1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Sodium Silicofluoride

CHEMICAL FORMULA: Na_2SiF_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 (CO₂), 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**
MATERIAL SAFETY DATA SHEET
SODIUM SILICOFLUORIDE

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.

MOLECULAR WEIGHT: 188.06
RELATIVE DENSITY: 2.68

TYPICAL POUR DENSITY: 1340kg/m³
TYPICAL TAP DENSITY: 1590kg/m³

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

10. STABILITY AND REACTIVITY

STABILITY: Stable at normal conditions. Decomposition starts at
CONDITIONS TO AVOID: To avoid thermal decomposition, do not
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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