

MATERIAL SAFETY DATA SHEET

According to Annex II of EC Regulation No. 1907/2006 concerning REACH
Regulation (EC) 1272/2008 and Regulation (EC) 453/2010

Revised: 19.9.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name
Material

FLUORITE

KF

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

There are three principal types of industrial use for fluorite, corresponding to different grades of purity. Metallurgical grade fluorite, the lowest of the three grades, has traditionally been used as a flux to lower the melting point of raw materials in steel production to aid the removal of impurities, and later in the production of aluminum. Ceramic (intermediate) grade fluorite is used in the manufacture of opalescent glass, enamels and cooking utensils. The highest grade, acid grade fluorite, is used to make hydrofluoric acid by decomposing the fluorite with sulfuric acid. Hydrofluoric acid is the primary feedstock for the manufacture of virtually all organic and inorganic fluorine-containing compounds, including fluoro-polymers and per fluorocarbons, and is also used to etch glass.

14542-23-5

238-575-7

1.2.1. CAS

1.2.2. EINECS

Details of the supplier of the safety data sheet

Identification of the company

FLUORIT TEPLICE s.r.o.

Address

Důlní 428
415 01 Teplice
Czech Republic
482 643 77
tel: +420 417 940 111

Phone number

Address of the competent

Person responsible for the Safety Data Sheet.

strejc@fluorit.cz
Tel.: +420 728 107 308

1.4. Emergency telephone number

Toxikologické informační středisko (TIS), Klinika nemocí z povolání,
Na Bojišti 1, Praha 2

Nouzové telefonní číslo: +420 224 919 293, +420 224 915 402

Responsible for receiving information relating to health.

fluorspar, fluorite, Fluorspar, flu spat, met-spar, acid-spar,
fluorspar, fluorite, calcium fluoride, calcium di fluoride
spar-flu

1.5. Synonyms

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture Classification according EC Regulation EC 1272/2008, as amended)

The product is not classified as dangerous according to EC directives/the relevant national laws.

2.2. Label elements

Labeling in accordance with EC Regulation EC 1272/2008.

The product does not require a hazard warning label,

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2.3. Other hazards

Non-flammable, yellow, white, gray and light brown powder. Inhalation of high concentrations may cause transitory upper respiratory irritation. Particulate matter may scratch the eyes. This product may contain small amounts of crystalline silica (< 0.2%). Inhalation of high dust concentrations may result in over-exposure. Avoid dust creation. Do not inhale dusts from this product. Do not use compressed air or dry sweeping to remove dusts from the work area. Use appropriately equipped vacuum or wet clean-up methods to remove dusts. TWA; LV 2,5 mg/m³.

Substance is not classified as dangerous according to Directive 1999/45/EC. Fluorite is substances which occur in nature; minerals. See Annex REACH

Inhalation of high concentrations may cause transitory upper respiratory irritation.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Product includes CaF₂ (> 95 %), SiO₂ (< 3 %), CaCO₃ (< 3 %).

Product contains no hazardous substances.

Fluorite is not chemically modified. The following substances which occur in nature: Minerals, ores, ore concentrates, raw and processed natural gas, crude oil, coal.

3.2. Classification of the substance

Substance is not classified as dangerous according to Directive 1999/45/EC."ANNEX V EXEMPTIONS FROM THE OBLIGATION TO REGISTER IN ACCORDANCE WITH ARTICLE 2(7)(b)

3.2.1. a) substances presenting a health or environmental hazard . **None.**

CAS	EINECS	Description	concentrations	concentration limits
-----	--------	-------------	----------------	----------------------

3.2.2. b) Substances for which there are Community workplace exposure limits, which are not already included under point 3.2.1. a)

CAS	EINECS	Description	concentrations	concentration limits
-----	--------	-------------	----------------	----------------------

Substance	CAS	PEL	NPK-P	Notes	Factor
		mg.m ⁻³			ppm
Fluoride, inorganic		2,5	-		-

3.2.3. c) substances that are persistent, bioaccumulative and toxic or very persistent and very bioaccumulative in accordance with the criteria set out in Annex XIII, if the concentration of an individual substance is equal to or greater than 0,1 %. **None.**

CAS	EINECS	Description	concentrations	concentration limits
-----	--------	-------------	----------------	----------------------

3.4. The classification of the above substances

CAS	EINECS	Description	concentrations	concentration limits
-----	--------	-------------	----------------	----------------------

3.5. The name and the Registration number

**COMMISSION REGULATION (EC) No 987/2008
of 8 October 2008 amending Regulation (EC) No 1907/2006
of the European Parliament and of the Council on the**

Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) as regards Annexes IV and V

ANNEX II, ANNEX V EXEMPTIONS FROM THE OBLIGATION TO REGISTER IN ACCORDANCE WITH ARTICLE 2(7)(b) :...

7. The following substances which occur in nature, if they are not chemically modified: Minerals, ores, ore concentrates, raw and processed natural gas, crude oil, coal.

Minerals – **fluorite**.

3.6. Chemical nature

SECTION 4: First aid measures

4.1. Description of first aid measure General information

Hazard is principally that of a nuisance dust. Coughing or shortness of breath may occur in cases of excessive inhalation.

After inhalation

If inhaled, remove from exposure and provide plenty of fresh air. Get medical attention for any breathing difficulty.

After contact with skin

Wash with soap and fresh water.



After contact with eyes

Flush immediately with large amounts of water at least 10 min. as a precautionary measure, lifting upper and lower eyelids occasionally. Get medical aid if irritation persists.



After ingestion

Do not induce vomiting. Rinse mouth out. Take to a physician for medical treatment.

4.2. Most important symptoms and effects, both acute and delayed

Administration of calcium disodium EDTA may be useful in acute poisoning with its use at the discretion of qualified medical personnel.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Treatment

SECTION 5: Firefighting measures

General information's

Non-flammable, non-combustible. Product will not burn.

5.1. Extinguishing media

Use media appropriate for surrounding fire.

Suitable extinguishing media

5.2. Special hazards arising from the substance or mixture

None.

5.3. Advice for firefighters

At temperature above 1500 °C creates F2.

Special protective equipment for firefighting

Firefighters should wear a NIOSH approved full-face piece self-contained breathing apparatus (SCBA) operated in positive pressure mode and full turnout or bunker gear.

If in contact with strong acids or steam under fire conditions, calcium fluoride may yield highly irritating fumes of hydrogen fluoride

Further information

When heated to decomposition, CaF₂ emits toxic fumes of F. Wear protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

At possibilities dusting use personal protective set out. Avoid dust formation. In case of exposure to dust over regulatory limits, wear a personal respirator in compliance with national legislation.

6.2. Environmental precautions

No special requirements.

6.3. Methods and material for containment and cleaning up

Isolate hazard area and deny entry to unauthorized and/or unprotected personnel. Do not walk through or otherwise scatter spilled material. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of crystalline silica (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use a fine spray or mist to control dust creation and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE DRY SWEEPING OR COMPRESSED AIR TO CLEAN SPILLS. Appropriate protective equipment including respiratory protection is essential for all clean-up personnel.

6.4. Reference to other sections

13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment. Preferable work out fluorite flour through wet processor or with machines working under vacuum system. Your supplier can advise you on safe handling, please contact him.

Hygiene measures

Use only in well-ventilated areas.

Avoid skin and eye contact.

When using do not eat, drink or smoke.

Wash hands before breaks and immediately after handling the product.

Ensure adequate ventilation, especially in confined areas.

Extraction is necessary to remove fumes evolved during reflow.

Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Fulfill exposure limits: common bottoms up-positional limit for the rest dust CZECH: 10,0mg/m³.

Advice on protection against fire and explosion

7.2. Conditions for safe storage, including any incompatibilities

Advice on storage compatibility

Ensure trapping of dust produced during the loading of silos. Keep containers closed and store the bagged products in a way preventing accidental bursting. Product is not hygroscopic.

Quantity limits under storage conditions.

None

Type of material used in the packaging/containers

None.

7.3. Specific end use(s)

Recommendations

When mixing with other substances the above substances the above mentioned safe advice shall apply.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

Exposure limits: common bottoms up-positional limit for the rest dust CZECH: 10,0mg/m³. Respect regulatory for dust (total dust and respirable crystalline silica dust). OEL – Occupational Exposure Limits) for respirable dust in the workplace is various in other countries.

Chemical Name
Calcium fluoride

ACGIH
2.5 mg/m³ TWA (as F)

NIOSH
2.5 mg/m³ TWA

OSHA - Final PELs
2.5 mg/m³ TWA (as F)

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(listed under Fluorides).

(inorganic solids, as F)
(listed under Fluorides,
inorganic).

(listed under
Fluorides). 2.5 mg/m³
TWA (as F) (listed under
Fluorides).

Exposure limit values valid for foreign
countries

ACGIH 2.5 mg/m³ TWA (as F)

NIOSH 2.5 mg/m³ TWA

OSHA - Final PELs 2.5 mg/m³ TWA

ACGIH American Conference of Governmental Industrial Hygienists

NIOSH National Institute for Occupational Safety and Health

OSHA Occupational Safety and Health Administration

TWA Time Weighted Average

TWA = 2.5 mg/m³ (Inhalable Fraction) PEAK = 5·MAK 30 min.

ORGANIZATION

American Conference of Governmental
Industrial Hygienists (ACGIH) Threshold
Limit Value

Mine Safety and Health Administration
(MSHA) STANDARD - air

Occupational Safety and Health
Administration (OSHA) Permissible
Exposure Limit (General Industry)

Occupational Safety and Health
Administration (OSHA) Permissible
Exposure Limit (Construction)

Occupational Safety and Health
Administration (OSHA) Permissible
Exposure Limit (Shipyards)

Occupational Safety and Health
Administration (OSHA) Permissible
Exposure Limit (Federal Contractors)

Occupational Exposure Limit -
AUSTRALIA

Occupational Exposure Limit - AUSTRIA

Occupational Exposure Limit - BELGIUM

Occupational Exposure Limit - FINLAND

Occupational Exposure Limit - FRANCE

Occupational Exposure Limit -
GERMANY

Occupational Exposure Limit -
HUNGARY

Occupational Exposure Limit - NORWAY

Occupational Exposure Limit - THE
PHILIPPINES

Occupational Exposure Limit - POLAND

Occupational Exposure Limit - RUSSIA

Occupational Exposure Limit - SWEDEN

Occupational Exposure Limit -
SWITZERLAND

Occupational Exposure Limit -
THAILAND

Occupational Exposure Limit - UNITED
KINGDOM

Occupational Exposure Limit - UNITED
KINGDOM

Occupational Exposure Limit IN
ARGENTINA, BULGARIA, COLOMBIA,
JORDAN, KOREA

Occupational Exposure Limit IN NEW
ZEALAND, SINGAPORE, VIETNAM

DNEL/DMEL values

STANDARD

time-weighted average 2.5 mg(F)/m³

time-weighted average 2.5 mg(F)/m³

8 hour time-weighted average 2.5 mg(F)/m³

8 hour time-weighted average 2.5 mg(F)/m³

8 hour time-weighted average 2.5 mg(F)/m³

8 hour time-weighted average 2.5 mg(F)/m³

time-weighted average 2.5 mg(F)/m³, JAN1993

MAK 2.5 mg(F)/m³, JAN1999

time-weighted average 2.5 mg(F)/m³, JAN1993

time-weighted average 2.5 mg(F)/m³, JAN1999

VME 2.5 mg(F)/m³, JAN1999

MAK 2.5 mg(F)/m³, JAN1999

time-weighted average 1 mg(F)/m³, short term exposure limit 2
mg(F)/m³, JAN1993

time-weighted average 0.6 mg(F)/m³, JAN1999

time-weighted average 2.5 mg(F)/m³, JAN1993

MAC(time-weighted average) 1 mg(HF)/m³, MAC(short term
exposure limit) 3 mg(HF)/m³, JAN1999
time-weighted average 0.5 mg/m³, short term exposure limit 2.5
mg/m³, JUN2003

NGV 2 mg(F)/m³, JAN1999

MAK- week 1.8 ppm (1.5 mg(F)/m³), KZG- week 3.6 ppm (3.0
mg(F)/m³), JAN1999

time-weighted average 2.5 mg(F)/m³, JAN1993

time-weighted average 2.5 mg(F)/m³, SEP2000

LTEL 2.5 mg(F)/m³, JAN1993

American Conference of Governmental Industrial Hygienists (ACGIH)
Threshold Limit Value;

Not classifiable as a human carcinogen

American Conference of Governmental Industrial Hygienists (ACGIH)
Threshold Limit Value

Not classifiable as a human carcinogen

DNEL/DMEL values are not available.

PNEC values

PNEC values are not available.

8.2. Exposure controls

General protective measures

Ventilation
System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Appropriate work processes

Restraint exposition: Ensure sufficient ventilation. At work no-smoke. Do not such activities, that can lead to lofty and swirl dusty, fine seeding.

Application of collective protection measures at source, such as adequate ventilation and appropriate organizational measures
Individual protection measures

Ensure adequate ventilation, especially in confined areas.
Extraction is necessary to remove fumes evolved during reflow.

Respiratory protection



Respirator at rise dust at pickling with products. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hand protection

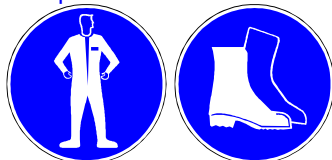


Utility gloves.

Eye protection

None. Only at very dusty environment it can be use protective safety glasses.

Skin protection



Fit overall and footwear.

8.2.2 Environmental exposure controls

None. Fluorite is substances which occur in nature; minerals.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Form (at 20 oC, norm, pressure):

Colors

Odor

Solid

White, yellowish, grayish brownish, powder

Odorless

9.2. Other information

pH value 20 °C

Density (at 20 °C)

Solubility (at 20 °C)

Solubility (at 20 oC) In oil (inclusive specifications oil)

Explosive properties

Oxidising properties

Vapour pressure

Evaporation rate

NA. Solid - insoluble in waters

3,176- 3,180 (water = 1)

Very slightly .0016g/100ml

Isn't fixed term

None.

None.

not applicable

not applicable

Viscosity not applicable
Partition coefficient: n-octanol/water Isn't fixed term

Temperature (melting) (°C) 1403°C
Temperature (boiling) (°C) 2593°C
Flash-point (°C) unstipulated
Auto-ignition temperature unstipulated

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability Stable under ordinary conditions of use and storage.

10.3. Possibility of hazardous reactions With strong inorganic acid

10.4. Conditions to avoid

Materials Strong inorganic acid
10.5. Incompatible materials Reacts with hot concentrated sulfuric acid to liberate hydrogen fluoride.

10.6. Hazardous decomposition products

Type of dangerous substances liberated during reaction hydrogen fluoride – strong acid
Need for and the presence of stabilizers Thermal decomposition – fluorine.
Possibility of a hazardous exothermic reaction Has not been reported
Hazardous decomposition products, if any, formed upon contact with water Has not been reported
Possibility of degradation to unstable products Has not been reported under ordinary conditions

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity_ CAS# 7789-75-5
Acute toxicity Nontoxic.

ORL-RAT LD50 4250 mg kg-1
IPR-RAT LD50 > 1500 mg kg-1
IPR-MUS LD50 > 2638 mg kg-1

Chronic toxicity
Epidemiology
Teratogenicity No information found
Reproductive Effects No information found
Mutagenicity No information found
Neurotoxicity No information found
Sub chronic - chronic toxicity Not known
Sensitization Not known
Toxicity for reproduction Not known
Carcinogenicity Not listed by ACGIH, IARC, NTP, or CA Prop 65.

ROUTE/ ORGANISM	DOSE	EFFECT
intraperitoneal mouse	lowest published toxic dose: 3,200 mg/kg (9 day pregnant)	Reproductive: Effects on fertility: Post- implantation mortality (e.g., dead and/or resorbed implants per total number of implants)

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intraperitoneal lowest published toxic dose: Reproductive: Other developmental abnormalities
mouse 67,200 mg/kg (1-21 day pregnant)

ROUTE/ ORGANISM	DOSE	EFFECT
intraperitoneal mammal (species unspecified)	lethal dose : >10 gm/kg	N/R
intraperitoneal mouse	lethal dose (50 percent kill): 2,638 mg/kg	N/R
intraperitoneal rat	lethal dose (50 percent kill): >1,500 mg/kg	N/R
oral guinea pig	lowest published lethal dose: >5 gm/kg	N/R
oral rat	lethal dose (50 percent kill): 4,250 mg/kg	Behavioral: Somnolence (general depressed activity) Behavioral: Ataxia Lung, Thorax, or Respiration: Respiratory depression
oral rat	lethal dose (50 percent kill): 4,417 mg/kg	N/R

SECTION 12: Ecological information

12.1. Ecotoxicity

aquatic toxicity, both acute and
chronic for fish, crustaceans, algae
and other aquatic plants. Not known

Information related to the product itself:

LC₅₀, 96 throw. Fish (mg.kg-1) Not known
EC₅₀, 48 throw. Daphnia (mg.kg-1) Not known
IC₅₀, 72 throw. Seaweed (mg.kg-1) Not known
CHSK_{Cr} Not known
BSK₅: Not known

12.2. Persistence and degradability

Degradation half lives Substance is not degradable
Degradation in sewage treatment
plants. Insoluble in waters. Substance is not degradable

12.3. Bioaccumulative potential

Accumulation in water Insoluble in waters
bioconcentration factor (BCF) Substance is not bioaccumulative

12.4. Mobility in soil

Distribution to environmental
compartments Insoluble in waters
absorption/desorption Insoluble in waters

12.5. Results of PBT and vPvB assessment

No data available on the product itself .

12.6. Other adverse effects

No data available on the product itself

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues: Dinky quantity is possible remove like other waste: Earth and stone. More take away to producer on overwork. Can be land filled in compliance with local regulations. Packaging – In all cases dust formation from residues in the packaging should be avoided and suitable worker protection be assured. Use sealed receptacles /(stores rooms
01 03 08 Waste code

Product

Uncleaned packaging

Waste code – 15 01 10, other wastes 15 01 01 – paper packaging, 15 01 02 plastic packaging.

Legal regulations about waste

Law No . 185/2001 Sb., as amended
Waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

Section 14.1. to 14.5.

No special data according to ADR.
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

ADR not restricted

ADN not restricted

RID not restricted

IATA not restricted

IMDG not restricted

14.6. Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code (International Bulk Chemicals Code)

No transport as bulk according IBC - Code.

SECTION 15: Regulatory information

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

Other regulations

The substance has not been classified at the EU level, under the dangerous substances and preparations regulation

Information shown on the label

None.

Hazard symbol

None

Hazardous substances

Are not

R-sentences (entire wording)

None

S phrase recommended

S 22

Don't breath dust

S 24/25

Avoid contact with skin and eyes.

S 26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advise

15.2. Chemical safety assessment

No Chemical Safety Assessment (CSA) is yet available for the substance, or for the component substances, contained in this product.

SECTION 16: Other information

List of relevant R phrases.

-

Training advice

Yearly.

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Recommended restrictions on use

-

further information

FLUORIT TEPLICE s.r.o.
Tel.:728 107 308

Sources of key data used to compile
the Safety Data Sheet.

MSDS 2008

Other information's

This Safety data sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

This MSDS has been prepared according to the hazard criteria of the Controlled Products. Regulations (CPR) and the MSDS contains all of the information required by the CPR

Printed: 15.10.2015

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall producer be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if producer has been advised of the possibility of such damages

LEGEND

ACGIH American Conference of Governmental Industrial Hygienists
AICS Australian Inventory of Chemical Substances
CAS Chemical Abstract Services
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CFR Code of Federal Regulations

CPR Cardio-pulmonary Resuscitation

DOT Department of Transportation

DSL Domestic Substances List (Canada)

EINECS European Inventory of Existing Commercial Chemical Substances

ENCS Japan - Existing and New Chemical Substances

EWC European Waste Catalogue

EPA Environmental Protective Agency

IARC International Agency for Research on Cancer

LC Lethal Concentration

LD Lethal Dose

MAK Maximum Workplace Concentration (Germany) "maximale Arbeitsplatz-Konzentration"

NDSL Non-Domestic Substances List (Canada)

NIOSH National Institute for Occupational Safety and Health

NTP National Toxicology Program

OEL Occupational Exposure Limit

OSHA Occupational Safety and Health Administration

PIN Product Identification Number

RCRA Resource Conservation and Recovery Act

SARA Superfund Amendments and Reauthorization Act

STEL Short Term Exposure Limit

TCLP Toxic Chemicals Leachate Program

TDG Transportation of Dangerous Goods

TLV Threshold Limit Value

TSCA Toxic Substances Control Act

TWA Time Weighted Average