

SAFETY DATA SHEET

Preparation Date: 4/8/2014

Revision date 5/16/2018

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: S1282
Product Name: SODIUM FLUORIDE, TECHNICAL

Other means of identification

Synonyms: Sodium hydrofluoride
 Sodium monofluoride
 Fluorure de sodium (French)
 Sodium fluorure (French)
 Natriumfluorid (German)

CAS #: 7681-49-4
RTECS # WB0350000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Fungicide. Fluoridation agent in drinking water.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Reproductive toxicity	Category 2

Label elements

Danger

Hazard statements

Toxic if swallowed
Fatal in contact with skin
Causes skin irritation
Causes serious eye irritation
Suspected of damaging fertility or the unborn child



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not get in eyes, on skin, or on clothing
Wear eye/face protection

Precautionary Statements - Response

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 attention.
Immediately call a POISON CENTER or physician
IF ON SKIN: Gently wash with plenty of soap and water
Take off immediately all contaminated clothing
Wash contaminated clothing before reuse
If skin irritation occurs: Get medical attention
IF SWALLOWED: Immediately call a POISON CENTER or physician
Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents and container to an approved waste disposal plant in accordance with local, regional, national and international regulations as applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Sodium Fluoride	7681-49-4	100

4. FIRST AID MEASURES

First aid measures

General Advice:	National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.
Skin Contact:	Fatal in contact with skin. Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
Eye Contact:	Flush eyes with water for 15 minutes. Get medical attention. If symptoms persist, call a physician.
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Toxic if swallowed. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritating to eyes and skin Abdominal pain Nausea Vomiting May cause diarrhea May cause salivation Dyspnea (Difficulty breathing and shortness of breath) Central nervous system effects May cause cardiovascular effects May cause hypocalcemia May cause metabolic acidosis Hyperkalemia
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Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous combustion products

No information available.

Specific hazards

This material is an inorganic dust/powder and will not create nor support conditions that would result in a dust explosion or fire.

Special Protective Actions for Firefighters

Specific Methods:

No information available

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Strong oxidizing agents
Bases
Acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Sodium Fluoride	7681-49-4	2.5 mg/m ³ TWA F	2.5 mg/m ³ TWA F	2.5 mg/m ³ TWA F	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Sodium Fluoride	7681-49-4	2.5 mg/m ³ TWA F	2.5 mg/m ³ TWA F	2.5 mg/m ³ TWA F	2.5 mg/m ³ TWAEV F

Australia and Mexico

Component	CAS No	Australia	Mexico
Sodium Fluoride	7681-49-4	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Safety glasses with side-shields. or Goggles

Skin and body protection: Long sleeved clothing
Chemical resistant apron
Gloves

Respiratory protection: Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Solid

Appearance:
Powder.

Color:
White.

Odor:
Odorless.

Taste
Saline. Salty.

Formula
NaF

Product code: S1282

Product name: SODIUM FLUORIDE,
TECHNICAL

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Molecular/Formula weight (g/mole): 41.99	Flammability (solid, gas) no data available	Flashpoint (°C/°F): No information available
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): 993 °C/1819 °F	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): 1704-1705°C/3099.2-3101 °F	Bulk density: No information available	Density (g/cm3): No information available
Specific gravity: 2.78	pH No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: Insoluble in Alcohol Soluble in Water Solubility in Water: 4.0 g/100 ml at 15 °C; 4.3 g/100 ml at 25 °C; 5 g/100 ml at 100 °C	

10. STABILITY AND REACTIVITY

Reactivity

Reacts with acids to form hydrogen fluoride
Reactive with oxidizing agents
Reacts with strong bases

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials:
Strong oxidizing agents
Bases
Acids

Hazardous decomposition products: When heated to decomposition it emits toxic fumes. Hydrogen fluoride. Sodium oxides.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation. Skin.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document
Component Information

Sodium Fluoride	
CAS No	7681-49-4

LD50/oral/rat = 52 mg/kg Oral LD50 Rat
LD50/oral/mouse = 26-101 mg/kg
LD50/dermal/rabbit = No information available
LD50/dermal/rat = 175 mg/kg Dermal LD50
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
Value - Acute Toxicity = 52 mg/kg

LD50/oral/mouse =
Value - Acute Tox = 26-101 mg/kg

LD50/dermal/rabbit
Value - Acute Toxicity = No information available

LD50/dermal/rat
VALUE - Acute Tox = 175 mg/kg

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Fatal if absorbed through skin. Causes skin irritation. May cause severe irritation and possible burns if skin is wet.

Eye Contact: Causes eye irritation. May cause conjunctivitis. May cause burns. May cause corneal damage.

Inhalation May cause irritation of respiratory tract.

Ingestion Toxic if swallowed. Causes gastroenteritis. Causes abdominal pain (epigastric

distress). Causes nausea. Causes vomiting. Causes diarrhea. Causes salivation. May cause muscle weakness. Acute ingestion of fluorides may cause nervous system effects with neurological symptoms such as headache, tremors, convulsions, seizures/convulsions, tetanic contractions, muscle spasms, muscle weakness. May affect electrolytes. Fluoride ions can reduce serum calcium levels possibly causing fatal hypocalcemia, hypomagnesemia, metabolic and/or respiratory acidosis, and sometimes hyperkalemia. May affect the cardiovascular system (cardiac arrhythmias).

Aspiration hazard No information available.

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

Chronic Toxicity Chronic or prolonged exposure from inhalation or ingestion of fluoride dusts, vapors or mists may cause Fluorosis (chronic fluoride poisoning) and may also affect the blood serum composition and red blood cell count. Fluorosis is characterized by weight loss, weakness, anemia, brittle bones, and stiff joints. Other musculoskeletal effects may include teeth discoloration/mottled enamel, tendon calcification, and osteosclerosis. Repeated exposure may cause bronchitis to develop with cough, phlegm, and /or shortness of breath. Chronic exposure may cause central nervous system effects. Chronic ingestion of high levels of fluorides may affect the kidneys. Prolonged or repeated ingestion may affect the liver. Prolonged or repeated ingestion may cause hyperglycemia.

Sensitization: No information available.

Mutagenic Effects: May affect genetic material
Mutations in microorganisms
Experiments with bacteria and/or yeast have shown mutagenic effects
Mutagenic effects in mammalian somatic cells
Experiments with animal lymphocytes have shown mutagenic effects

Carcinogenic effects: Not classifiable as to its carcinogenicity to humans. Not classifiable as a human carcinogen.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Sodium Fluoride	7681-49-4	Supplement 7 [1987] Fluorides inorganic used in drinking-water	Group A4 - Not Classifiable As A Human Carcinogen (listed under Fluorides)	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity Suspected of damaging fertility or the unborn child

Reproductive Effects: May cause adverse reproductive effects based on animal data
Experiments have shown reproductive toxicity effects on laboratory animals

Developmental Effects: May cause adverse developmental effects based on animal data
Possible risk of harm to the unborn child

Teratogenic Effects: May cause birth defects (teratogenic effects) based on animal test data

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: Bones. Teeth. Kidneys. Central nervous system. Respiratory system. Lungs.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Sodium Fluoride - 7681-49-4

Algae/aquatic plants EC50: =272mg/L (96h, Pseudokirchneriella subcapitata) EC50: =850mg/L (72h, Desmodesmus subspicatus)

Fish LC50: >530mg/L (96h, Lepomis macrochirus) LC50: =830mg/L (96h, Lepomis macrochirus) LC50: 38 - 68mg/L (96h, Oncorhynchus mykiss) LC50: =180mg/L (96h, Pimephales promelas)

Crustacea EC50: =338mg/L (48h, Daphnia magna) EC50: =98mg/L (48h, Daphnia magna)

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility in soil No information available

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Sodium Fluoride	7681-49-4	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1690
Proper Shipping Name: Sodium fluoride, solid
Hazard Class 6.1
Subsidiary Class No information available
Packing group: III
Emergency Response Guide Number 154
Marine Pollutant No data available
DOT RQ (lbs): No information available

Special Provisions IB8, IP3, T1, TP33
Symbol(s): [DOT]: (R4) - Identifies a material that is a hazardous substance that has a reportable quantity (RQ) of 1000 pounds (454 Kilograms).
Description: UN1690, Sodium fluoride, solid, 6.1, III

TDG (Canada)
UN-No: UN1690
Proper Shipping Name: Sodium fluoride, solid
Hazard Class 6.1
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No Information available
Description: UN1690, Sodium fluoride, solid, 6.1, III

ADR
UN Number UN1690
Proper Shipping Name: Sodium fluoride, solid
Transport hazard class(es) 6.1
Packing group III
Subsidiary Risk: No information available
Description: UN1690, Sodium fluoride, solid, 6.1, III

IMDG
UN-No: UN1690
Proper Shipping Name: Sodium fluoride, solid
Hazard Class: 6.1
Subsidiary Risk: P
Packing Group: III
Marine Pollutant No information available
EMS: F-A
Description UN1690, Sodium fluoride, solid, 6.1, III

RID
UN Number UN1690
Proper Shipping Name: Sodium fluoride, solid
Transport hazard class(es) 6.1
Subsidiary Risk: 6.1
Packing group III
Description: UN1690, Sodium fluoride, solid, 6.1, III

ICAO (air)
UN-No: UN1690
Proper Shipping Name: Sodium fluoride, solid
Hazard Class 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: UN1690, Sodium fluoride, solid, 6.1, III

IATA
UN Number UN1690
Proper Shipping Name: Sodium fluoride, solid
Transport hazard class(es) 6.1
Subsidiary Risk: No information available
Packing group III
Precautionary Statements - Response 6L
Special Provisions No information available
Description: UN1690, Sodium fluoride, solid, 6.1, III

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Sodium Fluoride	7681-49-4	PresentACTIVE	Present KE-31540	Present	Present (1)-332	Present	Present	Present 231-667-8

U.S. Regulations

Sodium Fluoride

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: sn 1699

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Minnesota - Hazardous Substance List: Present (listed as fluorides)

New York Release Reporting - List of Hazardous Substances:

1000 lb RQ (air)

100 lb RQ (land/air)

Louisiana Reportable Quantity List for Pollutants: 1000lbfinal RQ

454kgfinal RQ

California Directors List of Hazardous Substances: Present

FDA - 21 CFR - Total Food Additives 175.105, 177.2800

- List Sourced from EAFUS

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Sodium Fluoride	7681-49-4	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Sodium Fluoride	7681-49-4	1000 lb final RQ 454 kg final RQ	None	None	None	None

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Sodium Fluoride	7681-49-4	Not Applicable	Not Applicable

Canada

WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Sodium Fluoride
7681-49-4 (100)

WHMIS 2015 Hazard Classification
Acute toxicity - Oral - Category 3: H301 Toxic if swallowed.; Acute toxicity - Inhalation - Category 3: H331 Toxic if inhaled.; Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Specific target organ toxicity - Repeated exposure - Category 1: H372 Causes damage to organs through prolonged or repeated exposure.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Sodium Fluoride	7681-49-4	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Sodium Fluoride	7681-49-4	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Sodium Fluoride	7681-49-4	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Sodium Fluoride	7681-49-4	Acute toxicity - Oral - Acute Tox. 3: H301 Toxic if swallowed. (Minimum classification); Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation.; Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation.; Supplemental Hazards - EUH032 Contact with acids liberates very toxic gas.009-004-00-7

EU - CLP (1272/2008)

R-phrase(s)

R25 - Toxic if swallowed
R32 - Contact with acids liberates very toxic gas
R36/38 - Irritating to eyes and skin

S -phrase(s)

S22 - Do not breathe dust
S36 - Wear suitable protective clothing
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S 1/2 - Keep locked up and out of the reach of children.

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Sodium Fluoride	7681-49-4	T; R25 R32 Xi; R36/38	No information	S: (1/2) 22 36 45

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The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

T - Toxic

Xi - Irritant

T



Xi



16. OTHER INFORMATION

Preparation Date: 4/8/2014
Revision date 5/16/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet