

## Safety Information Sheet

*This document must not be considered a safety data sheet according to art. 31 of Regulation (EC) no. 1907/2006 (REACH)*

### SECTION 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name	SYNTHETIC CALCIUM FLUORIDE, REACTION MASS OF CALCIUM FLUORIDE AND CALCIUM SULFATE AND CALCIUM CARBONATE	
Chemical name	SYNTHETIC CALCIUM FLUORIDE WITH CALCIUM SULFATE AND CALCIUM CARBONATE	
EC number	CaF <sub>2</sub> : 232-188-7	CaSO <sub>4</sub> : 231-900-3
CAS number	CaCO <sub>3</sub> : 1317-65-3	CaF <sub>2</sub> : 7789-75-5
Molecular weight	CaSO <sub>4</sub> : 7778-18-9	CaCO <sub>3</sub> : 1317-65-3
Chemical formula	CaF <sub>2</sub> : 78,08 g/mol	CaSO <sub>4</sub> : 136,14 g/mol
	CaSO <sub>4</sub>	CaCO <sub>3</sub> : 100,09 g/mol
	CaF <sub>2</sub>	
Registration number	CaF <sub>2</sub>	01-2119491248-30-0011
Registration number	CaSO <sub>4</sub>	01-2119444918-26-0141

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

Intended use	Fluorspar is used in glass, ceramic and enamel industry.
Uses advised against	Uses other than those indicated above

#### 1.3. Details of the supplier of the safety data sheet

Name	Fluorsid S.p.A.
Full address	2a Strada Macchiareddu
District and Country	09032 Assemini (CA) ITALY
	tel. +39 070 246321
	fax +39 070 2463235

e-mail address of the competent person responsible for the Safety Data Sheet [msds.cagliari@fluorsid.com](mailto:msds.cagliari@fluorsid.com)

#### 1.4. Emergency telephone number

For urgent inquiries refer to  
 Company Emergency telephone number:  
**Fluorsid S.p.A.** Tel . +39 070 246321 (technical support - office hours)

### SECTION 2. Hazards identification

#### 2.1. Classification of the substance or mixture

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements).  
 Hazard classification and indication: --

#### 2.2. Label elements

Hazard pictograms:	--
Signal words:	--
Hazard statements:	--
Precautionary statements:	--

This product is not subject to hazard labeling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

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### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%. Large quantities of dust may be produced during dry-state pulverization.

## SECTION 3. Composition/information on ingredients

### 3.1. Substances

Nr..	Name of compound	Chemical Formula	CAS number	EINECS number	Content (weight%)
1	Synthetic calcium fluoride	CaF <sub>2</sub>	7789 - 75 - 5	232 - 188 - 7	45-50 %
2	Calcium sulphate	CaSO <sub>4</sub>	7778 - 18 - 9	231 - 900 - 3	10-30 %
3	Calcium carbonate	CaCO <sub>3</sub>	1317 - 65 - 3	215 - 279 - 6	1,5-20 %
4	Silicon dioxide	SiO <sub>2</sub>	7631 - 86 - 9	231 - 545 - 4	0,7-10 %
5	Aluminum oxide	Al <sub>2</sub> O <sub>3</sub>	1344 - 28 - 1	215 - 691 - 6	1-8 %
6	Iron trioxide	Fe <sub>2</sub> O <sub>3</sub>	1309 - 37 - 1	215 - 168 - 2	0,4-0,6 %
7	Magnesium Hydroxide	Mg(OH) <sub>2</sub>	1309 - 42 - 8	215 - 170 - 3	0,5-3 %
8	Water	H <sub>2</sub> O	7732 - 18 - 5	231 - 791 - 2	20-30 %

#### Classification 1272/2008 (CLP)

Not classified.

## SECTION 4. First aid measures

#### General notes

No adverse effects are expected during normal use of the substance, however if any effects do appear the following recommendations apply.

#### 4.1. Description of first aid measures

##### Following inhalation:

Following inhalation of large quantities of dust remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

##### Following skin contact:

If some discomfort appears immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

##### Following eye contact:

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

##### Following ingestion:

In the case of accidental swallowing if any symptom appears seek medical attention. Never give anything by mouth to an unconscious person. Get medical attention.

PROTECTIVE MEASURES FOR THE FIRST RESCUE WORKERS: for PPE (personal protection equipment) required for first aid refer to section 8.2 of this informative sheet.

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

No episodes of damage to health ascribable to the product have been reported.

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

Advices are given in section 4.1. No special treatment needed.

## SECTION 5. Firefighting measures

### 5.1. Extinguishing media

#### SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray. The extinguishing media can be chosen according to the surrounding fire.

#### UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

### 5.2. Special hazards arising from the substance or mixture

#### HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

The product under fire condition may develop irritant/toxic gas

The compound can evolve toxic fluoride gases when heated during fire.

### 5.3. Advice for firefighters

#### GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use breathing equipment if powders are released into the air. Ventilate area of leak or spill. Wear appropriate personal protective equipment.

Avoid generation of dust. Special danger of slipping by leaking/spilling product.

These indications apply for both processing staff and those involved in emergency procedures.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

### 6.3. Methods and material for containment and cleaning up

#### *For containment*

All containment for dry substances suitable.

#### *For cleaning up*

Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal

Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

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### SECTION 7. Handling and storage

#### 7.1. Precautions for safe handling

*Protective measures:*

No special provisions if the product is used appropriately.

*Avoid:*

Dust dispersion. Inhalation of dust/particles  
Eye contact

*Measures to prevent fire:*

Product itself does not burn.  
No special fire protection measures are necessary.

*Measures to prevent aerosol and dust generation:*

If technically possible use local exhaust ventilation.

*Measures required to protect the environment:*

No special provisions if the product is used appropriately

*Advice on general occupational hygiene:*

Do not to eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

#### 7.2. Conditions for safe storage, including any incompatibilities

*Packaging materials:*

Keep/store only in original container.

*Requirements for storage rooms and vessels:*

None.

*Hints on storage assembly:*

None. Storage under cover, protected from the weathering and in particular from wind and moisture.  
Store the product in closed containers in order to protect from moisture

*Storage class:*

Non-combustible solids.

Storage in accordance with the BREF: "Emission from storage".

#### 7.3. Specific end use(s)

No use other than as indicated in section 1.2 of this safety data sheet

### SECTION 8. Exposure controls/personal protection

#### 8.1. Control parameters

**Limits of professional exposure**

TLV - TWA = 2,5 mg/m<sup>3</sup> (as F) (IOELV for inorganic fluoride)

**Biological index of exposure (B.I.E.) according to A.C.G.I.H.**

Indicators	Checking time	B.I.E. Method
Fluorine in the urine	before the shift	3 mg/g creatinine
Fluorine in the urine	after the shift	10 mg/g creatinine

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### 8.2. Exposure controls

Comply with the safety measures usually applied when handling chemical substances.  
 When possible, install local aspirators and efficient system of total air replacement.  
 If these measures are not sufficient to keep the particle concentrations below the exposure limits, it will be necessary to use suitable respiratory protection apparatus.

#### HAND PROTECTION

In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374).  
 Materials: Nitrile rubber, PVC.  
 Work glove material must be chosen according to the use process and the products that may form. Latex gloves may cause sensitivity reactions.

#### SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

#### EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

#### RESPIRATORY PROTECTION

Use a type P2 filtering facemask (see standard EN 149).

#### ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance	Solid/Crystalline Powder
Colour	Colour varies grey
Odour	Odourless
Melting point / freezing point	1403°C for CaF <sub>2</sub> 1450°C for CaSO <sub>4</sub> 800-1300°C for CaCO <sub>3</sub>
Flash point	Not applicable based on physical state
Explosive Properties	None
Vapour pressure	Not applicable based on physical state
Density	3.18 g/cm <sup>3</sup> at (0°C) for CaF <sub>2</sub> 2.96 g/cm <sup>3</sup> at (0°C) for CaSO <sub>4</sub>
Solubility	0,015 g/L for CaF <sub>2</sub> 2 g/L for CaSO <sub>4</sub>
Specific gravity	1.1 kg/dm <sup>3</sup>

### 9.2. Other information

None

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### SECTION 10. Stability and reactivity

#### 10.1. Reactivity

Calcium difluoride can dissolve slowly in concentrated solutions of hot sulfuric acid with liberation of hydrogen fluoride.

#### 10.2. Chemical stability

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

#### 10.3. Possibility of hazardous reactions

It reacts with hot concentrated sulphuric acid, giving vapours of hydrogen fluoride.

#### 10.4. Conditions to avoid

Avoid contact with sulphuric acid.

#### 10.5. Incompatible materials

No incompatible materials known.

#### 10.6. Hazardous decomposition products

If exposed to free flames or very high temperatures it can react developing toxic vapours of fluorine.

### SECTION 11. Toxicological information

#### 11.1. Information on toxicological effects

##### Calcium Fluoride (CaF<sub>2</sub>):

Relevant hazard class	Effect dose	Remark
Acute oral toxicity	LD50 > 1581 mg/kg bw	
Acute dermal toxicity	n/a	Dermal absorption is likely to be insignificant for this inorganic salt of low solubility
Acute inhalative toxicity	LC50 > 5070 mg/m <sup>3</sup>	Maximum attainable dose
Skin corrosion/irritation	n/a	Not irritating
Serious eye damage/irritation	n/a	Not irritating
Respiratory or skin sensitization	n/a	A modern LLNA demonstrates that calcium difluoride does not have skin sensitisation potential. There is no indication that the substance is a respiratory sensitizer.
Mutagenicity (in vitro / in vivo)	n/a	A negative Ames test, a negative study of cytogenicity in V79 cells in vitro and a negative study of gene mutation in V79 cells in vitro are available for calcium difluoride
Carcinogenicity oral	n/a	High quality NTP studies in the rat and mouse are available for sodium fluoride The EU RAR for hydrogen fluoride concludes that the data are sufficient to suggest that fluoride is not carcinogenic in animals.
Carcinogenicity dermal	n/a	
Carcinogenicity inhalation	n/a	
Reproductive toxicity: fertility impairment	n/a	No data are available for the substance,

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oral		however a number of studies (including high quality FDA data) are available for sodium fluoride. The more reliable studies do not indicate that the substance is a specific developmental or reproductive toxin.
Reproductive toxicity: fertility impairment dermal	n/a	
Reproductive toxicity: fertility impairment inhalation	n/a	
Reproductive toxicity: developmental toxicity oral	n/a	A number of studies (including high quality FDA data) are available for sodium fluoride. The much greater water solubility of sodium fluoride (41300 mg/L) compared to calcium difluoride (15 mg/L) means that the bioavailability of fluoride from sodium fluoride is likely to be much greater than that of fluoride from calcium difluoride and therefore represents a worst case.
Reproductive toxicity: developmental toxicity oral	n/a	
Reproductive toxicity: developmental toxicity oral	n/a	
Repeat dose toxicity: sub-acute/sub-chronic/chronic (oral)	n/a	The results of studies of repeated dose oral toxicity indicate that calcium difluoride exhibits typical fluoride toxicity, however the low water solubility of the substance indicates that the oral bioavailability of fluoride from the substance is less than other salts such as sodium fluoride, thereby limiting its toxicity. The results of a 28-day inhalation study with the insoluble salt aluminium fluoride did not show any evidence of fluoride toxicity at the highest exposure concentration of 50 mg/m <sup>3</sup> . The results of this study therefore indicate the low bioavailability of fluoride following inhalation exposure.
Repeat dose toxicity: sub-acute/sub-chronic/chronic (dermal)	n/a	
Repeat dose toxicity: sub-acute/sub-chronic/chronic (inhalation)	LOAEC: 50 mg/m <sup>3</sup> (subacute)	

### Calcium sulfate (CaSO<sub>4</sub>):

#### ACUTE TOXICITY

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
Acute oral toxicity	LD50 > 2000 mg/kg bw	Rat.	OECD 420	
Acute dermal toxicity	n/a			No dermal toxicity envisaged due to low potential for absorption
Acute inhalative toxicity	LC50 > 2.61 mg/L	Rat	OECD 403	Maximum attainable dose

#### SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
Skin corrosion/irritation	n/a	Rabbit	OECD 404	Not irritating

#### SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
Serious eye damage/irritation	n/a	Rabbit	OECD 405	Not irritating

#### RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
Respiratory or skin sensitization	n/a	Guinea pig	OECD 406	Not a skin sensitizer

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### GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
Germ cell mutagenicity	n/a	In vitro tests	OECD 471	Not mutagenic
			OECD 476	
			OECD 474	
		Mouse		Not mutagenic

### CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
Carcinogenicity	n/a			No risk of carcinogenicity posed by calcium sulphate

### REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
Reproductive toxicity	NOAEL 790 mg/kg bw	Rat	OECD 422	No signs of reproductive toxicity observed

### STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
STOT single exposure	n/a			No organ toxicity observed in acute tests

### STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
STOT repeated exposure	n/a			It is considered to classify based on RCS content . STOT RE 2 (If calcium sulfate contains crystalline silica in respirable form >1 % - < 10 %.)

### ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

Relevant hazard class	Effect dose	Species	Method	Remark
Aspiration hazard	n/a			No aspiration hazard envisaged

## SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

### 12.1. Toxicity

#### Calcium Fluoride (CaF<sub>2</sub>):

##### Fish

##### Short-term toxicity

LC100 (48 h): >30000 mg/L

##### Long-term toxicity

NOEC (21 d): 4 mg/L (test material sodium fluoride)

##### Aquatic invertebrates

##### Short-term toxicity

EC50 (96 h): 26-48 mg/L freshwater (test material sodium fluoride)

EC50 (96 h): 10,5-39 mg/L marine water (test material sodium fluoride)

##### Long-term toxicity

NOEC (21 d): 8.9 mg/L arithmetic mean (test material sodium fluoride)



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### Algae and aquatic plants

EC50 (96 h): 43 mg/L for freshwater algae (test material sodium fluoride)  
 EC50 (96 h): 80 mg/L for marine water algae (test material sodium fluoride)  
 NOEC: 50 mg/L for freshwater algae (test material sodium fluoride)  
 NOEC: 50 mg/L for marine water algae (test material sodium fluoride)

### Micro-organism soil

NOEC (63d): 106 mg/kg soil dw (test material potassium and sodium fluoride)

### Micro-organism aquatic

NOEC (3 h): 510 mg/L (test material hydrogen fluoride)

### PNEC

PNEC freshwater: 0.9 mg/L  
 PNEC soil: 11 mg/kg  
 PNEC STP: 51 mg/L

### No data about ecotoxicity available.

The product is a powder obtained from mineral grinding, followed by slugs separation.  
 The product is not water soluble and doesn't determine biological oxygen need.  
 Follow the normal working cautions, avoiding dispersion

### Calcium sulfate (CaSO<sub>4</sub>)

Aquatic toxicity	Effect dose	Exposure time	Species	Method	Evaluation	Remark
Acute fish toxicity	LC50 >79mg/L	96 h	Japanese rice fish	OECD 203	Harmless to fish up to the tested concentration.	LIMIT-test
Acute daphnia toxicity	EC50 >79 mg/L	48 h	Daphnia magna	OECD 202	Harmless to daphnia up to the tested concentration.	LIMIT-test
Acute algae toxicity	E50 > 79 mg/L	72 h	Selenastrum capricornutum	OECD 201	Harmless to algae up to the concentration tested.	LIMIT-test
Toxicity to STP microorganisms	EC 50 >790 mg/L	3 h	Activated sludge	OECD 209	Harmless to STP microorganisms	

After neutralisation, toxicity is no longer observed.

The product can hydrolyse into Calcium and Sulfate ions.  
 The stated effect can be caused partly by the decomposition products.  
 The ecological data were measured on the hydrolysed product.

### 12.2. Persistence and degradability

#### Calcium Fluoride (CaF<sub>2</sub>):

None data available

#### Calcium sulfate (CaSO<sub>4</sub>)

##### *Abiotic Degradation*

##### *Physical- and photo-chemical elimination:*

The product hydrolyses quickly in the presence of water to:  
 Calcium and Sulfate ions  
 The individual components are poorly eliminated from water.  
 No photo-chemical elimination.

##### *Biodegradation:*

The methods for determining the biological degradability are not applicable to inorganic substances.  
 Inorganic product which is not eliminable from water through biological cleaning processes.

**SYNTHETIC CALCIUM FLUORIDE****12.3. Bioaccumulative potential****Calcium Fluoride (CaF<sub>2</sub>):**

None data available

**Calcium sulfate (CaSO<sub>4</sub>)**

Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected.  
No indication to bioaccumulation potential.

The ecological data were measured on the hydrolysed product.  
According to experiences this product is inert and not degradable biologically.

**12.4. Mobility in soil****Calcium Fluoride (CaF<sub>2</sub>):**

None data available

**Calcium sulfate (CaSO<sub>4</sub>)**

Water-soluble solid.  
Natural constituent in soils.  
If product enters soil, it will be mobile and may contaminate groundwater

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%.

**12.6. Other adverse effects**

According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as „dangerous for the environment“.  
On the basis of existing data about the elimination/degradation and bioaccumulation potential longer term damage to the environment is unlikely.  
The information about ecology refer to the main components.

**SECTION 13. Disposal considerations****13.1. Waste treatment methods**

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.  
Disposal must be performed by an authorised waste management enterprise in compliance with national and local regulations.  
The legal responsible for disposal is the producer / holder of the waste.  
Different EWC codes could be applied to this mixture according to the European Waste Catalogue based on the specific circumstances that generated the waste, possible alterations and / or possible contamination  
Disposal through wastewater discharge is not permitted.  
CONTAMINATED PACKAGING  
Contaminated packaging, properly labeled, shall be sent to recovery or disposal in compliance with national waste management regulations and they shall be classified with the following EWC code:  
**15 01 01** : paper and cardboard packaging  
**15 01 02** : plastic packaging  
**15 01 03** : wooden packaging  
**15 01 04** : metallic packaging  
**15 01 05** : composite packaging  
**15 01 06** : mixed packaging  
**15 01 07** : glass packaging  
**15 01 09** : textile packaging

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### SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**14.1. UN number**

Not applicable

**14.2. UN proper shipping name**

Not applicable

**14.3. Transport hazard class(es)**

Not applicable

**14.4. Packing group**

Not applicable

**14.5. Environmental hazards**

Not applicable

**14.6. Special precautions for user**

Not applicable

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Information not relevant

### SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC:  
None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006  
None

Substances in Candidate List (Art. 59 REACH)  
On the basis of available data, the product does not contain any SVHC in percentage  $\geq$  than 0,1%.

Substances subject to authorisation (Annex XIV REACH)  
None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:  
None

Substances subject to the Rotterdam Convention:  
None

Substances subject to the Stockholm Convention:  
None

Healthcare controls  
Information not available

**15.2. Chemical safety assessment**

A chemical safety assessment has been performed for the following substance, without exposure scenarios (ref. art. 14.4 of REACH):  
CALCIUM FLUORIDE and ANHYDROUS CALCIUM SULFATE.

**SECTION 16. Other information**

The recipient of this SIS shall make sure of reading and understanding the information included by all people who handle, store, use, or otherwise come into contact in any way with the substance to which this SIS is referred to. In particular, the recipient shall provide adequate training to the personnel for the use of hazardous substances and/or mixtures. The recipient shall verify the suitability and completeness of the provided information according to the specific use of the substance.

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

**GENERAL BIBLIOGRAPHY**

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
- IUCLID (International Uniform Chemical Information Database) of synthetic Calcium Difluoride.
  - CSR of synthetic Calcium Difluoride

**Note for the recipient of the Safety Information Sheet (SIS):**

The recipient of this SIS shall make sure of reading and understanding the information included by all people who handle, store, use, or otherwise come into contact in any way with the substance or mixture to which this SIS is referred to. In particular, the recipient shall provide adequate training to the personnel for the use of hazardous substances and/or mixtures. The recipient shall verify the suitability and completeness of the provided information according to the specific use of the substance or mixture. However, the substance or mixture referred to by this SIS shall not be used for uses other than those specified in Section 1. The Supplier don't assume responsibility for improper uses. Since the use of the product does not fall under the direct control of the Supplier, the user shall, under his own responsibility, fulfill national and EU regulations concerning health and safety.

The information included in this SIS are provided in good faith and are based on the current state of scientific and technical knowledge, at the revision date indicated, available to the Supplier indicated in Section 1 of this SIS. It shall not be meant that the SIS is a guarantee of any specific property of the substance or mixture. The information concern only to the substance or mixture specifically designated in Section 1 and it could not be valid for the substance or mixture used in combination with other materials or in any process not specified in the text. This version of the SIS substitutes all the previous versions.

**Changes to previous review:**

The following sections were modified:

01 / 02 / 03 / 04 / 05 / 06 / 07 / 08 / 09 / 10 / 11 / 12 / 13 / 14 / 15 / 16.