1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Sodium Silicofluoride
CHEMICAL FORMULA: Na$_2$SiF$_6$

COMPANY NAME:
PELCHEM: The Chemical Division of NECSA
P O Box 582, Pretoria, 0001, South Africa
Tel: 27 12 305-3396 / Fax: 27 12 305-3728
E-mail: eddyv@aec.co.za / Cell: 083 628 0831
Emergency tel: 27 12 305-3333/4

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME OF SUBSTANCE: Sodium Fluorosilicate.
SYNONYMS: Sodium Silico Fluoride; Disodium Hexafluorosilicate.
CONCENTRATION: >99%

UN No: 2674
CAS-No: 16893-85-9

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Toxic by inhalation and if swallowed. Harmful if in contact with skin.

4. FIRST AID MEASURES

GENERAL ADVICE:
Show this safety data sheet to the doctor in attendance

INHALATION:
Move to fresh air. Give oxygen. Consult a physician after significant exposure

INGESTION:
Drink plenty of water. Induce vomiting immediately and call a physician. If possible drink milk afterwards.

SKIN CONTACT:
Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Consult a physician.

EYE CONTACT:
In case of contact with eyes, rinse immediately with plenty of water and seek medical advise

PROTECTION OF FIRST AIDERS:
Ensure adequate ventilation. Use personal protective equipment.
5. **FIRE-FIGHTING MEASURES**

**SUITABLE EXTINGUISHING MEDIA:**
Non-flammable. Carbon dioxide (CO\(_2\)), dry chemical

**EXTINGUISHING MEDIA NOT SUITABLE:**
Water.

**SPECIFIC FIRE-FIGHTING HAZARDS:**
Hydrogen fluoride can be produced during a fire.

**SPECIFIC METHODS:**
Standard procedure for chemical fires.

**PROTECTION FOR FIRE FIGHTERS:**
In case of fire, wear a self-contained breathing apparatus.

6. **ACCIDENTAL RELEASE MEASURES**

**PERSONAL PRECAUTIONS:**
Ensure adequate ventilation. Use personal protective equipment. Evacuate personnel to safe areas.

**ENVIRONMENTAL PRECAUTIONS:**
Prevent product from entering drains.

**METHODS FOR CLEANING UP:**
Shovel into suitable container for disposal.

7. **HANDLING AND STORAGE**

**TECHNICAL MEASURE TO PREVENT USER EXPOSURE**
Use only in area provided with appropriate exhaust ventilation. Avoid dust formation.

**SAFE HANDLING PRECAUTIONS**
Wear personal protective equipment (eyes).

**TECHNICAL STORAGE MEASURES**
25kg or 50kg woven polypropylene bags with waterproof inner liners.

**STORAGE CONDITIONS**
Keep containers tightly closed in a dry, cool and well ventilated area.

**INCOMPATIBLE PRODUCTS**
8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

APPROPRIATE ENGINEERING MEASURES
Ensure adequate ventilation, especially in confined areas.

SPECIFIC CONTROL PARAMETER (EXPOSURE LIMITS)
OSHA Permitted exposure level (PEL Final) 8 hr TWA 2.5mg/m³.

PPE: RESPIRATORY PROTECTION
In case of respirable dust and/or fumes, use a self-contained breathing apparatus.

PPE: HAND
Rubber or plastic gloves.

PPE: EYE
Tightly fitting safety goggles

PPE: SKIN AND BODY
Dust impervious protective suit. Remove and wash contaminated clothing before re-use

HYGIENE MEASURES
Avoid contact with skin, eyes and clothing. When using - do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Crystalline.

COLOUR: White powder.

pH: Between 6 and 7.

ODOR: Slightly pungent.

FLASH POINT: Does not flash.

DECOMPOSITION TEMPERATURE: Starts at 500°C.

MOLECULAR WEIGHT: 188.06

RELATIVE DENSITY: 2.68

SOLUBILITY: Water: 0.64g/100g water at 20°C

TYPICAL POUR DENSITY: 1340kg/m³

TYPICAL TAP DENSITY: 1590kg/m³

10. STABILITY AND REACTIVITY

STABILITY: Stable at normal conditions. Decomposition starts at

CONDITIONS TO AVOID: To avoid thermal decomposition, do not
500°C.

HAZARDOUS DECOMPOSITION PRODUCTS:
Sodium Fluoride, Silicon Tetra fluoride and Hydrogen fluoride

MATERIALS TO AVOID:
Metals.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
LD50/oral/rat = 125 mg/kg.
Irritation of skin: mild/500 mg/rabbit
Irritation of eyes: severe/100 mg/rabbit

SENSITIZATION:
No data available.

LOCAL EFFECTS:
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

CHRONIC TOXICITY:
Continuous or intermittent exposure to inorganic fluorides can lead to appreciable accumulation of fluoride in bone, and, to development of osteosclerosis and other bone changes.

HUMAN EXPERIENCE:
No evidence of association between fluoride ingestion and mortality from cancer in humans. (Internal Agency of Research on Cancer).

12. ECOLOGICAL INFORMATION:

MOBILITY:
No data available.

ECOTOXICITY:
No data available.

BIOACCUMULATION:
No data available.

PERSISTENCE AND DEGRADABILITY:
No data available.

FURTHER INFORMATION:
Highly toxic to foliage.
Lethal to Tinca Vulgaris at 50 ppm.

13. DISPOSAL CONSIDERATIONS

SAFE AND PREFERRED DISPOSAL METHODS:
Contact manufacturer.

CONTAMINATED PACKAGING:
Contact manufacturer.

14. TRANSPORT INFORMATION

ADR/RID:
Class: 6.1
Labels: Harmful
Proper shipping name:
Sodium fluorosilicate, **Item:** 64°(c)

**IMDG:**
- **Class:** 6.1
- **Packaging group:** III

**Labels:** Harmful

**Subrisk:** None

**Proper shipping name:** Sodium fluorosilicate

**IATA:**
- **Class:** 6.1
- **Packaging group:** III

**Labels:** Harmful

**Subrisk:** None

**Proper shipping name:** Sodium fluorosilicate

15. **REGULATORY INFORMATION**

According to (National equivalent of EC-Dir.67/548), as amended, the product is labeled as follows:

- **T**: Toxic
- **R23/24/25**: Toxic by inhalation, in contact with skin and if swallowed.
- **S1/2**: Keep locked-up and out of reach of children.
- **S26**: In case of contact with eyes, rinse immediately with plenty of water and seek medical advise.
- **S44**: If you feel unwell, seek medical advice (show label where possible).

16. **OTHER INFORMATION**

**RECOMMENDED USE:**
1. Fluoridation of drinking water.
2. Laundry sours.
3. Opalescent glass.
4. Vitreous enamel frits.
5. Metallurgy of aluminium and verblium.
6. Insecticides and rodenticides.
7. Leather and wood preservatives.

**REFERENCES:**
3. IMDG, SABS 0228, SABS 0229.

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