1. Identification

**Product Name**: Sodium fluoride

**Cat No.**: S299-3; S299-100; S299-500

**CAS No**: 7681-49-4

**Synonyms**: No information available

**Recommended Use**: Laboratory chemicals.

**Uses advised against**: Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet**

**Company**: Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number**: CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

**Classification**: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Category 3</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

**Label Elements**

**Signal Word**: Danger

**Hazard Statements**

- Toxic if swallowed
- Causes skin irritation
- Causes serious eye irritation
Precautionary Statements

Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection

Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Storage
Store locked up

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Contact with acids liberates very toxic gas

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>7681-49-4</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion
Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms and effects
None reasonably foreseeable. Other side effects may include nausea, headache, diarrhea, cramps, vomiting, or flu-like symptoms

Notes to Physician
Treat symptomatically
5. Fire-fighting measures

Suitable Extinguishing Media  Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Unsuitable Extinguishing Media  No information available

Flash Point  No information available
Method -  No information available

Autoignition Temperature  No information available

Explosion Limits  No data available
Upper  No data available
Lower  No data available

Specific Hazards Arising from the Chemical
Non-combustible. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Gaseous hydrogen fluoride (HF).

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

6. Accidental release measures

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental Precautions
Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up
Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling
Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

Storage.

8. Exposure controls / personal protection

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>TWA: 2.5 mg/m³</td>
<td>(Vacated) TWA: 2.5 mg/m³</td>
<td>IDLH: 250 mg/m³ TWA: 2.5 mg/m³</td>
<td>TWA: 2.5 mg/m³</td>
</tr>
</tbody>
</table>

Legend
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Powder Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>7.4</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>993 °C / 1819.4 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>1700 °C / 3092 °F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>F Na</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>41.98</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactive Hazard: None known, based on information available.

Stability: Stable under normal conditions. Moisture sensitive.

Conditions to Avoid: Incompatible products. Exposure to moist air or water.

Incompatible Materials: Acids.

Hazardous Decomposition Products: Gaseous hydrogen fluoride (HF).

Hazardous Polymerization: Hazardous polymerization does not occur.
Hazardous Reactions

None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>LD50 = 52 mg/kg (Rat)</td>
<td>&gt; 2000 mg/kg (Rat)</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation

Irritating to eyes and skin

Sensitization

No information available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>7681-49-4</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available.

STOT - single exposure

None known

STOT - repeated exposure

None known

Aspiration hazard

No information available

Symptoms / effects, both acute and delayed

Other side effects may include nausea, headache, diarrhea, cramps, vomiting, or flu-like symptoms

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>EC50: = 850 mg/L, 72h static (Desmodesmus subspicatus)</td>
<td>Lepomis macrochirus: 530 mg/L LC50 96 h (static) 830 mg/L LC50 96 h (semi-static) Pimephales promelas: 180 mg/L LC50 96 h Oncorhynchus mykiss: 38 - 68 mg/L LC50 96 h</td>
<td>-</td>
<td>338 mg/L EC50 = 48 h 98 mg/L EC50 = 48 h (static)</td>
</tr>
</tbody>
</table>

Persistence and Degradability

Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation

No information available.
Mobility
Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations
Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
- UN-No: UN1690
- Proper Shipping Name: SODIUM FLUORIDE, SOLID
- Hazard Class: 6.1
- Packing Group: III

TDG
- UN-No: UN1690
- Proper Shipping Name: SODIUM FLUORIDE, SOLID
- Hazard Class: 6.1
- Packing Group: III

IATA
- UN-No: UN1690
- Proper Shipping Name: SODIUM FLUORIDE, SOLID
- Hazard Class: 6.1
- Packing Group: III

IMDG/IMO
- UN-No: UN1690
- Proper Shipping Name: SODIUM FLUORIDE, SOLID
- Hazard Class: 6.1
- Packing Group: III

15. Regulatory information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active-Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>7681-49-4</td>
<td>X</td>
<td>ACTIVE</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>ISHL</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>7681-49-4</td>
<td>X</td>
<td>-</td>
<td>231-667-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-31540</td>
</tr>
</tbody>
</table>

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information
### Sodium fluoride

<table>
<thead>
<tr>
<th>CWA (Clean Water Act)</th>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>X</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Clean Air Act**
Not applicable

**OSHA - Occupational Safety and Health Administration**
Not applicable

**CERCLA**
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>1000 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y
DOT Marine Pollutant: N
DOT Severe Marine Pollutant: N

**U.S. Department of Homeland Security**
This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade**
No information available

**Authorisation/Restrictions according to EU REACH**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>-</td>
<td>Use restricted. See item 75. (see link for restriction details)</td>
<td>-</td>
</tr>
</tbody>
</table>


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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>OECD HPV</th>
<th>Persistent Organic Pollutant</th>
<th>Ozone Depletion Potential</th>
<th>Restriction of Hazardous Substances (RoHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>7681-49-4</td>
<td>Listed</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>7681-49-4</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
16. Other information

<table>
<thead>
<tr>
<th>Prepared By</th>
<th>Regulatory Affairs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thermo Fisher Scientific</td>
</tr>
<tr>
<td></td>
<td>Email: <a href="mailto:EMSDS.RA@thermofisher.com">EMSDS.RA@thermofisher.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Creation Date</th>
<th>16-Nov-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision Date</td>
<td>24-Dec-2021</td>
</tr>
<tr>
<td>Print Date</td>
<td>24-Dec-2021</td>
</tr>
</tbody>
</table>

**Revision Summary**
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS