

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:

Sodium Silicofluoride

CHEMICAL FORMULA:

Na₂SiF₆

COMPANY NAME:

PELCHEM: The Chemical Division of NECSA

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2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME OF SUBSTANCE: SYNONYMS:

Sodium Fluorosilicate.

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

Stowage category A (away from acids).

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.

overheat.

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

IATA:

Class: 6.1

Packaging group: III

Labels: Harmful

Subrisk: None

Labels: Harmful

Subrisk: None

Proper shipping name:

Sodium fluorosilicate

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 soaps.
3. Opalescent glass.
4. Vitreous enamel frits.
5. Metallurgy of aluminium and verblum.
6. Insecticides and rodenticides.
7. Leather and wood preservatives.

REFERENCES:

1. (CED) Chemical Exchange Directory S.A., Geneva, Switzerland.
2. Unpublished Reports, AEC of SA Ltd, Pelindaba, South Africa, 1993.
3. IMDG, SABS 0228, SABS 0229.

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