

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

General

Product Name : CORROSIVE SOLID, TOXIC, N.O.S. (ALUMINIUM FLUORIDE)

Other Names : ALUMINIUM TRIFLUORIDE

UN No. : 2923

Dangerous Goods Class : 8

Subsidiary Risk : 61

Hazchem Code : 2XE

Pack Group : II

EPG : 37

Poisons Schedule : 6

Uses :

Production of aluminium to lower melting point & increase conductivity of the electrolyte, flux in ceramic glazes & enamels, manufacture of aluminium silicate, catalyst.

1.1 Physical Description / Properties

Appearance : Fine white powder, free flowing odourless.

Formula : AlF_3

Boiling Point : 1537 deg C

Melting Point : 1040 deg C

Vapour Pressure : 1238 mm Hg (1 atmosphere)

Specific Gravity : 3.0 (water = 1)

Flash Point : N/A

pH : Neutral ()

Solubility in water : 0.5 g/l (25 deg C)

Flammability Limits (as percentage volume in air)

Lower Explosion Limit : N/A

Upper Explosion Limit : N/A

1.2 Other Properties

Evaporation rate : : N/A Viscosity : N/A Decomposition temperature : N/A Decomposition point : 1200 deg C

1.3 Ingredients

Chemical Entity	CAS No.	Proportions (%)
ALUMINIUM FLUORIDE	[7784-18-1]	90.00

2. HEALTH HAZARD INFORMATION

2.1 Health Effects - Acute

Swallowed

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.

Eye

Causes severe eye irritation.

Skin

Causes skin irritation, chronic effects include excessive calcification of the bones, ligaments, and tendons.

Inhaled

Causes respiratory tract irritation. May cause salivation, nausea, vomiting, abdominal pain, fever, and labored breathing.

2.2 Health Effects - Chronic

Chronic inhalation may cause nasal septum ulceration and perforation. Chronic effects include effects include excessive calcification of the bones, ligaments and tendons.

2.3 First Aid

Swallowed

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Eye

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately.

Skin

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Inhaled

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

First Aid Facilities

Ensure an eye bath & safety shower are available and ready for use.

2.5 Advice to Doctor

Treat symptomatically and supportively.

2.6 Toxicity Data

Oral, mouse : LD50 = 103 mg/kg Epidemiology : N/A Teratogenicity : N/A Reproductive effects : N/A Mutagenicity : N/A

3. PRECAUTIONS FOR USE

3.1 Exposure Standards

ACGIH : Metals dust, as Al : 10 mg/m³ TWA (listed under Aluminum) NIOSH : Total : 10 mg/m³ TWA; respirable dust : 5mg/m³ TWA; pyro powders and welding fumes : 5mg/m³ TWA; soluble salts and alkylis : 2mg/m³ TWA (listed under Aluminum). as F : 2.5mg/m³ TWA (listed under Fluorides) OSHA vacated PELs : Total dust, as Al : 15mg/m³ TWA; respirable fraction as Al : 5mg/m³ TWA (listed under Aluminum as F : 2.5 mg/m³ TWA (listed under florides)

3.2 Engineering Controls

Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower,. Use only under a chemical fume hood.

3.3 Personal Protection

Eyes : Wear appropriate protective eye glasses or chemical safety goggles. Skin : Wear appropriate protective gloves to prevent skin exposure. Clothing : Wear appropriate protective clothing to prevent skin exposure. Respirators : Always use a NIOSH-approved respirator when necessary.

3.4 Flammability

Not flammable under conditions for use.

SAFE HANDLING INFORMATION

4.1 Storage / Transport

Wash thoroughly after handling. avoid contact with eyes, skin, and clothing. avoid ingestion and inhalation. use only chemical fume hood. Store in a cool, dry place. Store in a tightly closed container. Corrosives area. Do not store in metals or glass containers.

4.2 Packaging / Labelling

UN No. 2923

Class 8

Sub Risk 61

Hazchem Code 2XE

Pack Group II

EPG No. 37

Shipping Name CORROSIVE SOLID, TOXIC, N.O.S. (ALUMINIUM FLUORIDE)

Hazard IRRITANT

Risk Phrases

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases

S45 In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show the label where possible).

S26 In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre.

S22 Do not breathe dust.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

4.3 Spills and Disposal

Spills

Clean up personnel should wear protective goggles and approved dust mask.

Wash area with soap and water. Clean up spills immediately, observation precautions in the protective equipment section.

Disposal

Sweep up or absorb material, then place into suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. provide ventilation. Dispose of in accordance with all local, state and federal regulations at an approved waste disposal facility.

4.4 FIRE AND EXPLOSION HAZARD

Fire / Explosion

Chemical stability : Stable under normal temperature and pressures. Conditions to avoid : Incompatible with other materials Incompatibilities with other materials : Strong acid, glass, sodium, potassium. Hazardous Decomposition products : Hydrogen fluoride, aluminum oxide. Hazardous Polymerization : Has not been reported. Decomposition point : 1200 deg C

Extinguishing Media

Fire fighters should wear full protective clothing including breathing apparatus. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is noncombustible. Use extinguishing media most appropriate for the surrounding fire.

5 OTHER INFORMATION

Other Information