

SAFETY DATA SHEET

According to US Regulation 29 CFR 1910.1200 (HazCom 2012)

1. Identification

Product identifier: Sodium Fluoride

Other means of identification

Product No.: 3688, 3689, 5325, 7636

Recommended restrictions

Recommended use: For Laboratory, Research or Manufacturing Use.

Restrictions on use: Not determined.

Details of the supplier of the safety data sheet

Company Name: Avantor Performance Materials, LLC
Address: 100 Matsonford Rd, Suite 200
Radnor, PA 19087

Telephone: Customer Service: 855-282-6867

Contact Person: Product Information Compliance
E-mail: info@avantormaterials.com

Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada (24 hrs/day, 7 days/week)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)	Category 2
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A

Unknown toxicity - Health

Acute toxicity, inhalation, dust or mist	100 %
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Environmental Hazards

Acute hazards to the aquatic environment	Category 3
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Unknown toxicity - Environment

Acute hazards to the aquatic environment	0 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Fatal if swallowed.
Causes skin irritation.
Causes serious eye irritation.
Harmful to aquatic life.

Precautionary Statements

Prevention: Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

Response: IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Collect spillage.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Substances

Chemical Identity	CAS number	Content in percent (%)*
Sodium fluoride	7681-49-4	98.0 - 100.0%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation: Move to fresh air. Get medical attention if symptoms occur.

Skin Contact:	Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Symptoms:	Fatal if swallowed. May cause irritation to skin, eyes and respiratory tract.
Hazards:	None known.

Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically. Symptoms may be delayed.
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5. Fire-fighting measures

General Fire Hazards:	In case of fire and/or explosion do not breathe fumes.
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	None known.

Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.
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Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Keep unauthorized personnel away. Keep upwind. Avoid inhalation of dust. Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and material for containment and cleaning up:	Sweep up and place in a clearly labeled container for chemical waste. Avoid dust formation. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
Notification Procedures:	Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities: Keep in a cool, well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Sodium fluoride - as F	TWA	2.5 mg/m ³	US. ACGIH Threshold Limit Values (2011)
	REL	2.5 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	2.5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	2.5 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Sodium fluoride - Dust.	TWA	2.5 mg/m ³	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
Sodium fluoride - as F	TWA	2.5 mg/m ³	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Sodium fluoride	AN ESL	Vegetation 0.57 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	AN ESL	Animal 0.71 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
	ST ESL	Health 17 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)
	ST ESL	Vegetation 2.8 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (06 2018)
	AN ESL	Health 8.1 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)
Sodium fluoride - as F	TWA PEL	2.5 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Sodium fluoride (Fluoride: Sampling time: Prior to shift.)	2 mg/l (Urine)	ACGIH BEI (03 2013)
Sodium fluoride (Fluoride: Sampling time: End of shift.)	3 mg/l (Urine)	ACGIH BEI (03 2013)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.
Eyeface protection:	Wear safety glasses with side shields (or goggles) and a face shield.
Skin Protection	
Hand Protection:	Chemical resistant gloves
Other:	Wear suitable protective clothing.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator.
Hygiene measures:	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:	Solid
Form:	Powder or crystals
Color:	White, Colorless
Odor:	Odorless
Odor threshold:	No data available.
pH:	7.4 (20 °C) Saturated solution in water
Melting point/freezing point:	993 - 996 °C
Initial boiling point and boiling range:	1,695 - 1,704 °C
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	Noncombustible Solid
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Density:	2.76 - 2.78 g/cm ³ (20 °C)
Relative density:	2.76 - 2.78 (20 °C)
Solubility(ies)	
Solubility in water:	40 g/l (25 °C)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

Other information

Molecular weight: 42 g/mol (NaF)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Contact with acid liberates poisonous gas.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Avoid dust formation. Excessive heat.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decomposition Products:	Sodium oxides. Hydrogen fluoride.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	May cause irritation to the respiratory system.
Skin Contact:	Causes skin irritation.
Eye contact:	Causes serious eye irritation.
Ingestion:	Fatal if swallowed.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	LD 50 (Rat): 51.6 - 223 mg/kg
Dermal	
Product:	LD 50 (Rat) > 2,000 mg/kg
Inhalation	
Product:	No data available.

Repeated dose toxicity

Product:	No data available.
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Skin Corrosion/Irritation

Product:	Causes skin irritation.
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Serious Eye Damage/Eye Irritation

Product:	Causes serious eye irritation.
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Respiratory or Skin Sensitization

Product:	Not a skin nor a respiratory sensitizer.
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Carcinogenicity

Product:	This substance has no evidence of carcinogenic properties.
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IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity
In vitro
Product: No mutagenic components identified

In vivo
Product: No mutagenic components identified

Reproductive toxicity
Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:
Acute hazards to the aquatic environment:
Fish
Product: No data available.

Specified substance(s):

Sodium fluoride
LC 50 (Fathead Minnow, 96 h): 124 - 194 mg/l
LC 50 (Rainbow Trout, 96 h): 38 - 68 mg/l

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Sodium fluoride
EC 50 (Water flea (Daphnia magna), 48 h): 98 - 270 mg/l
LC 50 (Water flea (Daphnia magna), 48 h): 109 - 354 mg/l
LC 50 (Common shrimp, sand shrimp (Crangon crangon), 48 h): > 300 mg/l

Chronic hazards to the aquatic environment:
Fish

Product:	No data available.
Specified substance(s): Sodium fluoride	NOAEL (Oncorhynchus mykiss, 21 d): 4 mg/l
Aquatic Invertebrates	
Product:	No data available.
Specified substance(s): Sodium fluoride	NOAEL (Daphnia magna, 21 d): 3.7 - 14.1 mg/l
Toxicity to Aquatic Plants	
Product:	No data available.

Persistence and Degradability

Biodegradation	
Product:	There are no data on the degradability of this product.
BOD/COD Ratio	
Product:	No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)	
Product:	No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.
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Mobility in soil:	The product is partly soluble in water. May spread in the aquatic environment.
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Other adverse effects:	Harmful to aquatic organisms.
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13. Disposal considerations

Disposal instructions:	Discharge, treatment, or disposal may be subject to national, state, or local laws.
Contaminated Packaging:	Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN Number:	UN 1690
UN Proper Shipping Name:	Sodium fluoride, solid
Transport Hazard Class(es)	
Class:	6.1
Label(s):	6.1
Packing Group:	III
Marine Pollutant:	No

Special precautions for user: Not determined.

IMDG

UN Number: UN 1690
UN Proper Shipping Name: SODIUM FLUORIDE, SOLID
Transport Hazard Class(es)
Class: 6.1
Label(s): 6.1
EmS No.: F-A, S-A
Packing Group: III
Marine Pollutant: No
Special precautions for user: Not determined.

IATA

UN Number: UN 1690
Proper Shipping Name: Sodium fluoride, solid
Transport Hazard Class(es):
Class: 6.1
Label(s): 6.1
Packing Group: III
Marine Pollutant: No
Special precautions for user: Not determined.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Sodium fluoride	1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Acute toxicity (any route of exposure)
Skin Corrosion or Irritation
Serious eye damage or eye irritation

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Sodium fluoride	10000 lbs.

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):

Chemical Identity

Sodium fluoride

Reportable quantity

Reportable quantity: 1000 lbs.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Sodium fluoride

US. Massachusetts RTK - Substance List

Chemical Identity

Sodium fluoride

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Sodium fluoride

US. Rhode Island RTK

Chemical Identity

Sodium fluoride

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

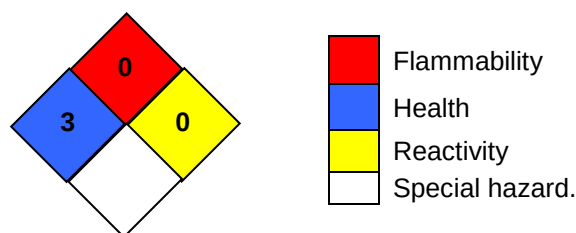
Not applicable

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date: 04-26-2021

Revision Information: Not relevant.

Version #: 1.1

Source of information: Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate.

Further Information: No data available.

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