Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Product name **SYNTHETIC CALCIUM FLUORIDE**

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

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)
	United Kingdom NHS 111 Ireland Members of Public: +353 (01) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week) Healthcare Professionals: +353 (01) 809 2566 (24 hour service)

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).
However, since the product contains substances with a community workplace exposure limit. in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to (EU) Regulation 2020/878.
Hazard classification and indication:

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms: --

Signal words: --

Hazard statements:

EUH210 Safety data sheet available on request.

Precautionary statements:

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2.3. Other hazards

Large quantities of dust may be produced during dry-state pulverization.
On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.
The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
CALCIUM FLUORIDE		
INDEX -	45 ≤ x ≤ 65	Substance with a community workplace exposure limit.
EC 232-188-7		
CAS 7789-75-5		
REACH Reg. 01-2119491248-30-0011		
CALCIUM SULFATE		
INDEX -	10 ≤ x ≤ 30	Non-hazardous substance according CLP but with workplace exposure limits.
EC 231-900-3		
CAS 7778-18-9		
REACH Reg. 01-2119444918-26-0141		
ALUMINIUM OXIDE		
INDEX -	1 ≤ x < 8	Non-hazardous substance according CLP but with workplace exposure limits.
EC 215-691-6		
CAS 1344-28-1		
REACH Reg. -		
DIIRON TRIOXIDE		
INDEX -	0,15 ≤ x < 0,4	Non-hazardous substance according CLP but with workplace exposure limits.
EC 215-168-2		
CAS 1309-37-1		
REACH Reg. -		
CALCIUM CARBONATE		Non-hazardous substance according CLP
INDEX -	1,5 ≤ x ≤ 20	
CE 231-900-3		
CAS 7778-18-9		
SILICON DIOXIDE		Non-hazardous substance according CLP
INDEX -	2 ≤ x ≤ 8	
CE 231-900-3		
CAS 7778-18-9		
MAGNESIUM OXIDE		Non-hazardous substance according CLP
INDEX -	0,5 ≤ x ≤ 3	
CE 215-171-9		

CAS 1309-48-4
Reg. REACH -

WATER Non-hazardous substance according CLP
INDEX - 20 ≤ x ≤ 35
CE 231-791-2
CAS 7732-18-5
Reg. REACH -

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.
INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.
PROTECTIVE MEASURES FOR THE FIRST RESCUE WORKERS: for PPE (personal protection equipment) required for first aid refer to section 8.2 of this safety data sheet.

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

Compared to well soluble fluorides, calcium fluoride, which is only marginally soluble, is estimated to be less toxic but the possibility of poisoning through all exposure routes cannot be excluded.
Although there are no confirmatory data on the product as placed on the market, as a precaution, the symptoms of fluoride poisoning are reported below:
Symptoms of acute poisoning:
Eyes: foreign body feeling, burning sensation, lacrimation, reddening; following prolonged contact, corneal damage not to be excluded
Skin: following intense contact, irritation up to corrosion possible; then, absorptive-toxic effects also possible
Inhalation: irritation to the upper airways (cough, difficulties in breathing, possibly asthma-like symptoms), following very massive impact, damage to the lungs and systemic effects possible
Ingestion: irritation/damage to the mucous membranes as well as gastrointestinal complaints possible; soon also systemic effects
Absorption: salivation, transpiration, muscular weakness, tremor, somnolence, hypotension; in isolated cases tetaniform cramps, disturbances of the heart rhythm (danger of ventricular fibrillations), respiratory insufficiency, coma; metabolic disturbances (hypocalcemia, coagulation disturbances, dehydration, hyperkalemia, changes of enzyme activities).

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

Treat symptomatically.
In case of accident or unwellness, immediately consult a doctor (if possible show the instructions for use or the safety data sheet).

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.
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

For non-emergency personnel

Do not take any action that involves any personal risk or without adequate training. Evacuate the surrounding areas.
Wear appropriate protective equipment (including personal protective equipment referred to in section 8 of this safety data sheet) to prevent contamination of the skin, eyes and personal clothing. Wear appropriate respirator when ventilation is inadequate.
Do not inhale the dust. Avoid dispersion of the product in the environment. Follow the appropriate internal procedures for unauthorized personnel to intervene directly in case of accidental release.

For emergency responders
Block the leakage if there is no hazard
Evacuate non-authorized personnel. Wear appropriate protective equipment. (see section 8 of this Safety Data Sheet). Follow the appropriate internal procedures for authorized personnel. Check the dust. Isolate the danger area and deny entry. Ventilate enclosed spaces before entering.
Remove unequipped persons.

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.

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. Adapt localized extraction systems to individual situations.

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

Keep product in clearly labeled containers. Store containers away from any incompatible materials, checking section 10.

Packaging materials:
Keep/store only in original container.

Requirements for storage rooms and vessels:
None. Storage under cover, protected from the weathering and in particular from wind and 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

Regulatory References:

IRL	Éire	2020 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations (2001-2015) and the Safety, Health and Welfare at Work (Carcinogens) Regulations (2001-2019)
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2022

DIIRON TRIOXIDE
Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OELV	IRL	5		10		As Fe
WEL	GBR	5		10		As Fe
TLV-ACGIH		5				RESP

ALUMINIUM OXIDE
Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	

OELV	IRL	10		INHAL	
OELV	IRL	4		RESP	
WEL	GBR	10		INHAL	
WEL	GBR	4		RESP	
TLV-ACGIH		1		RESP	AI

CALCIUM FLUORIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OELV	IRL	2,5				As F
WEL	GBR	2,5				Fluoride (inorganic as F)
OEL	EU	2,5				As F
TLV-ACGIH		2,5				As F

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,37	mg/l
Normal value in marine water	0,022	mg/l
Normal value of STP microorganisms	104,75	mg/l
Normal value for the terrestrial compartment	21,8	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				0,02 mg/kg bw/d				
Inhalation				1 mg/m3				5 mg/m3

CALCIUM SULFATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OELV	IRL	10				
TLV-ACGIH		10				INHAL

Predicted no-effect concentration - PNEC		
Normal value of STP microorganisms	100	mg/l

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral	VND	11,4 mg/kg bw/d	VND	1,52 mg/kg bw/d				
Inhalation	VND	3811 mg/m3	VND	5,29 mg/m3	VND	5082 mg/m3	VND	21,17 mg/m3

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

During the risk assessment process, it is essential to take into consideration the ACGIH occupational exposure levels for inert particulate not otherwise classified (PNOC respirable fraction: 3 mg/m3; PNOC inhalable fraction: 10 mg/m3). For values above these limits, use a P type filter, whose class (1, 2 or 3) must be chosen according to the outcome of risk assessment.

Biological indicators of exposure adopted; TLV ACGIH 2022
Fluorides in urine: 2 mg / l. Time of withdrawal: before the shift.
Fluorides in urine: 3 mg / l. Time of withdrawal: end of shift.

Recommended monitoring procedures
The methods for assessment of the atmosphere in the workplace must comply with the requirements stated in norms EN 482 and EN 689.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

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.

THERMAL HAZARDS
In case of thermal hazards, wear category III heat-resistant gloves (protective gloves against risks deriving from heat and/or flame), (ref. UNI EN 407 standard). Wear heat resistant clothing (with trousers over boots and sleeves over glove cuffs), heavy heat resistant non-slip boots (e.g. leather).

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION
Use a type P filtering facemask, whose class (1, 2 or 3) and effective need, must be defined according to the outcome of risk assessment (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

Properties	Value	Information
Appearance	Solid/Powdery	
Colour	Gray of various shades	
Odour	odourless	
Melting point / freezing point	1403 °C	Substance: CALCIUM FLUORIDE
Initial boiling point	2506,5 °C	Source: CRC Handbook Substance: CALCIUM FLUORIDE
Flammability	Non-flammable based on composition	
Lower explosive limit	Not explosive based on the chemical nature of the components of the mixture	
Upper explosive limit	Not explosive based on the	

	chemical nature of the components of the mixture	
Flash point	not applicable based on physical status	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
pH	not available	
Kinematic viscosity	not applicable based on physical status	
Solubility	15 mg/L	Method: OECD Guideline 105 (Water Solubility) Substance: CALCIUM FLUORIDE Temperature: 18 °C
Partition coefficient: n-octanol/water	Not applicable based on the inorganic nature of the components	
Vapour pressure	not applicable based on physical status	
Density and/or relative density	11 kg/dm3	
Relative vapour density	not available	
Particle characteristics	D10: 2.7 mm, D50: 22,1 mm, D90: 39,7 mm	Method: UNI EN 933-1:2012

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available.

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

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

Heat, heating, lack of ventilation, humidity. Avoid accumulation of dust in the environment.

10.5. Incompatible materials

Strong acids (sulfuric acid).

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

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

ALUMINIUM OXIDE

LD50 (Dermal): No data available
LD50 (Oral): > 15 900 mg/kg Rat (equivalent or similar to OECD Test Guideline 401)
LC50 (Inhalation aerosol): > 0.888 mg/L/4 h Rat (equivalent or similar to OECD Test Guideline 403)

CALCIUM FLUORIDE

LD50 (Dermal):	> 2000 mg/kg Ratto (EPA OPP 81-2)
LD50 (Oral):	> 2000 mg/kg Ratto (OECD TG 423)
LC50 (Inhalation mists/powders):	> 5,07 g/m3 Ratto (OECD TG 403)

DIIRON TRIOXIDE

LD50 (Dermal): No data available
LD50 (Oral): > 10 000 mg/kg Rat (literature data)
LC50 (Inhalation aerosol): 5.05 mg/L Rat (OECD Test Guideline 403)

CALCIUM SULFATE

Method: equivalent or similar to OECD 401
Reliability (Klimisch score): 4
Species: mouse, rat
Routes of exposure: oral
Results LD50 (mice): 4704 mg/kg
Results LD50 (rats): 9934 mg/kg
Method: OECD 403
Reliability (Klimisch score): 1
Species: Rat (Sprague-Dawley Male/Female)
Routes of exposure: inhalation (dusts)
LC50 results: 3.26 mg/l 4h
Acute toxicity (dermal): data not available.

SKIN CORROSION / IRRITATION
Does not meet the classification criteria for this hazard class
CALCIUM FLUORIDE
Method: OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Reliability (Klimisch score): 1
Species: White Rabbit (New Zealand)
Results: non-irritating

SERIOUS EYE DAMAGE / IRRITATION
Does not meet the classification criteria for this hazard class
CALCIUM FLUORIDE
Method: OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Reliability (Klimisch score): 1
Species: White Rabbit (New Zealand)
Results: non-irritating

RESPIRATORY OR SKIN SENSITISATION
Does not meet the classification criteria for this hazard class

Respiratory sensitization
CALCIUM FLUORIDE
Data not available.

Skin sensitization
CALCIUM FLUORIDE
Method: OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Reliability (Klimisch score): 1
Species: White Rabbit (New Zealand)
Results: non-sensitizing.

GERM CELL MUTAGENICITY
Does not meet the classification criteria for this hazard class
CALCIUM FLUORIDE
Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Reliability (Klimisch score): 1
In vitro tests
Species: Salmonella typhimurium TA 92, TA 94, TA 98, TA 100, TA 1535, TA 1537
Results: negative with metabolic activation - negative without metabolic activation
Reference: Mutagenesis, 1994, 9(5), 467
Reliability (Klimisch score): 2
Species:mouse
Routes of exposure: oral
Results no cytogenetic effect

CARCINOGENICITY
Does not meet the classification criteria for this hazard class
CALCIUM FLUORIDE
Reference: Journal of National Cancer Institute, 82(13): 1118-1126
Reliability (Klimisch score): 2
Species: Rat (Sprague-Dawley Male/Female)
Routes of exposure: oral
The substance is not classified for this hazard class.

REPRODUCTIVE TOXICITY
Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility
CALCIUM FLUORIDE
Method: equivalent or similar to OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
Reliability (Klimisch score): 1
Species: CD CRL:CD-BR rat
Routes of exposure: oral
NOAEL results (P0): 10.9 mg/kg bw/day
NOAEL results (F1): 12.35 mg/kg bw/day
The substance is not classified for this hazard class

Adverse effects on development of the offspring
CALCIUM FLUORIDE
Method: equivalent or similar to OECD 414
Reliability (Klimisch score): 2
Species: Sprague-Dawley rat
Routes of exposure: oral
NOEL results (maternal): 18 mg NaF/kg bw/d

NOEL results (development) 27 mg NaF/kg bw/d
The substance is not classified for this hazard class.

STOT - SINGLE EXPOSURE
Does not meet the classification criteria for this hazard class
CALCIUM FLUORIDE
Based on available data, the substance has no specific target organ toxicity effects for single exposure and is not classified under the relevant CLP hazard class.

STOT - REPEATED EXPOSURE
Does not meet the classification criteria for this hazard class
CALCIUM FLUORIDE
Based on available data, the substance does not show specific target organ toxicity effects for repeated exposure and is not classified under the relevant CLP hazard class.

ASPIRATION HAZARD
Does not meet the classification criteria for this hazard class

11.2. Information on other hazards
Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

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
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)

Algae and acquatic 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

Calcium sulfate

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 microoragnisms	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

Biodegradation:
The methodology for determining biological degradability is not applicable to inorganic substances
(Annex VII, section 9.2.1, column 2 REACh)

12.3. Bioaccumulative potential

Not applicable due to the inorganic nature of the components.

12.4. Mobility in soil

Calcium fluoride
No data available

Calcium sulfate
Soluble in water.
Natural component in the soil.
If the product enters the soil, it is 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 ≥ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

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.

The product as such, out of specification contained in the original packaging, or poured into in an appropriate recipient for disposal, or the product in specification but no longer usable, shall be classified with a EWC code that is matching the description of the use shown at section 1.2.

The suitable final destination of the waste shall be evaluated by the producer on the basis of the chemical-physical characteristics of the waste, the compatibility with the authorized facility to which it will be provided for recovery, and the definitive treatment or disposal according to the procedures established by regulations in force.

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:

NOT DANGEROUS	**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

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 or ID 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. Maritime transport in bulk according to IMO instruments

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/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Contained substance

Point	75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 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 CALCIUM SULFATE.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

EUH210	Safety data sheet available on request.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 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: 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: Regulation (EC) 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: Time-weighted average exposure limit
- TWA STEL: Short-term 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
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
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13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website

- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for the recipient of the Safety Data Sheet (SDS):

The recipient of this SDS 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 SDS 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 SDS 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 SDS 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 SDS. It shall not be meant that the SDS 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.

Changes to previous review:
The following sections were modified: all.