

SECTION 1: Identification

1.1. Product identifier

Trade name : SODIUM FLUORIDE
 IUPAC name : sodium fluoride
 EC-No. : 231-667-8
 CAS-No. : 7681-49-4
 UN-No. (ADR) : 1690
 Product code : 119145xxx
 Formula : NaF

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

Recommended uses and restrictions : For laboratory use only

1.3. Supplier's details

Labchem (Pty)Ltd
 6 Wakefield Road
 Founders Hill
 1609 Johannesburg - South Africa
 T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number : +27 11 452 1116

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Acute toxicity (oral), Category 3 H301
 Skin corrosion/irritation, Category 2 H315
 Specific target organ toxicity — Repeated exposure, Category 1 H372
 Hazardous to the aquatic environment — Acute Hazard, Category 3 H402
 Hazardous to the aquatic environment - Chronic Hazard Not classified
 Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



GHS06

GHS08

Signal word (GHS-ZA) : Danger

Hazard statements (GHS-ZA) : H301 - Toxic if swallowed.
 H315 - Causes skin irritation.
 H372 - Causes damage to organs through prolonged or repeated exposure.
 H402 - Harmful to aquatic life

Precautionary statements (GHS-ZA) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 - Wash hands, forearms and face thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
 P302+P352 - IF ON SKIN: Wash with plenty of water.
 P314 - Get medical advice/attention if you feel unwell.
 P321 - Specific treatment (see supplemental first aid instruction on this label).
 P330 - Rinse mouth.
 P332+P313 - If skin irritation occurs: Get medical advice/attention.
 P362+P364 - Take off contaminated clothing and wash it before reuse.
 P405 - Store locked up.
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SODIUM FLUORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : Causes damage to organs through prolonged or repeated exposure, Toxic if swallowed, Causes skin irritation, Harmful to aquatic life

SECTION 3: Composition/information on ingredients

3.1. Substances

IUPAC name : sodium fluoride

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
sodium fluoride (Main constituent)	(CAS-No.) 7681-49-4	≥ 98	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 STOT RE 1, H372 Aquatic Acute 3, H402 Aquatic Chronic Not classified

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Rinse mouth. Call a physician immediately.

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

Symptoms/effects after skin contact : Irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

SODIUM FLUORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

- Hand protection : Protective gloves
- Eye protection : Safety glasses
- Skin and body protection : Wear suitable protective clothing
- Respiratory protection : Dust production: dust mask with filter type P1

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : No data available
- Molecular mass : 41.988172 g/mol
- Colour : No data available
- Odour : No data available
- Odour threshold : No data available
- pH : No data available
- pH solution : No data available
- Relative evaporation rate (butylacetate=1) : No data available
- Relative evaporation rate (ether=1) : No data available
- Melting point : 996 °C Atm. press.: 1 atm
- Freezing point : Not applicable
- Boiling point : 1695 °C Atm. press.: 1 atm
- Flash point : Not applicable
- Auto-ignition temperature : Not applicable
- Decomposition temperature : No data available
- Flammability (solid, gas) : Non flammable.
- Vapour pressure : No data available
- Vapour pressure at 50 °C : No data available
- Relative vapour density at 20 °C : No data available
- Relative density : ≈ 2.76 Type: 'relative density' Temp.: 20 °C
- Relative density of saturated gas/air mixture : No data available
- Density : 2.7583 g/ml Type: 'density' Temp.: 20 °C
- Relative gas density : No data available
- Solubility : No data available

SODIUM FLUORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Toxic if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

SODIUM FLUORIDE (7681-49-4)

LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: EPA OPPTS 870.1200 (Acute Dermal Toxicity)
-----------------	--

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.

SODIUM FLUORIDE (7681-49-4)

LOAEL (oral, rat, 90 days)	≈ 4 mg/kg bodyweight Animal: rat, Guideline: other:EPA OPP 83-5 (Combined Chronic Toxicity / Carcinogenicity)
NOAEL (oral, rat, 90 days)	≈ 25 mg/kg bodyweight Animal: rat, Guideline: other:EPA OPP 83-5 (Combined Chronic Toxicity / Carcinogenicity)

Aspiration hazard	: Not classified
-------------------	------------------

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Harmful to aquatic life.
Hazardous to the aquatic environment, short-term (acute)	: Harmful to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified.

SODIUM FLUORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

SODIUM FLUORIDE (7681-49-4)	
LC50 fish 1	51 mg/l Test organisms (species): other:summary of findings in various species
LC50 fish 2	165 mg/l Test organisms (species): other:summary of findings in various species
NOEC (chronic)	14.1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	4 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '21 d'

12.2. Persistence and degradability

SODIUM FLUORIDE (7681-49-4)	
Persistence and degradability	No additional information available

12.3. Bioaccumulative potential

SODIUM FLUORIDE (7681-49-4)	
Bioaccumulative potential	No additional information available

12.4. Mobility in soil

SODIUM FLUORIDE (7681-49-4)	
Mobility in soil	No additional information available

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available




SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
-------------------------	---

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1690	1690	1690
14.2. Proper Shipping Name		
SODIUM FLUORIDE, SOLID	SODIUM FLUORIDE, SOLID	Sodium fluoride, solid
14.3. Transport hazard class(es)		
6.1	6.1	6.1
		 Not applicable
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Limited quantities (SANS)	: 5 kg
Limited quantities (SANS)	: 5 kg
Packagings, large packagings and IBCs	: P002, IBC08, LP02
Packing instructions (SANS)	
Packagings, large packagings and IBCs Special	: B3
packing instructions (SANS)	
Portable tank and bulk containers instructions (SANS)	: T1
Portable tank and bulk container special provisions (SANS)	: TP33

SODIUM FLUORIDE

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

- IMDG

Limited quantities (IMDG)	: 5 kg
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P002, LP02
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: White crystals or powder. React with acids, evolving hydrogen fluoride, a toxic, irritating and corrosive gas, apparent as white fumes. Toxic if swallowed, by skin contact or by inhalation.

- IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y645
PCA limited quantity max net quantity (IATA)	: 10kg
PCA packing instructions (IATA)	: 670
PCA max net quantity (IATA)	: 100kg
CAO packing instructions (IATA)	: 677
CAO max net quantity (IATA)	: 200kg
ERG code (IATA)	: 6L

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

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 14/07/2020
Revision date : 14/07/2025

Full text of H-statements:

H301	Toxic if swallowed.
H315	Causes skin irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H402	Harmful to aquatic life

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.