DCM SHRIRAM
Growing with trust

DCM SHRIRAM LIMITED
(Unit: Shriram Alkali & Chemicals)

Material Safety Data Sheet

ANHYDROUS ALUMINIUM CHLORIDE

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Supplier	: DCM Shriram Ltd. (Unit: Shriram Alkali & Chemicals) 749,GIDC, Jhagadia-393110, Dist- Bharuch, Gujarat. Phone No: (+91 2645)226021/23 Fax No: (+91 2645)226037
Substance	: Anhydrous Aluminium Chloride
Trade Name/Synonyms	: Anhydrous Aluminium Chloride
CAS number	: 7446-70-0
Application	: It finds widespread application in the chemical industry as the classic catalyst for Friedel-Crafts reactions, both acylations and alkylations.

SECTION 2: HAZARDS IDENTIFICATION

HAZARD PICTOGRAM:

NFPA RATINGS:

HEALTH	: 3
FLAMMABILITY	: 0-None
REACTIVITY	: 2-None
SPECIAL	: Water Reactive (₩)

Risk phrases: 34 Causes burns.

Safety phrases:

1/2 : Keep locked up and out of the reach of children.

7/8 : Keep container tightly closed and dry.

28 : After contact with skin, wash immediately with plenty of soap and water.

45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 3: COMPOSITION INFORMATION ON INGREDIENTS

Chemical Family	: Inorganic salt
Molecular formula	: $AlCl_3$

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Molecular Weight : 133.34

SECTION 4: FIRST AID MEASURES

Over exposure is to be avoided. In case of any exposure, obtain medical attention.

Eye Contact : Irrigate thoroughly with water for at least 10 minutes.

Inhalation : Remove from exposure, rest and keep warm.

Skin Contact : Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Ingestion : Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION 5: FIRE FIGHTING MEASURES

Fire and Explosion Data

Non-combustible/explosive on its own.

Unusual Fire and Explosion Hazards: May evolve toxic fumes in fire.

Fire Fighting Instructions : It decomposes with violent reaction to form corrosive hydrochloric acid, if water is used as fire fighting media.

Fire Fighting Media : Carbon dioxide / Dry sand. **Do not use water.**

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill & Leak Procedure:

Evacuate the area. Avoid contact with water or other incompatible materials. Wear PPE outlined in section 8 and follow spill cleanup procedures outlined below.

Environmental Precautions. : Spilled aluminum chloride will fume on moist days Releasing hydrogen chloride gas. Upon contact with water, large amounts of Hydrogen chloride gas or acidic water will be generated.

Procedure for cleanup of spills. Scoop up spilled materials and place into a full Open head poly drum, or a full open head steel drum with a polypropylene liner. Lids with vent plugs are preferred to allow for easy venting of pressure. (Note-Do not mix speedy dry or other absorbent material with spilled aluminum chloride. The moisture in the speedy dry will react with the aluminum chloride.

Do not close the drums tightly or they may build pressure. The spilled material Will have absorbed some moisture and will need to vent until the reaction subsides before closing the drums tightly.) Sweep up as much of the spilled material as possible. Then wash the area down with large amounts of water and dispose of according to state and local regulations. (Note the water will likely be acidic due to generation of hydrochloric acid from the reaction with aluminum chloride.)

SECTION 7: HANDLING AND STORAGE

Provide sufficient eyewash stations and safety deluge showers near the handling area.

UN No. : 1726

EC-No. : 231-208-1

Hazard class : 8 Packaging group- II

Precautions : Avoid direct contact with body, Rinse out & dry empty containers thoroughly before returning for recycling.

Handling : Do not eat, drink or smoke while handling. Wash hands and face thoroughly after

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working with material. Use contaminated clothing only after wash.

Transport : Do not transport with food or feedstuffs.

Storage : Store at room temperature (15 to 25°C recommended). Keep well closed and protected from direct sunlight and moisture.

Disposal : Do not empty into drains.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Controls

Operation Control: Leakages to be controlled with well maintained vapour lines.
Extraction hoods are to be used to remove vapours immediately.

Environmental Control: Ventilation: Proper ventilation should be provided.
Personal Protection: All safety appliances should be used.

Personal Protection

Eye Protection: Use goggles with side - shield or face-shield.

Face Protection: Use helmet with visor.

Skin / Body Protection: Use apron, coveralls and sleeves.

Hand Protection: Use gloves.

Leg Protection: Use safety shoes.

Inhalation Protection: Use respiratory protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical Properties

Appearance : White to grey powder or granules

Physical State : Powder (Size up to 2 mm) / Granules (Size from 2 mm to 10 mm)

Odour : Pungent

Sublimation Point (1.1325 mbar) : 181.2˚C

Boiling temperature : Not applicable, Sublimes Density (g/ml): 2.44

Bulk Density : 1.1 to 1.2 gms. / cc

Solubility in water : 450 gm/liter at 20˚C in large quantity of water
(Decomposes with violent reaction in small quantity of water)

LEL : Not applicable

UEL : Not applicable

Flash Point : Not applicable

Chemical Properties

Reacts violently with water. The possibility of reaction with other substances cannot be excluded. It decomposes to form hazardous product hydrochloric acid.

Stability : Stable in dry cool atmosphere. Heat will contribute to instability.

Sensitivity : Sensitive to moisture.

Incompatibility (Materials to Avoid) : Water, Organic nitro- compounds, Ethylene oxide.

pH Value (100 gms/litre) : 2.4

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SECTION 10: STABILITY AND REACTIVITY

Conditions under which the product is chemically unstable: Stable if kept dry and protected from atmospheric moisture. Stable at normal temperature and pressures but may decompose on prolonged storage creating a build-up of pressure. If contaminated with moisture, acid will be formed that may react with the steel drum resulting in formation of flammable hydrogen gas. Negligible fire hazard when exposed to heat or flame. Sublimation occurs at 181 degrees C.

Conditions of reactivity: Reacts violently with water with releasing toxic and corrosive hydrogen chloride with sufficient heat and pressure generated to rupture containers

Incompatibilities :

Water
Alkali : May react explosively
Alkenes : Violent, highly exothermic polymerization possible.
Allyl chloride : Violent polymerization possible. Ethylene oxide: violent polymerization possible.
Metals : May corrode in the presence of moisture.
Organic nitro compounds : vigorous reaction.
Oxygen difluoride : explodes.
Potassium : forms impact sensitive mixture.
Sodium : forms impact sensitive mixture.
Hazardous Decomposition Products. Hydrogen chloride, aluminum oxide, aluminum hydroxide.

SECTION 11: TOXICOLOGICAL INFORMATION

It causes burns in presence of moisture / sweat.
Primary Routes of Exposure
Eyes / Inhalation / Skin Eyes: Causes severe deep burns.
Inhalation : Causes burning sensation, cough, hard or shortness of breathing, sore throat.
Skin : Causes burns.
Ingestion : Causes nausea/abdominal pain/vomiting, burning sensation, shock or collapse.

SECTION 12: ECOLOGICAL INFORMATION

Adverse ecological effects cannot be excluded in the event of improper handling or disposal.
Do not allow to contaminate drinking water supplies, wastewater, or soil!
Harmful for aquatic organisms

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods: Dispose as per Land/Air/Water state and local regulations.

SECTION 14: TRANSPORT INFORMATION

DOT Shipping Requirements

Shipping Name : Aluminum Chloride
Technical Name : Aluminum Chloride

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Hazard Class : Class- 8
UN/NA Number : UN1726
Packing Group : II
Label(s) : Corrosive
Marine Pollutant : No
Packaging Requirements : Non-bulk packaging:
Cargo aircraft only : 50 kg
Bill of Lading Description : Aluminum Chloride-anhydrous.

IMO Regulations

Shipping Name : Aluminum Chloride-Anhydrous
IMO Number : UN1726
Hazard Class : Class-8, CORROSIVE

Transportation Emergency Response

In the event of an unusual delay, fire, accident, or release of this product during transportation, the transporter can refer to this MSDS or the current edition of the DOT Emergency Response Guide Book for emergency response information. In any of the above mentioned circumstances, the transporter shall immediately call the emergency

SECTION 15: REGULATORY INFORMATION

As per National / State pollution control board regulation.
For Labeling, Hazard pictogram, Risk & Safety Phrases : Please refer Section-2

SECTION 16: OTHER INFORMATION

Name of the firm	Mailing Address	Contact Person in Emergency	Telephone no.
Shriram Alkali & Chemicals (SAC)	749, GIDC Estate Jhagadia. Pin-393110 Dist: Bharuch	Head of Production	Telephone NOS : +91 2645-226021/23 Fax No : +91 2645-226037

Chlor –Alkali Emergency response network Toll free No. : 1800-11-1735

Disclaimer:
Shriram Alkali and Chemicals (SAC) provides this information which is commonly known and generally available in respect of this product; but makes no representation as to its comprehensiveness or accuracy. This information is given only as a guide to the appropriate precautionary handling of the material by a trained person. Persons receiving the information must use their judgment in determining its appropriateness for a particular purpose. SAC makes no representations or warranties, either express or implied, including without limitations any warranties of merchantability, fitness for a particular purpose with respect to the information given herein or the product to which the information refers. Accordingly, SAC will not be responsible for damages resulting from use of or reliance upon this information.