FLUORSID

Material Safety Data Sheet

In accordance with Regulation (EC) n. 1907/2006

Issued: 13-11-2017 Rev: 03

SYNTHETIC CRYOLITE

1. Product and company identification

1.1 Substance identification

Chemical name	:	TRISODIUM HEXAFLUOROALUMINATE
Commercial name	:	SYNTHETIC CRYOLITE
C.A.S. Nr.	:	13775-53-6
C.E.E. Nr.	:	009-016-00-2
EINECS Nr.	:	237-410-6
Chemical formula	:	Na_3AlF_6
Molecular weight	:	206,95
Registration number	:	01-2119511565-43-0004

1.2 Fields of application

Use as such in the primary aluminium industry. Formulation and repacking of substance and mixtures. Production of articles containing Cryolite in the abrasives, ceramics, glass, metal, fireworks, brakes, welding industry. Laboratory use. Use of articles containing Cryolite in industry, by professional and consumers.

1.3 Company identification

Company name	:	Fluorsid S.p.A.
Address	:	2[a] Strada Macchiareddu 09032 ASSEMINI (CA) - Italy
Phone	:	+39 070 246321
Fax	:	+39 070 2463235
E-mail	:	msds@fluorsid.com
Website	:	www.fluorsid.com

1.4 Emergency phone number

Poison center number	+39 02 66101029 (24h)
Emergencies	+39 070 246321

2. Hazard identification

2.1 Classification of the substance

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]:
STOT RE 1; H372
Acute Tox. 4; H332
Aquatic Chronic 2; H411
Lact.; H362

2.2 Label elements

Labelling according Regulation (EC) N° 1272/2008 [CLP]

GHS Pictograms

GHS07 GHS08 GHS09

Signal word: Danger

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

Precautionary statements
P270 Do no eat, drink or smoke when using this product
P260 Do not breathe dust/fume/gas/mist/vapours/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection
P314 Get medical advice/attention if you feel unwell
P273 Avoid release to the environment
P304+P340 IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing

2.3 Other hazards

If inadequately handled, can create some dust which, depending upon the concentration and the exposure time, may cause irritation of the upper respiratory tract and eyes. If handled without suitable gloves, it may cause irritation to the hands.
Prolonged exposure during the years can cause professional fluorosis, with osteopetrosis particularly in the ribs, in the vertebrae and in the pelvis.

3. Composition of product

3.1 Substances

Name	Concentration (C)	Classification Regulation CE/1272/2008	
Trisodium hexafluoroaluminate	97,5%	STOT RE 1	H372
Cas No 13775-53-6		Acute Tox. 4	H332
CE No 237-410-6		Aquatic Chronic 2	H411
Index No 009-016-00-2		Lact.	H362
Registration N°: 01-2119511565-43-0000			

4. First Aid measures

4.1 Description of first aid measures

4.1.1 Routes of exposure

Inhalation
Move to fresh air. In case of symptoms owing to dust inhalation, seek medical attention.

Skin contact
Wash the affected part abundantly with water. If symptoms persist, call a physician. Take off contaminated clothing and wash before re-use.

Eyes contact
Wash immediately and abundantly with water or physiological solution for at least 15 minutes, keeping the eyelids well open. Seek medical attention if irritation develops or persists.

Swallowing
In the case of accidental swallowing, rinse out abundantly with water and seek medical attention.
Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation
Irritating to mucous membranes
Symptoms: Cough, sore throat, Nose bleeding
In case of higher concentrations: chemical pneumonitis
Repeated or prolonged exposure: chronic bronchitis

Skin contact
slight irritation

Eye contact
slight irritation

Ingestion
Liver injury may occur.
Symptoms: Nausea, Vomiting, Abdominal pain, Diarrhoea

4.3 Indication of any immediate medical attention and special treatment needed

See first aid measures in section 4.1

5. Fire fighting measures

5.1 Extinguishing media

The product is not flammable.

Suitable extinguishing media:
Use any means suitable for extinguishing surrounding fire.

Unsuitable extinguishing media:
None.

5.2 Special hazards arising from the substance

Fire and explosion hazards
Hydrogen fluoride gas (toxic) can be evolved when heated above 600 °C during fire.

5.3 Advice for fire-fighters

Special protective equipment during fire
Exposure to decomposition products may be a hazard to health.
In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.
Wear chemical resistant over suit
Cool containers / tanks with water spray.
Do not allow fire fighting water run-off into surface water or groundwater.

6. Measure in case of accidental spillage

6.1 Personal precautions, protective equipment and emergency procedures

Use a dust mask type P3 and googles, as stated in paragraph 8.

For non-emergency personnel
Evacuate the area. Avoid dusting.

For emergency personnel
Suck up to prevent slipping hazard

6.2 Environmental precautions

Collect spillage into suitable, sealed containers. Do not flush into surface water or sanitary sewer system.

6.3 Methods and material for containment and cleaning up

Suck up and shovel into suitable containers for disposal. Keep in properly labeled containers. Keep in suitable, closed containers for disposal. Disposal must be done according to national legislation.

6.4 Reference to other sections

For more information on protective measures refer to sections 7, 8 and 13

7. Handling and Storage

7.1 Precautions for safe handling

Ensure adequate ventilation in the working areas with local aspiration and ventilation systems. Avoid dusting.
Where it is not possible to limit the exposure and the contact with skin, eyes and to avoid dust inhalation, use PPE. When handling avoid contact with acids and strong bases (Sulphuric Acid, Alkali and calcium hydroxide solution).
Eating and smoking should be avoided during handling. Apply good hygiene.
The premises and the places where there is a risk of exposure to the substance shall normally be separated and isolated from other premises, workplaces or passage.

7.2 Conditions for safe storage, including any incompatibilities

Store the product separated from the other working areas, covered, protected from the atmosphere and particularly from moisture and wind.
Keep in original packaging, closed and labelled in a clear and visible way.
Keep away from incompatible products such as sulphuric acid, alkali and calcium hydroxide solutions.
According to Directive 2012/18/EU (on the control of major-accident hazards involving dangerous substances), the substance falls into hazard category E2 "Hazardous to the Aquatic Environment in Category Chronic 2 " lower and upper tier requirements equal to 200 and 500 tonnes.

7.3 Specific end uses:

See exposure scenario

8. Exposure control / Personal protection

8.1 Control parameters

Limits of professional exposure

Indicators: Inorganic fluorides
SCOEL TLV - TWA 2,5 mg/m3
A.C.G.I.H. TLV - TWA 2,5 mg/m^3

Indicators: hydrogen fluoride

SCOEL
Acute Inhalation (DNEL for 15 min of exposure)
SCOEL TLV - STEL (15min) 2.5 mg/m3
Long-term inhalation (DNEL for 8 hours of exposure)
SCOEL TLV - TWA (8h) 1.5 mg/m3

Biological index of exposure (B.I.E.) according to SCOEL

Indicators	Checking time	B.I.E.
Fluorine in the urine	after the shift	8 mg/L

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

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

Acute local effects - inhalation
DNEL : 99.8 mg/m^3

Acute systemic effects - inhalation
DNEL : 99.8 mg/m^3

Long term systemic effects - dermal
DNEL : 1020 mg/kg bw/day

Local term local effects - inhalation
DNEL : 0.1 mg/m^3

PNEC
PNEC $_{\text{fresh water}}$ 0.0048 mg/L
PNEC $_{\text{marine water}}$ 0.00048 mg/L
PNEC $_{\text{intermittent releases}}$ 0.048 mg/L
PNEC $_{\text{fresh water added}}$ 0.2 mg/L
PNEC $_{\text{marine water added}}$ 1.4 mg/L
PNEC $_{\text{sediment fresh water}}$ 30.5 mg/kg
PNEC $_{\text{sediment marine water}}$ 214 mg/kg
PNEC $_{\text{soil}}$ 6.02 mg/kg sediment dw
PNEC $_{\text{STP}}$ > 8.7 mg/L

Monitoring procedures

Personal and ambient air monitoring: "NIOSH method 7906/2014".

8.2 Exposure controls

8.2.1 Appropriate engineering control

Engineering measures
The working places must be properly aired.
When possible, install local aspirators and efficient system of total air replacement.
If these measures are not sufficient to keep the dust below the exposure limits, it will be necessary to use suitable respiratory protection apparatus.

8.2.2 Individual protection measures, such as personal protective equipment

Respiratory protection
In case of dust, use approved respiratory protection with filter P3.

Hand protection
Impervious gloves. Suitable material: Neoprene, Fluoroelastomer

Eye protection
Never wear contact lenses in the work area since they may absorb product irritating the ocular globe.
Wear dust proof goggles.

Skin protection
During normal conditions, wear light protective clothing with long sleeves and safety boots/shoes.

8.2.3 Environmental exposure controls

Do not disperse the product in the environment. The wastewater must be properly treated with suitable precipitation, sedimentation and filtration systems.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Granules or powder, white/pink
Odour	Odourless
Odour threshold	n.a.
pH	6
Melting point/freezing point	1009-1012 °C
Initial boiling point and boiling range	n.a solid substance
Flash point	not flammable
Evaporation rate	not volatile
Flammability	not flammable
Upper/lower flammability or explosive limits	not flammable
Vapour pressure	not volatile
Vapour density	n.a solid substance

Relative density	2,97 g/cm3 at (20°C)
Solubility	0.602 g/L at 20°C and pH = 5.5-7
Partition coefficient: n-octanol/water	n.a. inorganic substance
Auto-ignition temperature	non flammable
Decomposition temperature	> 1000°C
Viscosity	n.a. solid substance
Explosive properties	non explosive
Oxidising proprieties	not oxidising

9.2 Other information

None

10. Stability and reactivity

10.1 Reactivity

No decomposition if used as directed. It reacts with strong acids and strong bases.

10.2 Chemical stability

Stable under recommended storage conditions.

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.

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.

11. Toxicological Information

11.1 Information on toxicological effects

Relevant hazard class	Effect dose	Remark
Acute oral toxicity	LD50 > 5000 mg/kg bw	After oral administration to rats, an LD50 exceeding 5000 mg/kg bw was derived in several studies.
Acute dermal toxicity	LD50 > 2100 mg/kg bw	The acute dermal in rabbit LD50 was greater than 2100 mg/kg bw.
Inhalative toxicity	LC50 > 4470 mg/m3	In a guideline-compliant rat inhalation study, a LC50 of 4470 mg/m3 was derived. No mortality and no clinical sings were observed at 1330 mg/m3.
Skin corrosion/irritation	n/a	Cryolite is not irritating to the skin, eyes and respiratory tract.
Serious eye damage/irritation	n/a	Cryolite is not irritating to the eyes.
Respiratory or skin sensitization	n/a	In a Magnusson Kligman Test with guinea pigs, no skin sensitisation was observed Based on the study on respiratory tract sensitisation with the structural analogue of cryolite, aluminium potassium fluoride (KAlF4), it is concluded that cryolite does not induce repiratory tract sensitisation.
Germ cell mutagenicity	n/a	Cryolite does not induce gene mutations in a bacterial in vitro system. In vitro tests on induction of chromosomal aberrations (human lymphocytes) and unscheduled DNA synthesis (rat hepatocytes) are reported to be negative. In vivo cryolite was negative in rat bone marrow chromosomal aberration tests after acute and repeated inhalation exposure.
Carcinogenicity	n/a	The substance is not considered carcinogenic.
Reproductive toxicity	NOAEL 42 mg/kg bw/day	No signs of reproductive toxicity observed There is no indication for fertility risks caused by cryolite. During the two-generation study with rats, effects on postnatal growth evidenced by significantly decreased pup body weights during lactation as well as pathologic gross findings in several organs of the pups resulted from dose levels without any significant parental toxicity. Because these effects occurred without any significant sign for parental toxicity it is considered indicative for a specific toxic potential of cryolite adverse to postnatal development. The NOAEL for these effects in this study was 42 mg cryolite/kg bw/day.
STOT single exposure	n/a	No organ toxicity observed in acute tests
STOT repeated exposure	n/a	Local effect in rats after subchronic inhalation of predominantly respirable cryolite dust was lung toxicity seen as interstitial pneumonia at low concentration of 1.04 mg/m3. Repeated dietary exposure to cryolite in experimental animals was fluoride accumulation and its effect on non-neoplatic bone disease-skeletal fluorosis observed in rats from the lowest dose tested of 3.8/4.5 mg/kg bw/day and in dogs from 17 mg/kg bw/day. Dental fluorosis represents a most sensitive adverse effect related to cryolite treatment. For local effect of cryolite on the digestive tract, lesion in the stomach, including epidermal hyperplasia and hyperkeratosis/acanthosis in the non glandular portion of the stomach, and submucosal inflammation in the granular portion were observed. The gastrointestinal lesion were probably caused by hydrofluoric acid, which can be released from ingested cryolite in the stomach. Pulmonary inflammatory lesions were observed in a majority of animals (Sprangue-Dawley) receiving cryolite at the dose of 1.04 mg/m3.

		Affected organs: lungs and skeletal Route of exposure: inhalation and oral
Aspiration hazard	n/a	No aspiration hazard envisaged

Symptoms related to the physical, chemical and toxicological characteristics

Cryolite powders may irritate the respiratory tract and eye. Symptoms include Cough, sore throat, Nose bleeding. Repeated or prolonged exposure cause chronic bronchitis, high concentrations exposure cause chemical pneumonia.
Ingestion causes damage to the liver and stomach, the symptoms are nausea, vomiting, diarrhoea and abdominal pain.
May cause irritation to the skin if handled without wearing appropriate PPE.
Prolonged exposure in the years to cause the occupational fluorosis whose main sign is osteopetrosis which is localized in particular in the ribs, vertebrae and pelvis.

12. Ecological information

12.1 Toxicity

Short-term toxicity to fish
LC50 (96h): 99 mg/L

Long-term toxicity to fish
EC50 (48h): 156 mg/L

Long-term toxicity to aquatic invertebrates
EC50 (72h): 8.8 mg/L (based on growth rate)
EC50 (72h): 3.2 mg/L (based on growth rate biomass)
NOEC (72h):1 mg/L (based on growth rate)
NOEC (72h):1 mg/L (based on biomass)

Toxicity to soil macro-organisms
LD50 (5d): 1.67 g cryolite/m^2

Toxicity to acquatic micro-organism
NOEC (3 h): > 160 mg/L
EC50 (3 h): > 160 mg/L

12.2 Persistence and degradability

Abiotic degradation: in water cryolite is easily dissociated into various ions.
Biotic degradation: as inorganic compound, cryolite is not biodegradaed.

12.3 Bioaccumulative potential

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

According to annex XIII of the REACH regulation 1907/2006/EC inorganic substances do not need to be subjected to a PBT assessment.

12.6 Other adverse effects

Use according to the good working practice, avoiding the dispersion of the product in the environment.
If used for long time, negative effects for aquatic environment can occur.

13. Considerations on waste disposal

13.1 Waste treatment methods

Unused product, residues deriving from its use, residual remediation and empty packages have to be disposed according to applicable regulations (directive 2008/98/EC, regulation 1357/2014). Used waste must be packaged and labeled in a suitable container approved for the transport of hazardous waste and sent for recycling or disposal at authorized treatment / disposal centers.
Do not discharge into the sewage system.
For disposal of product residues or neutralization results of spills, contact specialized companies authorized which will advise you on how to arrange the disposal.
Packing materials must be disposed as contaminated packaging and handled in the same way as the hazardous substances and delivered to specialized and authorized companies.
During handling adopt the precautions indicated at point 8.

14. Transport information

14.1 UN-Number:

3077

14.2 UN proper shipping name:

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CRYOLITE), 9, III, MARINE POLLUTANT

14.3 Transport hazard class(es):

ADR/RID/ADN: 9
Codice IMDG: 9
IATA/ICAO: 9

14.4 Packaging group:

III

14.5 Environmental hazards:

ADR/RID/ADN – yes
IMDG - Marine pollutant: yes

14.6 Special precautions for user:

EMS code: F-A, S-F
ADR/RID - hazard number: 90

The workers transporting, loading and unloading should have specific training and use a mask, gloves and goggles, if necessary, as described in Section 8.
For more recommendations on risks and precautions during transport, loading and unloading always refer to guidelines and national and international best practies issued by institutions and local authorities, as CEFIC.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

Not applicable

15. Regulatory information

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

Labelling under directives 1272/2008 (EC) and 790/2009 and subsequent amendments;

Regolamento	Cas	Sostanza
428/2009 ex CE 1334/2000 Annex.1	-	-
273/04 Tab.1 Cat.1	-	-
273/04 Tab.1 Cat.2	-	-
273/04 Tab.1 Cat.3	-	-
1907/2006 Annex XIV	-	-
1907/2006 (Substance SVHC)	-	-

552/2009 (amending Annex XVII of EC Reg. 1907/2006)	-	-
276/2010 (amending Annex XVII of EC Reg. CE 1907/2006)	-	-
Dir. 2012/18/EU Annex 1 part 1	-	-
Dir. 2012/18/EU Annex 1 part 2	13775-53-6	**Hazard category** E2- Hazardous to the Aquatic Environment in Category Chronic 2 **Qualifying quantity** Lower-tier requirements: 200 ton Upper-tier requirements: 500 ton

15.2 Chemical Safety Assessment:

For this substance a chemical safety assessment is provided.

16. Other information

Revision

Third revision that amends sections 2 and 3, "additional classification submitted by companies to ECHA in Reach registration, this information has not been reviewed or verified by ECHA, and may change without prior notice". This MSDS has been completely revised in accordance with regulations (EU) No. 618/2012, 1907/2006/EC, 1272/2008/EC and (EU) 2015/830.

Main bybliography

1. IUCLID (International Uniform Chemical Information Database) Cryolite.
2. CSR Cryolite
3. ACIGH – Threshold Limit Values - 2012 edition

Key to abbreviations and acronyms

ACIGH: American Conference of Governmental Industrial Hygienists
ADN: Accord européen relative au transport international des marchandises dangereuses par voies de navigation intérieures
ADR: Accord européen relative au transport international des marchandises dangereuses par route
CL 50: Lethal Concentration 50
CLP: Classification, Labelling and Packaging
CSR: Chemical Safety Report
DL 50: Lethal Dose 50
DNEL: Derived no effect level
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods code
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no effect concentration

NOEC: No observed effect concentration
RID: Règlement concernent le transport International ferroviaire des marchandises Dangereuses
STEL: short term exposure limit
SCOEL: Scientific Committee on Occupational Exposure Limit Values
TWA: Time Weighted Average
UE: Unione Europea
vPvB: Very persistent very bioaccumulative

Additional information:

Here below are reported the use descriptors identified in sections 1.2 and 7.3.

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
2	Production and use of cryolite in the aluminium industry	as such (substance itself)	Process category (PROC): 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 Environmental release category (ERC): ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles Subsequent service life relevant for that use?: no
3	Formulation & (re)packing of substances and mixtures containing cryolite	in a mixture	Process category (PROC): 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) Environmental release category (ERC): ERC 2: Formulation of preparations Subsequent service life relevant for that use?: no
4	Production of articles containing cryolite	in a mixture	Process category (PROC): 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: Calendering 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 tabletting, 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 Environmental release category (ERC): ERC 5: Industrial use resulting in inclusion into or onto a matrix Subsequent service life relevant for that use?: no
5	End use of articles containing cryolite in industry	in a mixture	Process category (PROC): 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 Environmental release category (ERC): 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) ERC 12a: Industrial processing of articles with abrasive techniques (low release) ERC 12b: Industrial processing of articles with abrasive techniques (high release) Subsequent service life relevant for that use?: yes Article category related to subsequent service life (AC): AC 2: Machinery, mechanical appliances, electrical/electronic articles

			AC 0: Other: TARIC 8311000000, TARIC 6813810000, TARIC 6805000000
6	Use as flux	in a mixture	Process category (PROC): PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature Market sector by type of chemical product: PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products PC 0: Other: UCN F20000 Environmental release category (ERC): ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles Sector of end use (SU): SU 14: Manufacture of basic metals, including alloys SU 0: Other: NACE C24.5 Subsequent service life relevant for that use?: no

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	Process category (PROC): PROC 15: Use as laboratory reagent PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles PROC 25: Other hot work operations with metals Environmental release category (ERC): ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8e: Wide dispersive outdoor use of reactive substances in open systems ERC 10a: Wide dispersive outdoor use of long-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) Subsequent service life relevant for that use?: yes

Uses by consumers

IU number	Identified Use (IU) name	Use descriptors
8	End use of articles containing cryolite by consumers	Chemical product category (PC): PC 11: Explosives PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products Environmental release category (ERC): 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) Subsequent service life relevant for that use?: yes Article category related to subsequent service life (AC): AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 4: Stone, plaster, cement, glass and ceramic articles AC 0: Other: TARIC 8311000000, TARIC 6813810000, TARIC 6805000000, TARIC 3604100000

Informative Note

Information supplied in this “Material Safety Data Sheet” is based on the best available knowledge and our experience, and it is not exhaustive. It is applied on the product exactly as it is, in case of mixture or compound make sure that no new danger can rise.
In any case people who handle the product must respect the current law and regulation related to the product, hygiene and security on work place.
The information contained in this form are a description of product characteristics for safety purpose, should not be considered as guarantee of the properties of the product itself.