

SAFETY DATA SHEET

Fluorite (acid grade, metallurgical grade or ceramic grade)

Data of issue: 28/08/2018

Version: 6

According to Article 31.3 of Regulation 1907/2006/EC the product, being a substance not classified in accordance with Regulation 1272/2008/EC but presenting a community exposure limit on the workplace, need an SDS on request.

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: Fluorite (acid grade, metallurgical grade or ceramic grade)
Registration number REACH Substance included in Annex V of Regulation (EC) 1907/2006 exempted from registration in accordance with Art. 2 paragraph 7 of that.
CE name: Fluorite (CaF₂)
Product description: Odourless, orange to tan crystalline solid
Metallurgical grade 0,6 – 60 mm;
Acid grade and ceramic grade 0.05 – 0.3 mm
Other means of identification: Calcium fluoride (or difluoride); Fluorite; Acid-spar; Calcium fluoratum; Liparite; Metspar, Natural fluorite

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Flux in ferrous metallurgy; Production of glass and hydrofluoric acid

1.3 Details of the supplier of the safety data sheet

TECNOSIDER SRL
VIA GIOVANNI BRASI 4
24065 LOVERE (BERGAMO) ITALIA
TEL +39 035 962104
FAX +39 035 983505
INFO@TECNOSIDERSRL.COM

1.4. Emergency telephone number:

European emergency telephone number: 112

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

The product is not classified as hazardous according to the provisions of Regulation (EC) 1272/2008 (CLP) (and subsequent amendments).

2.2 Label elements

Hazard pictograms: none
Signal word: none
Hazard statements: none
Precautionary statements: not applicable

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Annex XIII: Not applicable

Other hazards which do not result in classification:

Handling and / or use of this material may generate a dust which can cause irritation to the respiratory tract and the eyes.

Repeated exposure by inhalation to levels well above the occupational exposure limit may produce adverse effects on the bones (fluorosis). This may also occur following the repeated ingestion of small amounts. The absorption of fluoride can cause metabolic imbalances with irregular heartbeat, nausea, dizziness, vomiting and convulsions.

In relation to the type of use you can generate airborne respirable crystalline silica. Prolonged and massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly known as silicosis. The main symptoms of silicosis include coughing and difficulty breathing. Exposure at work to respirable crystalline silica dust should be monitored and kept under control.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance

Substance identification:

Product / ingredient name	Identifiers	%	Classification according to Regulation (CE) N. 1272/2008 (CLP)
Calcium fluoride (substance found in nature)	CE: 238-575-7 CAS: 14542-23-5	80 - 98	Not classified
Quartz (impurity)	CE: 238-878-4 CAS: 14808-60-7	0.9 – 7.5	Not classified STOT RE 1, H372 ^(a)

(a) Respirable fine fraction

This product contains quartz (respirable fine fraction) classified STOT RE 1 (H372) in concentrations lower than 1%. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. The full text of classification and hazard statements are listed in section 16.

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact: Immediately irrigate with water, holding the eyelids apart, for at least 10 minutes. Obtain medical attention.

Skin contact: Remove contaminated clothing. Wash skin with soap and water.

Inhalation: Remove patient from exposure, keep warm and at rest. If symptoms develop, obtain medical attention.

Ingestion: Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. If symptoms develop, obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

The chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 Indication of any immediate medical attention and special treatment needed

Notes for physician: Symptomatic treatment. In the event that large quantities of product are ingested or inhaled, immediately contact a poison control center.

Specific treatments: No specific treatment.

SECTION 5 FIREFIGHTING MEASURES

5.1 General

The product is not flammable.

Suitable extinguishing equipment: Use extinguishing equipment according to the possible presence of other chemicals.

Unsuitable extinguishing equipment: Do not use a water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
hydrogen fluoride
Calcium fluoride decomposes at 1500°C to liberate fluorine gas.

5.3 Advice for firefighters

Special precautions for fire-fighters:

Move containers from fire area if this can be done without risk. Use water fire-fighters spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters:

Appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode must be worn. Clothing for fire-fighters (including helmets, protective boots and gloves), conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Ensure suitable personal protection (including a suitable dust mask) during removal of spillages.

6.2 Environmental precautions

Avoid dispersal of spilled material and contact with soil, waterways, sewage.

6.3 Methods and materials for containment and cleaning up

Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Use spark-proof tools and explosion-proof equipment. Dispose via a licensed waste disposal contractor.

6.4 Reference to other sections

See Sections 8 and 13 for further advice.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Protective measures: Avoid contact with eyes. Avoid prolonged skin contact. Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Advice on general occupational hygiene:

Eating, drinking and smoking should be prohibited in areas where this material is occupational hygiene handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures..

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store away from incompatible materials, such as strong acids.

7.3 Specific end use(s)

Manufacture of hydrogen fluoride; manufacture of glass; metallurgical fluxing agent.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Calcium fluoride	Europe OEL TWA: 2.5 mg/m ³ , (inorganic fluorides, expressed as F) 8h.
Respirable crystalline silica powder	Europe OEL TWA: 0.1 mg/m ³ , (inhalable fraction) 8h.

8.2 Exposure controls

Engineering Controls:	It is advisable to adopt a good general ventilation (typically 10 air changes per hour). The fan speed must correspond to the operating conditions. If applicable, use enclosures for the process, local exhaust ventilation or other engineering controls to keep dust levels in the air below the recommended exposure limits. If you have not established exposure limits, keep dust levels emitted into the air at an acceptable level.
Hygiene measures:	Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Eye protection:	Are advised to wear face shield and goggles with side protection conforming to EN 166 when handling product.
Hand protection:	Wear suitable protective clothing, gloves.
Skin protection:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved.
Respiratory protection:	In case of exposure to concentrations of the substance above the limit values of exposure use a suitable protection device corresponding to the level of exposure known or predicted and comply with relevant EN (filtering facepiece certified UNI EN 149 or dust masks certified UNI EN 140).
Environmental exposure controls:	Any emissions from ventilation or work process equipment should be checked to ensure compliance with the requirements of environmental protection legislation.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on fundamental physical and chemical properties

Physical state:	Solid. [Orange to tan/Crystalline powder.] Metallurgical grade 0.6 – 30 mm approximately; Acid and Ceramic grades: 0.05 - 0.3 mm approximately.
Colour:	white to tan [Light]
Odour:	Odourless.
Odour threshold:	Not applicable.
pH:	7 – 8 (aqueous slurry).
Melting point/freezing point:	1420°C
Initial boiling point and boiling range:	2500°C
Flash point:	Not applicable to inorganic substance.
Evaporation rate:	Not applicable.
Flammability:	Not applicable.
Burning time:	Not available.
Burning rate:	Not available.
Upper/lower flammability or explosive limits:	Not applicable.
Vapour pressure:	not required for substances with a melting point > 300°C.
Vapour density:	Not applicable, inorganic solid.
Relative density:	3.18
Specific gravity:	Not available.
Solubility (water):	Insoluble.
Partition coefficient octanol/water:	Not required for inorganic substances.
Auto-ignition temperature:	Not applicable.
Decomposition temperature:	Not applicable for substances with a melting point > 300°C.
Viscosity:	Not applicable, solid substance.
Explosive properties:	Not available.
Oxidising properties:	Not applicable.

9.2 Other information

No additional information.

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Exposure to some strong acids may liberate hydrogen fluoride, which is corrosive and toxic.

10.2 Chemical stability

The product is stable in normal conditions of use and storage.

10.3 Possibility of hazardous reactions

Possibility of toxic release of hydrofluoric gases at temperatures above 1000°C in the presence of moisture in the air.

Exposure to some strong acids may liberate hydrogen fluoride, which is corrosive and toxic.

10.4 Conditions to avoid

High temperature (above 1000°C).

Contact with hot concentrated sulfuric acid: Possibility of production of hydrofluoric acid (Hydrogen fluoride).

10.5 Materials to avoid

Strong acids, oxidizing agents, water.

10.6 Hazardous decomposition products

Reactive with acids. Exposure to some strong acids may liberate hydrogen fluoride, which is corrosive and toxic.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

No specific product data is available.

Acute Toxicity

LC50 (Inhalation - vapor) substance: Not classified

LC50 (Inhalation - mist / dust) substance: Not classified

LD50 (Oral) substance: Not classified (LD₅₀ (Oral) Calcium fluoride = 4250 mg/kg (rat))

LD50 (Dermal) substance: Not classified

Skin corrosion/irritation

Does not meet the classification criteria for this hazard class.

Repeated or prolonged contact may result in dryness leading to mild irritation.

Serious eye damage/irritation

Does not meet the classification criteria for this hazard class.

Respiratory or skin sensitisation

Does not meet the classification criteria for this hazard class.

Germ cell mutagenicity

Does not meet the classification criteria for this hazard class.

Carcinogenicity

Does not meet the classification criteria for this hazard class.

Reproductive toxicity

Does not meet the classification criteria for this hazard class.

STOT-single exposure

Does not meet the classification criteria for this hazard class.

STOT-repeated exposure

Does not meet the classification criteria for this hazard class.

Repeated exposure by inhalation to levels well above the occupational exposure limit may produce adverse effects on the bones (fluorosis). This may also occur following the repeated ingestion of small amounts. Crystalline silica can cause silicosis or other lung problems after prolonged exposure.

Aspiration hazard

Does not meet the classification criteria for this hazard class.

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity data: LC₅₀ Fish 125 mg/l(48h, Oncorhynchus mykiss, CaF₂)

12.2 Persistence and degradability

There are no data on the degradability of this product.

12.3 Bioaccumulative potential

It has bioaccumulation potential.

12.4 Mobility in soil

The material is essentially insoluble in water and can therefore be separated from aqueous medium by sedimentation and filtration processes at an effluent treatment plant.

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No known significant effects or critical hazards.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Method of disposal: Disposal should be in accordance with local, state or national legislation.
The generation of waste should be avoided or minimised wherever possible.
Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC

SECTION 14 TRANSPORT INFORMATION

The product does not fall within any class of danger for the transport of dangerous goods and are not, therefore, subject to the relevant modal regulations: IMDG (sea), ADR (road), RID (rail), ICAO / IATA (air).

Fluorspar is prone to liquefaction during bulk transport by sea. It is also liable to release fluorine if heated to decomposition, or hydrogen fluoride in contact with strong acids. Therefore under the International Maritime Solid Bulk Cargoes Code (IMSBC Code) it is rated as a Group A Group B cargo and the appropriate procedures must be followed.

14.1 UN Number

Not relevant.

14.2 UN proper shipping name

Not relevant.

14.3 Transport hazard class

Not relevant.

14.4 Packing group

Not relevant.

14.5 Environmental hazards

Not relevant.

14.6 Special precautions for user

Not relevant.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not relevant.

SECTION 15 REGULATORY INFORMATION

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

Fluorspar is a substance found in nature and therefore has exemptions under the REACH Regulation.

Annex XVII - Restrictions placing on the market and use of certain dangerous substances, mixtures and Articles:

Not applicable.

Other UE regulations: Non applicable.

Europe inventory: All components are listed or exempted.

Black List Chemicals: Not listed.

Priority List Chemicals: Listed.

Integrated pollution prevention and control list (IPPC) - Air: Listed.

Integrated pollution prevention and control list (IPPC) - Water: Not listed.

15.2 Chemical Safety Assessment

Being the substance exempt from registration pursuant to Art. 2, paragraph 7 of Regulation (EC) No. 1907/2006, it is not subject to the obligation of the chemical safety assessment.

SECTION 16 OTHER INFORMATION

This Safety Data Sheet has been prepared in accordance with the Regulations 1907/2006 / EC, 830/2015 / EU and 1272/2008 / EC. Revision of the section 8, 11, 16.

Main bibliographic sources

Regulations (CE) 1907/2006 of the European Parliament (REACH)

Regulations (CE) 1272/2008 of the European Parliament (CLP)

Regulations (CE) 790/2009 of the European Parliament (I Atp. CLP)

Regulations (UE) 830/2015 of the European Parliament

Regulations (CE) 286/2011 of the European Parliament (II Atp. CLP)

Regulations (CE) 618/2012 of the European Parliament (III Atp. CLP)

Regulations (CE) 487/2013 of the European Parliament (IV Atp. CLP)

Regulations (CE) 944/2013 of the European Parliament (V Atp. CLP)

Regulations (UE) 605/2014 of the European Parliament (VI Atp. CLP)

Regulations (UE) 2015/1221 of the European Parliament (VII Atp. CLP)

European Parliament Regulation (EU) 2016/918 (VIII Atp. CLP)

European Parliament Regulation (EU) 2016/1179 (IX Atp. CLP)

Limits exposure to chemicals in the workplace:

• OEL EU: Direttive 2017/2389/UE; 2017/164/UE; 2009/161/UE; 2006/15/CE; 2004/37/CE; 2000/39/CE.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]: Not classified

Full text of classification and hazard statements

STOT RE 1: Specific target organ toxicity — repeated exposure, Category 1

H372i: Causes damage to organs in the event of prolonged or repeated exposure. Inhalation (Lungs)

Classification and procedure used to derive it under the Regulation 1272/2008/CE

Classification according to Reg. 1272/2008/CE	Classification procedure
STOT RE (Category 1)	Calculation method*

* The calculation method has been applied conservatively considering the variability of the natural product.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.