

SYNTHETIC CRYOLITE

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Safety Data Sheet

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

SECTION 1. Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name:	MILLED SYNTHETIC CRYOLITE, GRANULAR SYNTHETIC CRYOLITE
International Chemical Identification	TRISODIUM HEXAFLUOROALUMINATE
EC number	237-410-6
CAS number	13775-53-6
Registration Number	01-2119511565-43-0004
Index Number	009-016-00-2

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

Synthetic Cryolite is used as it is in the primary aluminum industry, it is formulated and repackaged, used for the production of articles in the industry of abrasives, ceramics, glass, metals, fireworks, brakes, of welding and used in the laboratory. Articles containing cryolite are used in industry, professionally and by final consumers.

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:
111 (NHS Service).

SECTION 2. Hazards identification**2.1. Classification of the substance or mixture**

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Reproductive toxicity, effects on or via lactation	H362	May cause harm to breast-fed children.
Acute toxicity, category 4	H332	Harmful if inhaled.
Specific target organ toxicity - repeated exposure, category 1	H372	Causes damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

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2.2. Label elements

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

Hazard pictograms:



Signal words:

Danger

Hazard statements:

H362	May cause harm to breast-fed children.
H332	Harmful if inhaled.
H372	Causes damage to organs (lungs and skeletal fluorosis) through prolonged or repeated exposure (inhalation and oral).
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements:

P260	Do not breathe dust.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P314	Get medical advice / attention if you feel unwell.
P501	Dispose of contents/container in accordance with national regulation

Contains: TRISODIUM HEXAFLUOROALUMINATE

2.3. Other hazards

Prolonged exposure over the years can cause occupational fluorosis, the main sign of which is osteopetrosis which is localized in particular in the ribs, vertebrae and pelvis. Repeated or prolonged exposure to dust particles can cause effects on the lungs. The substance does not have persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative. (vPvB). The substance does not have endocrine disrupting properties.

SECTION 3. Composition/information on ingredients

3.1. Substances

Contains:

Identification	Conc. %	Classification 1272/2008 (CLP)
TRISODIUM HEXAFLUOROALUMINATE		
CAS 13775-53-6	97,5	Lact. H362, Acute Tox. 4 H332, STOT RE 1 H372, Aquatic Chronic 2 H411
EC 237-410-6		STA Inhalation mists/powders: 1,5 mg/l
INDEX 009-016-00-2		
Reg. no. 01-2119511565-43-0004		

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

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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. Do not induce vomiting. 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

The available toxicological and environmental assessments refer mainly to the effects of fluoride which is the main component.

No data on acute dose-dependent effects in humans are currently available.

Chronic Effects:

Blood: anemia.

Other: increased bone density (fluorosis), calcification of the ligaments.

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

Treat symptomatically.

In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

The product is neither flammable nor combustible. If the product is involved in a fire, it is recommended to avoid breathing decomposition products (Hydrogen fluoride gas).

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 surface water or ground water.

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

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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

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

Collect the leaked product and place it in containers for recovery or disposal. Make sure the leakage site is well aired. Evaluate the compatibility of the container to be used, by checking section 10. 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

Check the integrity of the packages before moving them. If possible, work in a ventilated area. Avoid contact with skin and eyes. Do not inhale the dust. Do not eat, drink or smoke when using or handling. Wash hands after use. Avoid any dispersion of the product into the environment. Handle in a suitable and well-ventilated place. Once empty, containers should be moved as quickly as possible to the collection area pending disposal or reuse. Do not reuse empty packaging before they have undergone industrial cleaning.

7.2. Conditions for safe storage, including any incompatibilities

Handle the product after having consulted all the other sections of this safety data sheet. Avoid any dispersion of the product into the environment. Remove contaminated clothing and protective equipment before entering refreshment areas. The containers must be closed and labeled. The containers must also be protected from any damage. Store in a well-ventilated, cool and dry place. Protect from direct sunlight. Minimize all possible sources of loss of substance. Keep away from food, feed and drink. Keep only in the original container. The storage area must be arranged as to prevent percolation of accidental spills. Keep containers away from any potentially incompatible materials referring to section 10.

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:

FRA
ITA

France
Italia

Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
Decreto Legislativo 9 Aprile 2008, n.81

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GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020) 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. ACGIH 2020
EU	OEL EU	
	TLV-ACGIH	

TRISODIUM HEXAFLUOROALUMINATE limit value referred to inorganic fluorides

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
VLEP	FRA	2,5				As F
VLEP	ITA	2,5				As F
WEL	GBR	2,5				As F
OEL	EU	2,5				As F
TLV-ACGIH		2,5				As F

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,005	mg/l
Normal value in marine water	0	mg/l
Normal value for fresh water sediment	30,5	mg/kg/d
Normal value for marine water sediment	3,05	mg/kg/d
Normal value of STP microorganisms	8,7	mg/l
Normal value for the terrestrial compartment	6,02	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation					99,8 mg/m ³	99,8 mg/m ³	0,1 mg/m ³	
Skin								1020 mg/kg bw/d

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.

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).

Biological indicators of exposure adopted; TLV ACGIH 2020

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.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374).

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Recommended materials:

Nitrile rubber / butadiene (nitrile or NBR), Neoprene, Polyvinyl chloride (PVC or vinyl) natural rubber.

Level: 1 (permeation time greater than 10 minutes according to EN 374 e EN16523-1:2019).

Recommended material thickness: when identifying the thickness of the material, it is highly recommended to compare it with the PPE manufacturer to assess the effective protection regarding the peculiar characteristics of the same.

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 professional long-sleeved overalls and safety footwear whose category, must be defined according to the outcome of risk assessment (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).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

RESPIRATORY PROTECTION

Use a type P filtering facemask, whose class (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.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	Crystalline/powder solid	
Colour	White/rose	
Odour	odourless	
Melting point / freezing point Initial boiling point	1000-1009 °C - 101.3 kPa not applicable	Data from literature
Flammability	solido non infiammabile	
Lower explosive limit	Not determined. The substance has no chemical groups associated with explosive properties	
Upper explosive limit	Not determined. The substance has no chemical groups associated with explosive properties	
Flash point	Not applicable as it is a solid	
Auto-ignition temperature	Not determined (inorganic complex salt) (ECHA, 2010).	
Decomposition temperature	> 1000°C	
pH	6 in aqueous solution	
Kinematic viscosity	Not applicable as it is a solid	
Solubility	0,602 g/L a 20°C (pH = 5,5-7).	
Partition coefficient: n-octanol/water	Not applicable (inorganic substance)	
Vapour pressure	2,53 hPa - 1009 °C	
Density and/or relative density Relative vapour density	2,9 - 2,96 not available	Temperature: 20 °C

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Particle characteristics	Milled D10 = 6.55 µm; D50 = 15 µm; D90 = 28.09 µm.
Method:	Granular D10 = 0.28 mm; D50 = 4.10 µm; D90 = 7.29 µm. Laser diffraction

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Oxidizing Properties: The substance has no chemical groups associated with oxidizing properties

9.2.2. Other safety characteristics

Total solids (250°C / 482°F) 100,00 %

Molecular Weight: 209.95.

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction in normal conditions of use. It reacts with strong acids and strong bases.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Decomposes by reaction with strong acids and bases.
Decomposes on heating.

10.4. Conditions to avoid

None

Keep away from heat sources. Protect from moisture and water. Avoid environmental dust build-up.

10.5. Incompatible materials

Strong acids and strong bases (Sulphuric Acid, Alkali and calcium hydroxide solution).

10.6. Hazardous decomposition products

Hydrogen fluoride
Heated until decomposition, it evolves hydrofluoric acid gas (toxic).
It decomposes with hot alkali or solutions of calcium hydroxide.

SECTION 11. Toxicological information

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

ACUTE TOXICITY

Acute toxicity, category 4. Harmful if inhaled.

Method: EU Method B.1

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Reliability (Klimisch score): 1
Species: Rat (Sprague-Dawley)
Routes of exposure: oral
Results: LD50 > 5000 mg / kg body weight
Method: OECD 403

Reliability (Klimisch score): 1
Species: Rat (Sprague-Dawley)
Routes of exposure: inhalation (aerosol)
Results: LC50 = 4.47 mg / L
Method: equivalent or similar to OECD 402

Reliability (Klimisch score): 1
Species: Rabbit (New Zealand White)
Routes of exposure: cutaneous
Results: LD50 > 2100 mg / kg body weight

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

Method: 1981 study
Reliability (Klimisch score): 2
Species: Rabbit (New Zealand White)
Routes of exposure: cutaneous
Results: non-irritating

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

Method: 1981 study
Reliability (Klimisch score): 2
Species: Rabbit (New Zealand White)
Routes of exposure: ocular
Results: non-irritating

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

Method: OECD 406
Reliability (Klimisch score): 1
Species: Guinea pig (Dunkin-Hartley)
Routes of exposure: cutaneous
Results: not sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

Method: OECD 471 - in vitro test
Reliability (Klimisch score): 1
Species: S. typhimurium
Results: negative with and without metabolic activation
Method: OECD 475 - in vivo test
Reliability (Klimisch score): 1
Species: Rat (Sprague-Dawley)
Routes of exposure: inhalation (aerosol)
Results: negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

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Based on the evidence of available data, the substance is not classified for the hazard class CLP of carcinogenicity

REPRODUCTIVE TOXICITY

May cause harm to breast-fed children.

Effects on or via lactation

Method: EPA OPP 83-4

Reliability (Klimisch score): 1

Species: Rat (Crj: CD (SD))

Routes of exposure: oral

Results: A decrease in the body weight of the litters was observed during lactation.

Effects on the kidneys, liver and heart were observed during the weaning period.

Based on the available data, the substance exhibits toxicity effects through and is classified under the relevant hazard class CLP.

STOT - SINGLE EXPOSURE

Based on the evidence of available data, the substance does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Causes damage to organs.

Target organ

lung and skeletal fluorosis

Route of exposure

inhalation and oral

Method: Study complies with the requirements of standard repeated dose toxicity test protocols, evaluation from EU-RAR

Reliability (Klimisch score): 2

Species: Dog (male female)

Routes of exposure: oral

Adverse effects: accumulation of fuoro in the bones. LOAEL (male / female): 17 mg / kg bw / day

Method: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Reliability (Klimisch score): 1

Species: Sprague-Dawley rat (male-female)

Routes of exposure: inhalation

Adverse Effects: Inflammatory lung lesions. NOAEC (male / female): 0.21 mg / m³ air

Routes of exposure: dermal; data currently not available.

Based on available data, the substance exhibits specific target organ toxicity effects on repeated exposure and is 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 substance is not listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

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SECTION 12. Ecological information

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

12.1. Toxicity

TRISODIUM HEXAFLUOROALUMINATE

LC50 - for Fish	99 mg/l/96h Brachydanio rerio (OECD Guideline 203)
EC50 - for Crustacea	156 mg/l/48h Daphnia magna (OECD Guideline 202)
EC50 - for Algae / Aquatic Plants (biomass)	3,2 mg/l/72h Pseudokirchneriella subcapitata (OECD Guideline 201)
EC50 - for Algae / Aquatic Plants (growth rate)	8,8 mg/l/72h Pseudokirchneriella subcapitata (OECD Guideline 201)
NOEC - for Algae / Aquatic Plants (biomass)	1 mg/l/72h Pseudokirchneriella subcapitata (OECD Guideline 201)
NOEC - for Algae / Aquatic Plants (growth rate)	1 mg/l/72h Pseudokirchneriella subcapitata (OECD Guideline 201)

12.2. Persistence and degradability

TRISODIUM HEXAFLUOROALUMINATE

Degradability: information not available
 inorganic substance (column 2 Annex VII REACH)

12.3. Bioaccumulative potential

Trisodium hexafluoroaluminate

Aquatic bioaccumulation: the study does not need to be conducted as in water because the substance is easily dissociated into various ions.

Terrestrial bioaccumulation: the information is not available. Due to dissolution behaviour, it can be expected, when Cryolite is mixed to soil matrix and gets in contact with pore water, it is dissolved to different aluminium and fluoride species.

12.4. Mobility in soil

As cryolite dissociates in water and the risks are assumed to be determined by fluoride.

12.5. Results of PBT and vPvB assessment

The substance does not have persistence, bioaccumulation and toxicity (PBT) properties and is not very persistent and very bioaccumulative. (vPvB).

12.6. Endocrine disrupting properties

Based on the available data, the substance is not 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. Product residues shall be considered special hazardous waste. The hazards of the wastes containing this product shall be evaluated according to applicable regulations. (Directive 2008/98/EC and subsequent amendments and supplements). 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.

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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.

The product as such, contained in the original packaging, or poured into in an appropriate recipient for disposal, or contained in a damaged packaging after an accidental leakage, 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.
 Disposal through wastewater discharge is not permitted.

For hazardous substances registered according to Regulation EC 1907/2006 (REACH), for which a chemical safety report has been drawn up, refer to the specific information contained in the exposure scenarios attached to the Safety Data Sheets.

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 10***: packaging containing residues of or contaminated by hazardous substances

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: 3077

ADR / RID: In accordance with Special Provision 375, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to ADR provisions.

IMDG: In accordance with Section 2.10.2.7 of IMDG Code, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IMDG Code provisions.

IATA: In accordance with SP A197, this product, when is packed in receptacles of a capacity ≤ 5Kg or 5L, is not submitted to IATA dangerous goods regulations.

14.2. UN proper shipping name

ADR / RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRISODIUM HEXAFLUOROALUMINATE)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRISODIUM HEXAFLUOROALUMINATE)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRISODIUM HEXAFLUOROALUMINATE)

14.3. Transport hazard class(es)

ADR / RID: Class: 9 Label: 9

IMDG: Class: 9 Label: 9

IATA: Class: 9 Label: 9



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

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ADR / RID: Environmentally Hazardous
 IMDG: Marine Pollutant
 IATA: Environmentally Hazardous



14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 90	Limited Quantities: 5 kg	Tunnel restriction code: (-)
	Special provision: -		
IMDG:	EMS: F-A, S-F	Limited Quantities: 5 kg	
IATA:	Cargo:	Maximum quantity: 400 Kg	Packaging instructions: 956
	Pass.:	Maximum quantity: 400 Kg	Packaging instructions: 956
	Special provision:	A97, A158, A179, A197, A215	

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/EC: E2

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

None

Regulation (EC) No. 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 \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

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None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

Has been performed a chemical safety assessment for the substance.

SECTION 16. Other information

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

Lact.	Reproductive toxicity, effects on or via lactation
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H362	May cause harm to breast-fed children.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

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

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- 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
 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
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 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

Additional information:

Here below are reported the use descriptors.

Uses by workers in industrial settings

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
1	Manufacturing of cryolite	as such (substance itself)	Process category (PROC): PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) Environmental release category (ERC): ERC 1: Manufacture of substances Subsequent service life relevant for that use?: no

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2	Production and use of cryolite in the aluminium industry	as such (substance itself)	<p>Process category (PROC):</p> <p>PROC 2: Storage of transported cryolite PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 26: Handling of solid inorganic substances at ambient temperature</p> <p>Environmental release category (ERC):</p> <p>ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles</p> <p>Subsequent service life relevant for that use?: no</p>
3	Formulation & (re)packing of substances and mixtures containing cryolite	in a mixture	<p>Process category (PROC):</p> <p>PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>Environmental release category (ERC):</p> <p>ERC 2: Formulation of preparations</p> <p>Subsequent service life relevant for that use?: no</p>
4	Production of articles containing cryolite	in a mixture	<p>Process category (PROC):</p> <p>PROC 3: Use in closed batch process (synthesis or formulation) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 6: Calendaring operations PROC 7: Industrial spraying PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 10: Roller application or brushing PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting</p> <p>Environmental release category (ERC):</p> <p>ERC 5: Industrial use resulting in inclusion into or onto a matrix</p> <p>Subsequent service life relevant for that use?: no</p>
5	End use of articles containing cryolite in industry	in a mixture	<p>Process category (PROC):</p> <p>PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 25: Other hot work operations with metals</p>

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			<p>Environmental release category (ERC):</p> <p>ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)</p> <p>ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release</p> <p>ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)</p> <p>ERC 12a: Industrial processing of articles with abrasive techniques (low release)</p> <p>ERC 12b: Industrial processing of articles with abrasive techniques (high release)</p> <p>Subsequent service life relevant for that use?: yes</p> <p>Article category related to subsequent service life (AC):</p> <p>AC 2: Machinery, mechanical appliances, electrical/electronic articles</p> <p>AC 0: Other: TARIC 8311000000, TARIC 6813810000, TARIC 6805000000</p>
6	Use as flux	in a mixture	<p>Process category (PROC):</p> <p>PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting</p> <p>PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature</p> <p>Market sector by type of chemical product:</p> <p>PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products</p> <p>PC 0: Other: UCN F20000</p> <p>Environmental release category (ERC):</p> <p>ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles</p> <p>Sector of end use (SU):</p> <p>SU 14: Manufacture of basic metals, including alloys</p> <p>SU 0: Other: NACE C24.5</p> <p>Subsequent service life relevant for that use?: no</p>

Uses by professional workers

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
7	End use of articles containing cryolite by professionals	in a mixture	<p>Process category (PROC):</p> <p>PROC 15: Use as laboratory reagent</p> <p>PROC 21: Low energy manipulation of substances bound in materials and/or articles</p> <p>PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature</p> <p>PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles</p> <p>PROC 25: Other hot work operations with metals</p> <p>Environmental release category (ERC):</p> <p>ERC 8a: Wide dispersive indoor use of processing aids in open systems</p> <p>ERC 8e: Wide dispersive outdoor use of reactive substances in open systems</p> <p>ERC 10a: Wide dispersive outdoor use of long-</p>

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			<p>life articles and materials with low release ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing) ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)</p> <p>Subsequent service life relevant for that use?: yes</p>
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Uses by consumers

IU number	Identified Use (IU) name	Use descriptors
8	End use of articles containing cryolite by consumers	<p>Chemical product category (PC):</p> <ul style="list-style-type: none"> PC 11: Explosives PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products <p>Environmental release category (ERC):</p> <ul style="list-style-type: none"> ERC 8e: Wide dispersive outdoor use of reactive substances in open systems ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing) ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing) <p>Subsequent service life relevant for that use?: yes</p> <p>Article category related to subsequent service life (AC):</p> <ul style="list-style-type: none"> AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 4: Stone, plaster, cement, glass and ceramic articles <p>AC 0: Other: TARIC 8311000000, TARIC 6813810000, TARIC 6805000000, TARIC 3604100000</p>

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.

This version of the SDS substitutes all the previous versions.

Changes to previous review:

The following sections were modified: 01 / 02 / 03 / 05 / 08 / 09 / 11 / 12 / 14 / 16.