazard label:	8
Packaging group	II
Environmental Hazard	No
Special Precaution for user	Not relevant

SECTION 15:- REGULATORY INFORMATION

Water Hazard Class: slightly hazardous to water (WGK1)

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

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

15.2 Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16:- OTHER INFORMATION

None

Disclaimer:

The information given corresponds to the current state of our knowledge and experience of the product and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). This information contained in this safety data sheet is based on sources which we believe to be reliable however, without any warranty as to their accuracy nor as a binding statement on contractually agreed product qualities. The conditions and methods of handling, storage, use and disposal of the product are beyond our control and do not belong to our competence. Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed. A B Chlorides India Pvt. Ltd does not take any guarantee or legal liability expressed or implied under any circumstances in respect of the adequacy of this document for any particular purpose.