MATERIAL SAFETY DATA SHEET

Hazardous according to criteria of Worksafe

1. IDENTIFICATION

General

Product Name : ALUMINIUM CHLORIDE ANHYDROUS

Other Names : ALUMINIUM TRICHLORIDE; TRICHLOROALUMINIUM

UN No. : 1726

Dangerous Goods Class : 8

Subsidiary Risk : None Allocated

Hazchem Code : 4X

Pack Group : II

EPG : 40

Poisons Schedule : N/A

Uses :

Suitable as an acid catalyst, especially in Friedels-Crafts type reactions; in cracking of petroleum; in manufacture of rubbers, lubricants.

1.1 Physical Description / Properties

Appearance : Yellow/grey hexagonal deliquescent crystals with a hydrogen chloride odour that is sharp and irritating.

Formula : $AlCl_3$

Boiling Point : N/A deg C

Melting Point : 190 deg C

Vapour Pressure : 1 mm Hg (1 atmosphere)

Specific Gravity : 2.44 (water = 1)

Flash Point : None

pH : ()

Solubility in water : N/A g/l (25 deg C)

Flammability Limits (as percentage volume in air)

Lower Explosion Limit : None

Upper Explosion Limit : None

1.2 Other Properties

Sublimation point = 180.1 deg C Vapour density = 9.19 g/L @ 200 deg C Violently soluble in water, soluble in alcohol and ether.

1.3 Ingredients

Chemical Entity	CAS No.	Proportions (%)
ALUMINIUM CHLORIDE	[7446-70-0]	> 99

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2. HEALTH HAZARD INFORMATION

2.1 Health Effects - Acute

Swallowed

Harmful if swallowed. Oral LD50 = 770 mg/kg (Mouse), 3700 mg/kg (Rat) Oral TDLo = 425 mg/kg (MGN) (Mouse)

Eye

Material is extremely destructive to the eyes.

Skin

Harmful if absorbed through the skin. Material is extremely destructive to the skin. Dermal LD50 = Not available

Inhaled

Harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms - coughing, wheezing, burning feeling. Inhalation LC50 = Not available

2.2 Health Effects - Chronic

Testing of animals has shown that chronic effects of overexposure to aluminium chloride may exist. These effects include cytogenetic effects in mice and reproductive effects in rats (Musculoskeletal abnormalities).

2.3 First Aid

Swallowed

Consider toxic if ingested. Drink 1 - 3 cups of water. DO NOT induce vomiting. Consult a physician.

Eye

Flush with copious amounts of water for at least 15 minutes, retracting eyelids often. Consult a physician.

Skin

Remove any powdered aluminium chloride before washing. Excessive powder will react with the water and could cause thermal burns. Wash with copious amounts of water. If irritation develops, consult a physician.

Inhaled

Remove victim to fresh air. Give oxygen if the victim is having difficulty breathing. Consult a physician.

First Aid Facilities

2.5 Advice to Doctor

Not available

2.6 Toxicity Data

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3. PRECAUTIONS FOR USE

3.1 Exposure Standards

TLV - TWA = 2 mg (Al)/m3

3.2 Engineering Controls

Not available

3.3 Personal Protection

Wear NIOSH/MSHA-approved respiratory protection for acid gases. For emergency response to spills, self-contained breathing apparatus are required. Safety glasses and monogoggles. Rubber gloves (neoprene or nitrile are adequate). An emergency eye wash is recommended in handling areas.

3.4 Flammability

Not available

SAFE HANDLING INFORMATION

4.1 Storage / Transport

Store containers in a cool, dry location with adequate ventilation. Keep away from water and moisture. Avoid contamination of containers with any moisture. Contamination with moisture could cause product decomposition and a resultant build up of pressure. In metal containers, the hydrochloric acid generated will react with the metal container causing a build up of highly-flammable hydrogen gas. If sufficient contamination with moisture occurs, this could create a condition in metal drums where there is an explosion hazard upon opening the drum. Vent containers prior to opening to relieve any pressure built up in the container.

4.2 Packaging / Labelling

UN No. 1726

Class 8

Sub Risk None Allocated

Hazchem Code 4X

Pack Group II

EPG No. 40

Shipping Name ALUMINIUM CHLORIDE ANHYDROUS

Hazard CORROSIVE

Risk Phrases

R34 Causes burns.

Safety Phrases

S7/8 Keep container tightly closed and dry.

S28:ALUCHL After contact with skin, wash immediately with plenty of soap and water.

4.3 Spills and Disposal

Spills

Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Evacuate the area. Shut off all sources of ignition. Sweep up the material and place it in polyvinyl chloride (PVC) bags. Close up the bags and place in open head drums for recovery or disposal. DO NOT flush spilled aluminium chloride with water. After removing the material, flush the area with water, collect the water and neutralise with soda ash or lime.

Disposal

Observe all Local, State and Federal Waste Disposal regulations. Contact Local Waste Disposal Authority.

4.4 FIRE AND EXPLOSION HAZARD

Fire / Explosion

Water, steam, or moisture in contact with aluminium chloride will cause violent product decomposition into hydrogen chloride gas and aluminium oxide. The product decomposition will cause increased pressure in the containers which could result in a catastrophic failure of the container. Incompatible with water, steam, or moisture, nitrobenzenes, or nitrobenzenes + phenol. Highly exothermic polymerisation reactions with alkenes.

Extinguishing Media

Not applicable