Safety Data Sheet

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

1.1. Product identifier

Code: **000194**
Product name **SILVER NITRATE CRYSTAL FU**

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

Intended use **Chemical product**

1.3. Details of the supplier of the safety data sheet

Name **ACEF S.p.A.**
Full address **Via Umbria, 8/14**
District and Country **29017 Fiorenzuola d'Arda PC**
Italia
Tel. 0523/241911
Fax 0523/241968

e-mail address of the competent person responsible for the Safety Data Sheet **sicurezza@acef.it**

1.4. Emergency telephone number

For urgent inquiries refer to **Centro Antiveleni Milano Niguarda - Tel.02/66101029**

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in Directives 67/548/EEC and 1999/45/EC and/or EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulationn 1907/2006 and subsequent amendments.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet

2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments

Hazard classification and indication:

Ox. Sol. 1	H271
Skin Corr. 1B	H314
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

2.1.2. Directive 67/548/EEC and following amendments and adjustments

Danger Symbols: O-C-N

R phrases: 8-34-50/53

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

2.2. Label elements

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

Pictograms:

Warning: Danger

Hazard indication:

H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H410	Very toxic to aquatic life with long lasting effects.

Caution recommendations:

P220	Keep/Store away from clothing/paper/combustible maaterials.
P221	Take any precaution to avoid mixing with combustibles...
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P370+P378	In case of fire: Use suitble media for extinction.
P501	Dispose of contents/container to according to applicable regulations.

Contains: SILVER NITRATE

231-853-9

2.3. Other hazards

Information not available

3. Composition/information on ingredients

3.1. Substances

Contains:

Identification	Conc.%	Classification 67/548/EEC	Classification 1272/2008 (CLP)
SILVER NITRATE			
CAS 7761-88-8	100	C R34, N R50/53, O R 8	Ox. Liq. 3 H272, Skin Corr. 1B H314, Aquatic Acute 1 H400, Aquatic Chronic 1 H410
EC 231-853-9			
INDEX 047-001-00-2			

C= CORROSIVE,N= DANGEROUS FOR THE ENVIRONMENT,O= OXIDIZING

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

3.2. Mixtures

Information not relevant

4. First aid measures

4.1. Description of first aid measures

EYES: Wash immediately with plenty of water for at least 15 minutes and seek medical advice at once.
SKIN: Immediately take off all contaminated clothing and have a shower. Seek medical advice.
INGESTION: Have the patient drink water as much as possible and seek medical advice immediately. Do not induce vomiting before consulting a doctor.
INHALATION: Immediately seek medical advice. In the meantime, remove the patient to open air, far from the contaminated premises; if respiration stops or is difficult, give an artificial respiration adopting the proper measure for the helper.

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

For symptoms and effects caused by contained substances see chap. 11

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

Follow doctor's orders

5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING MEDIA
The extinction equipment to be used is the conventional kind: carbon dioxide, foam, powder and nebulised water.
EXTINGUISHING MEDIA WHICH SHALL NOT BE USED FOR SAFETY REASONS
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion.

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

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

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with straps around arms, legs and waist) work gloves (fireproof, cut proof and dielectric), self-respirator (self-protector).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

If there are no contraindications, spray powder with water to prevent the formation of dust. Use breathing equipment if powders are released into the air.

6.2. Environmental precautions

The product must not penetrate the sewer system, surface water, ground water and neighbouring areas.

6.3. Methods and material for containment and cleaning up

Use mechanical tools to collect leaked product and eliminate the remainder using jets of water. Make sure the leakage site is well aired.
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.

7. Handling and storage

7.1. Precautions for safe handling

Do not smoke while handling and use.

7.2. Conditions for safe storage, including any incompatibilities

Store in a well ventilated place, keep far away from sources of heat, bright flames and sparks and other sources of ignition.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Information not relevant

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protection equipment, make sure that the workplace is well aired through effective local aspiration or bad air vent. If such operations do not make it possible to keep the concentration of the product below the permitted workplace exposure thresholds a suitable respiratory tract protection must be used. See product label for hazard details during use. Ask your chemical substance suppliers for advice when choosing personal protection equipment. Personal protection equipment must comply with the rules in force indicated below.

HAND PROTECTION

Protect hands with category III (ref. Directive 89/686/EEC and standard EN 374) work gloves, such as those in PVA, butyl, fluoroelastomer or equivalent. The following should be considered when choosing work glove material: degradation, breakage times and permeation. Work glove resistance to preparations should be checked before use, as it can be unpredictable. Gloves' limit depends on the duration of exposure.

EYE PROTECTION

Wear protective airtight goggles (ref. standard EN 166).

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (ref. Directive 89/686/CEE and standard EN 344). Wash body with soap and water after removing overalls.

RESPIRATORY PROTECTION

If the threshold value for one or more of the substances present in the preparation for daily exposure in the workplace or to a fraction established by the company's prevention and protection service is exceeded, wear an FFP3 (ref. standard EN 141) type half mask.
The use of breathing protection equipment, such as masks with organic vapour and dust/mist cartridges, is necessary in the absence of technical measures limiting worker exposure. The protection provided by masks is in any case limited.
If the substance in question is odourless or its olfactory threshold is higher than the relative exposure limit and in the event of an emergency, or when exposure levels are unknown or the concentration of oxygen in the workplace is less than 17% volume, wear self-contained, open-circuit compressed air breathing apparatus (ref. standard EN 137) or fresh air hose breathing apparatus for use with full face mask, half mask or mouthpiece (ref. standard EN 138).
An emergency eye washing and shower system must be provided.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	crystals
Colour	white
Odour	odourless
Odour threshold	Not available
pH	6,0
Melting or freezing point	212 °C
Boiling point	444 °C
Distillation range	Not available
Flash point	Not available
Evaporation Rate	Not available
Flammability of solids and gases	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Specific gravity	4,352 Kg/l
Solubility	Water solubility (20 °C) 122 g/l
Partition coefficient: n-octanol/water	Not available
Ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Reactive Properties	Not available

9.2. Other information

Molecular weight	169,86

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
No hazardous reactions are foreseeable in normal conditions of use and storage.

10.4. Conditions to avoid
None in particular, however the usual precautions used for chemical products should be respected.

10.5. Incompatible materials
Information not available

10.6. Hazardous decomposition products
In the event of thermal decomposition or fire, vapours potentially dangerous to health may be released.

11. Toxicological information

11.1. Information on toxicological effects
This product is corrosive and causes abrasions of skin surface, accompanied by rubefaction, warmth and sting. In the most serious cases, small vesicles appear, which cause strong sting and pain. Upon contact with eyes, it may cause serious harm, such as cornea opacity, iris lesions, irreversible eye coloration. Possible vapours are caustic for the respiratory system and may cause pulmonary edema, whose symptoms sometimes arise only after some hours. Exposure symptoms may include: sting, cough, asthma, laryngitis,

respiratory disorders, headache, nausea and sickness. If swallowed, it may cause mouth, throat and oesophagus burns; sickness, diarrhoea, edema, larynx swelling and, consequently, asphyxia. Perforation of the gastro-intestinal tract is also possible.

SILVER NITRATE
LD50 (Oral): 1173,000 mg/Kg rat

12. Ecological information

12.1. Toxicity
This product is dangerous for the environment and highly toxic for aquatic organisms. In the long term, it may even have negative effects on aquatic environment.

12.2. Persistence and degradability
Information not available

12.3. Bioaccumulative potential
Information not available

12.4. Mobility in soil
Information not available

12.5. Results of PBT and vPvB assessment
Information not available

12.6. Other adverse effects
Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.
Waste transportation may be subject to ADR restrictions.

14. Transport information

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the provisions set out in the current edition of the Code of International Carriage of Dangerous Goods by Road (ADR) and in all the applicable national regulations.
These goods must be packed in their original packagings or in packagings made of materials resistant to their content and not reacting dangerously with it. People loading and unloading dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergency situations.

Road and rail transport:

ADR/RID Class:	5.1	UN:	1493
Packing Group:	II		
Label:	5.1		
Nr. Kemler:	50		
Special Provision:	B4		
Limited Quantity	LQ11		
Proper Shipping Name:	Silver nitrate		

Carriage by sea (shipping):

IMO Class:	5.1	UN:	1493
Packing Group:	II		
Label:	5.1		
EMS:	F-A, S-Q		
Marine Pollutant	YES		
Proper Shipping Name:	Silver nitrate		

Transport by air:

IATA:	5.1	UN:	1493	
Packing Group:	II			
Label:	5.1			
Cargo:				
Packaging instructions:	511		Maximum quantity:	25 KG
Pass.:				
Packaging instructions:	508		Maximum quantity:	5 KG
Proper Shipping Name:	Silver nitrate			

15. Regulatory information

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

Seveso category 3,9i

Substances in Candidate List (Art. 59 REACH)
None

Substances subject to authorisarion (Annex XIV REACH)
Information not available

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

No chemical safety assessment has been processed for the mixture and the substances it contains

16. Other information

Key for the CLP classifications mentioned in sections 2 and 3 of the sheet:

Ox. Sol. 1	Oxidising solid, category 1
Ox. Liq. 3	Oxidising liquid, category 3
Skin Corr. 1B	Skin corrosion, category 1B
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity category 1
H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

R 8	CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
R34	CAUSES BURNS.
R50/53	VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

GENERAL BIBLIOGRAPHY

1. Directive 1999/45/EC and following amendments
2. Directive 67/548/EEC and following amendments and adjustments
3. Regulation (EC) 1907/2006 (REACH) of the European Parliament
4. Regulation (EC) 1272/2008 (CLP) of the European Parliament
5. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
6. Regulation (EC) 453/2010 of the European Parliament
7. The Merck Index. - 10th Edition
8. Handling Chemical Safety
9. Niosh - Registry of Toxic Effects of Chemical Substances
10. INRS - Fiche Toxicologique (toxicological sheet)
11. Patty - Industrial Hygiene and Toxicology
12. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product .
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Changes to previous review:
The following sections were modified:
02/03/05/08/13/14/15