

Safety Data Sheet

#21527575 · Full 16-section SDS

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

PRODUCT	CAS NUMBER	FORMULA	VERSION	REVISION DATE
Aluminium fluoride trihydrate	15098-87-0	AlF3·3H2O	10	17 Aug 2026

SECTION 1

Identification

Product name	Aluminium fluoride trihydrate
CAS number	15098-87-0
Chemical formula	AlF3·3H2O
Molecular weight	138.02
SMILES	O.O.O.[F-].[F-].[F-].[Al+3]
EC / EINECS number	627-042-8
Recommended use & restrictions	For research and development. Laboratory chemicals. Manufacture of substances. Not suitable for human or veterinary purposes
Emergency telephone	0344 892 0111 — National Poisons Information Service (NPIS) (United Kingdom — for healthcare professionals (via TOXBASE))

SECTION 2

Hazard identification



WARNING

CODE	HAZARD STATEMENT
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
CODE	PRECAUTIONARY STATEMENT
P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P264	Wash thoroughly after handling
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302+P352	IF ON SKIN: Wash with soap and water
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do, continue rinsing
Other hazards (e.g. PBT / vPvB, not classified)	Weak hydrogen fluoride releaser. Fluoride ion exposure can reduce serum calcium and may cause hypocalcaemia and cardiac effects. No PBT/vPvB components at $\geq 0.1\%$ and no endocrine-disrupting components at $\geq 0.1\%$.

SECTION 3

Composition / information on ingredients

Purity / concentration	97% nominal supplier grade
Impurities / stabilising additives	No stabilising additives identified.

SECTION 4

First-aid measures

Inhalation	Remove person to fresh air. Keep comfortable for breathing. If breathing is difficult or irritation persists, obtain medical attention.
Skin contact	Remove contaminated clothing. Rinse skin thoroughly with water/shower for at least 15 minutes. Seek medical attention if irritation persists.
Eye contact	Rinse cautiously with plenty of water for at least 15 minutes, including under eyelids. Remove contact lenses if present and easy to do. Obtain medical attention.
Ingestion	Do not induce vomiting. Rinse mouth. Give water if the person is conscious and able to swallow. Obtain medical attention / poison-centre advice.
Symptoms / effects & medical attention	May cause gastrointestinal effects after ingestion, skin and eye irritation, and respiratory irritation from dust. Fluoride exposure may produce delayed systemic effects including hypocalcaemia and cardiac arrhythmias.

SECTION 5

Fire-fighting measures

Suitable extinguishing media	Use extinguishing measures appropriate to the surrounding fire and local conditions.
Unsuitable extinguishing media	No specific firefighting procedure given
Special hazards	Non-combustible. In a fire or under severe thermal decomposition, toxic/irritating fumes may form, including gaseous hydrogen fluoride (HF) and aluminium oxide.
Advice for firefighters	Wear self-contained breathing apparatus and full protective clothing. Avoid inhalation of dust/fumes and prevent skin contact. Prevent contaminated firefighting water from entering drains or watercourses.

SECTION 6

Accidental release measures

Personal precautions & PPE	Avoid dust formation and inhalation. Ensure adequate ventilation. Avoid contact with skin and eyes. Wear gloves, eye protection and suitable protective clothing; use respiratory protection if dust concentrations may exceed exposure limits.
Environmental precautions	Prevent entry into drains, soil and watercourses. Do not release to the environment.
Containment & clean-up methods	Cover drains. Collect carefully using methods that minimise dust. Sweep/shovel or otherwise collect into suitable closed containers for disposal.

For specific precautions, see Section 8 and Section 13.

SECTION 7

Handling & storage

Storage temperature	Ambient
Precautions for safe handling	Avoid dust formation and inhalation. Ensure adequate ventilation. Avoid contact with skin and eyes.
Conditions for safe storage (incompatibilities)	Tightly closed, cool/dry/well ventilated. Avoid excess heat, moisture, strong acids and strong oxidising agents.

SECTION 8

Exposure controls / personal protection

Occupational exposure limits (OEL / WEL)	UK TWA 2 mg/m ³ and STEL 6 mg/m ³ ; EU/Irish TWA 2.5 mg/m ³ and STEL 7.5 mg/m ³ .
DNEC/PNEC data	Chronic systemic dermal DNEL 0.068 mg/kg bw/day; chronic systemic inhalation DNEL 0.047 mg/m ³ ; PNEC fresh water 0.106 mg/L.
Eye / face protection	Safety glasses Wear eye/face protection as recommended. All eye/face protection should comply with EN ISO 16321-1:2022.
Skin / hand protection	Chemical-resistant gloves and suitable protective clothing
Respiratory protection	Dust mask (FFP2/FFP3) Keep self-contained breathing apparatus readily available for emergency use. Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided. Respiratory equipment: Reusable Air-Purifying Respirator (APR). Filter type: ABEK. Standard: EN 14387.

SECTION 9

Physical & chemical properties

Density (g/mL)	1 g/mL DERIVED FROM: LITERATURE
Flash point	Not applicable
Acidity	Neutral DERIVED FROM: LITERATURE
Appearance / physical state	Powder DERIVED FROM: LITERATURE
Colour	White DERIVED FROM: LITERATURE
Odour	Odourless DERIVED FROM: LITERATURE
Melting / freezing point	Approx. 250 °C (dehydration) DERIVED FROM: LITERATURE
Boiling point	No date available DERIVED FROM: LITERATURE
Solubility (water)	Slightly soluble in water DERIVED FROM: LITERATURE
pH	Not applicable
Vapour pressure	No date available DERIVED FROM: LITERATURE
Partition coefficient (log Pow)	No date available DERIVED FROM: LITERATURE
Auto-ignition / decomposition temp	No date available DERIVED FROM: LITERATURE

SECTION 10

Stability & reactivity

Chemical stability / reactivity	Stable under normal ambient conditions.
Conditions to avoid	Excess heat, moisture and dust formation.
Incompatible materials	Strong acids; strong oxidising agents.
Hazardous decomposition products	Hydrogen fluoride and aluminium oxide.

SECTION 11

Toxicological information

Acute toxicity (LD50 / LC50)	Oral LD50 500.1 mg/kg Ref: External SDS
Skin corrosion / irritation	Causes skin irritation.
Eye corrosion / irritation	Causes serious eye irritation.
Respiratory / skin sensitisation	No data available. No data available
Carcinogenicity	No carcinogenic chemicals known in this product
Mutagenicity	<i>No data available</i>
Reproductive toxicity	<i>No data available</i>
STOT (single / repeated exposure)	May cause respiratory irritation (single exposure).
Aspiration hazard	<i>No data available</i>
Endocrine disruptors	<i>No data available</i>

SECTION 12

Ecological information

Aquatic toxicity	Not regarded as dangerous for the environment. No data available
Persistence & degradability	May persist.
Bioaccumulative potential	May have some potential to bioaccumulate.
Mobility in soil	Not likely mobile in the environment.
PBT / vPvB assessment	Not identified as PBT/vPvB.

SECTION 13

Disposal considerations

Waste treatment / disposal methods	Dispose of in accordance with local, regional and national regulations; treat as chemical/hazardous laboratory waste.
---	---

SECTION 14

Transport information

UN number	Not applicable
Proper shipping name	Not applicable
Class	Not applicable
Packing group	Not applicable
Transport category	Not applicable
Tunnel code	Not applicable
Packing instruction (ADR)	Not applicable
Packing instruction (IMDG)	Not applicable
Environmental hazards	Not applicable
Special precautions for user	Not applicable



SECTION 15

Regulatory information

REACH code	Y110
UFI code	Not applicable
ECHA notification	ECHA C&L summary reports 3 notifications covering 68 reports, with 94.1% of reporting classifications supporting Acute Tox. 4, skin irrit 2, eye irrit 2 and STOT SE 3
Chemical safety assessment carried out?	No

SECTION 16

Other information

Revision notes / other information	Not regulated for transport (ADR/RID, IMDG, IATA). Last revised 10-Oct-2019 - Recent update 16-Aug-2026 According to REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577.
------------------------------------	---

This Safety Data Sheet was generated automatically from the data Molekula holds against this product, in the 16-section GHS/CLP format. Fields shown as "No data available" carry no recorded value; fields shown as "Not applicable" were assessed as not relevant to this substance. For queries, contact Molekula at info@molekula.com.