

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

- Trade name SODIUM FLUORIDE Coarse

**1.2 Relevant identified uses of the substance or mixture and uses advised against****Uses of the Substance / Mixture**

- Welding and soldering agents
- Metallurgy.
- Glass industry
- Dental application
- Water treatment

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

SOLVAY FLUORIDES, LLC  
3737 Buffalo Speedway,  
Suite 800,  
Houston, TX 77098  
USA  
Tel: 800-515-6065

**1.4 Emergency telephone**

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

**SECTION 2: Hazards identification**

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

**2.1 Classification of the substance or mixture****HCS 2012 (29 CFR 1910.1200)**

Acute toxicity, Category 3

H301: Toxic if swallowed.

**2.2 Label elements****HCS 2012 (29 CFR 1910.1200)****Pictogram****Signal Word**

- Danger

**Hazard Statements**

- H301 Toxic if swallowed.

**Precautionary Statements****Prevention**

- P264 Wash skin thoroughly after handling.

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- P270 Do not eat, drink or smoke when using this product.
- Response
- P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
- Storage
- P405 Store locked up.
- Disposal
- P501 Dispose of contents/ container to an approved waste disposal plant.

**Additional Labeling**

- The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 100 %

**2.3 Other hazards which do not result in classification**

- Toxic if swallowed.
- Irritating to eyes and skin.
- Hazardous decomposition products formed under fire conditions.
- Contact with acids liberates very toxic gas.

**SECTION 3: Composition/information on ingredients****3.1 Substance****Hazardous Ingredients and Impurities**

Chemical name	Identification number CAS-No.	Concentration [%]
sodium fluoride	7681-49-4	>= 99

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**3.2 Mixture**

Not applicable, this product is a substance.

**SECTION 4: First aid measures****4.1 Description of first-aid measures****In case of inhalation**

- Remove the subject from dusty environment and let him blow his nose.
- Oxygen or artificial respiration if needed.
- If symptoms persist, call a physician.

**In case of skin contact**

- Take off contaminated clothing and wash before reuse.
- Wash off immediately with soap and plenty of water.
- If symptoms persist, call a physician.

**In case of eye contact**

- Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Consult a physician.

**In case of ingestion**

- Immediate medical attention is required.
- Take victim immediately to hospital.
  
- If victim is conscious:
  - If swallowed, rinse mouth with water (only if the person is conscious).
  - Do NOT induce vomiting.
  
- If victim is unconscious:
  - Artificial respiration and/or oxygen may be necessary.

**4.2 Most important symptoms and effects, both acute and delayed****In case of inhalation****Effects**

- Irritating to mucous membranes
- At high concentrations:
  - risk of hypocalcemia with nervous problems (tetany) and cardiac arrhythmia

***Repeated or prolonged exposure***

- Risk of sore throat, nose bleeds
- Nose bleeding
- chronic bronchitis

**In case of skin contact****Symptoms**

- Irritation

**Effects*****Repeated or prolonged exposure***

- Causes burns.

**In case of eye contact****Symptoms**

- Redness
- Lachrymation

**Effects**

- Severe eye irritation
- Risk of temporary eye lesions.

**In case of ingestion****Symptoms**

- Severe irritation
- Salivation
- Nausea
- Vomiting
- Abdominal pain
- Diarrhea

**Effects**

- risk of hypocalcemia with nervous problems (tetany) and cardiac arrhythmia
- Risk of convulsions, loss of consciousness, deep coma and cardiopulmonary arrest.

**4.3 Indication of any immediate medical attention and special treatment needed****Notes to physician*****Exposure to decomposition products***

- Call a physician immediately.
- Take victim immediately to hospital.

**SECTION 5: Firefighting measures**

<b><u>Flash point</u></b>	Not applicable
<b><u>Autoignition temperature</u></b>	Not applicable
<b><u>Flammability / Explosive limit</u></b>	no data available

**5.1 Extinguishing media****Suitable extinguishing media**

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**

- none

**5.2 Special hazards arising from the substance or mixture****Specific hazards during fire fighting**

- The product is not flammable.
- Not combustible.
- Heating can release hazardous gases.

**Hazardous combustion products:**

- Hydrogen fluoride
- The release of other hazardous decomposition products is possible.

**5.3 Advice for firefighters****Special protective equipment for fire-fighters**

- In the event of fire, wear self-contained breathing apparatus.
- Fire fighters must wear fire resistant personnel protective equipment.
- Wear chemical resistant oversuit

**Further information**

- Control the use of water due to environmental risk (see section 6).

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures****Advice for non-emergency personnel**

- Avoid dust formation.

**Advice for emergency responders**

- Sweep up to prevent slipping hazard.

**6.2 Environmental precautions**

- If the product contaminates rivers and lakes or drains inform respective authorities.
- Do not flush into surface water or sanitary sewer system.

**6.3 Methods and materials for containment and cleaning up**

- Sweep up and shovel into suitable containers for disposal.

- Avoid dust formation.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".

#### 6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Used in closed system
- Handle small quantities under a lab hood.
- Use only in well-ventilated areas.
- Use only equipment and materials which are compatible with the product.
- Keep away from heat.

#### Hygiene measures

- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Use only in an area equipped with a safety shower.
- When using do not eat, drink or smoke.
- Handle in accordance with good industrial hygiene and safety practice.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Technical measures/Storage conditions

- Keep in a dry place.
- Store in original container.
- Keep container closed.
  
- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.
  
- Keep away from:
- Incompatible products

#### Packaging material

##### **Suitable material**

- no data available

### 7.3 Specific end use(s)

- Contact your supplier for additional information

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**SECTION 8: Exposure controls/personal protection**

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

**8.1 Control parameters****Components with workplace occupational exposure limits**

Ingredients	Value type	Value	Basis
sodium fluoride	TWA	2.5 mg/m <sup>3</sup>	National Institute for Occupational Safety and Health
Expressed as :Fluorine			
sodium fluoride	TWA	2.5 mg/m <sup>3</sup>	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
CAS number varies with compound Expressed as :Fluorine			
sodium fluoride	TWA	2.5 mg/m <sup>3</sup>	American Conference of Governmental Industrial Hygienists
Expressed as :Fluorine			

**NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)**

Ingredients	CAS-No.	Concentration
sodium fluoride	7681-49-4	250 milligram per cubic meter

**Biological Exposure Indices**

Ingredients	Value type	Value	Basis
sodium fluoride	BEI	2 mg/l Fluoride Urine Prior to shift (16 hours after exposure ceases)	American Conference of Governmental Industrial Hygienists
sodium fluoride	BEI	3 mg/l Fluoride Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists

## 8.2 Exposure controls

### Control measures

#### **Engineering measures**

- Ensure adequate ventilation.
- Provide appropriate exhaust ventilation at places where dust is formed.
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.

### Individual protection measures

#### **Respiratory protection**

- In case of insufficient ventilation, wear suitable respiratory equipment.
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Self-contained breathing apparatus in confined spaces/insufficient oxygen/in case of large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection.
- Use only respiratory protection that conforms to international/ national standards.
- Use NIOSH approved respiratory protection.

#### **Hand protection**

- Protective gloves - impervious chemical resistant:

##### ***Suitable material***

- PVC
- Neoprene
- Natural Rubber

#### **Eye protection**

- Chemical resistant goggles must be worn.
- Dust proof goggles obligatory.

#### **Skin and body protection**

- Long sleeved clothing
- Apron/boots in case of dusts.
- Neoprene
- Natural Rubber

#### **Hygiene measures**

- Eye wash bottles or eye wash stations in compliance with applicable standards.
- Use only in an area equipped with a safety shower.
- When using do not eat, drink or smoke.
- Handle in accordance with good industrial hygiene and safety practice.

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**SECTION 9: Physical and chemical properties**

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

**9.1 Information on basic physical and chemical properties**

<b><u>Appearance</u></b>	<b>Form:</b> crystalline, powder <b>Physical state:</b> solid solid <b>Color:</b> white white <b>Particle size:</b> > 0.1 mm ( 90 %)
<b><u>Odor</u></b>	odorless
<b><u>Odor Threshold</u></b>	no data available
<b><u>Molecular weight</u></b>	42 g/mol
<b><u>pH</u></b>	7.4 ( 68 °F (20 °C)) saturated aqueous solution
<b><u>Melting point/freezing point</u></b>	<b>Melting point/range:</b> ca. 1818 °F (992 °C)
<b><u>Initial boiling point and boiling range</u></b>	ca. <b>Boiling point/boiling range:</b> 3,092 °F (1,700 °C)
<b><u>Flash point</u></b>	Not applicable
<b><u>Evaporation rate (Butylacetate = 1)</u></b>	Not applicable
<b><u>Flammability (solid, gas)</u></b>	The product is not flammable.
<b><u>Flammability / Explosive limit</u></b>	<b>Explosiveness:</b> Not explosive
<b><u>Autoignition temperature</u></b>	Not applicable
<b><u>Vapor pressure</u></b>	1.00 mmHg (1.33 hPa) ( 1,971 °F (1,077 °C))
<b><u>Vapor density</u></b>	Not applicable
<b><u>Density</u></b>	<b>Bulk density:</b> 1,000 - 1,400 kg/m <sup>3</sup>
<b><u>Relative density</u></b>	no data available
<b><u>Solubility</u></b>	<b>Water solubility:</b> 42 g/l ( 68 °F (20 °C))
<b><u>Partition coefficient: n-octanol/water</u></b>	Not applicable
<b><u>Decomposition temperature</u></b>	no data available
<b><u>Viscosity</u></b>	no data available
<b><u>Explosive properties</u></b>	no data available



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**Oxidizing properties**

Not considered as oxidizing.

**9.2 Other information**

no data available

**SECTION 10: Stability and reactivity****10.1 Reactivity**

- Incompatible with acids.

**10.2 Chemical stability**

- Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

- Contact with acids liberates very toxic gas.

**10.4 Conditions to avoid**

- Exposure to moisture.
- To avoid thermal decomposition, do not overheat.

**10.5 Incompatible materials**

- Strong acids
- glass

**10.6 Hazardous decomposition products**

- Hydrogen fluoride
- The release of other hazardous decomposition products is possible.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity**LD50 : 52 - 250 mg/kg - Rat  
no data available**Acute inhalation toxicity****Acute dermal toxicity**

LD 10 : ca. 300 mg/kg - Mouse

**Acute toxicity (other routes of administration)**

no data available

**Skin corrosion/irritation**Rat  
Skin irritation

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**Serious eye damage/eye irritation**Rabbit  
Eye irritation**Respiratory or skin sensitization**

not sensitizing

**Mutagenicity****Genotoxicity in vitro**

In vitro tests did not show mutagenic effects

**Genotoxicity in vivo**

In vivo tests did not show mutagenic effects

**Carcinogenicity**

no data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP  
IARC  
OSHA  
ACGIH**Toxicity for reproduction and development****Toxicity to reproduction / fertility**Rat  
NOAEL parent: 10 - 14 mg/kgRabbit  
NOAEL parent: 14 mg/kg  
not significant  
Developmental Toxicity**Developmental Toxicity/Teratogenicity** no data available**STOT****STOT-single exposure**

no data available

**STOT-repeated exposure**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.

Oral 180 Days - Mouse  
LOAEL: 50 ppm  
Target Organs: Skeleton  
Subchronic toxicityInhalation - Rat  
NOAEL: 1 ppm  
Target Organs: Respiratory Tract, Bone, Teeth

**Aspiration toxicity** no data available

## SECTION 12: Ecological information

### 12.1 Toxicity

#### **Aquatic Compartment**

##### **Acute toxicity to fish**

LC50 - 96 h : 51 mg/l - Fishes, Salmo gairdneri  
static test

Fresh water

##### **Acute toxicity to daphnia and other aquatic invertebrates.**

EC50 - 48 h : 26 mg/l - Daphnia magna (Water flea)  
Fresh water

EC50 - 96 h : 10.5 mg/l - Daphnia magna (Water flea)  
salt water

**Toxicity to aquatic plants** no data available

**Toxicity to microorganisms** no data available

##### **Chronic toxicity to fish**

NOEC: 4 mg/l - 21 Days - Oncorhynchus mykiss (rainbow trout)  
static test  
Fresh water

##### **Chronic toxicity to daphnia and other aquatic invertebrates.**

NOEC: 8.9 mg/l - 21 Days - Daphnia magna (Water flea)  
static test  
Fresh water

**Chronic Toxicity to aquatic plants** no data available

### 12.2 Persistence and degradability

#### **Abiotic degradation**

**Photodegradation**

Water/soil  
complexation/precipitation of inorganic and organic materials

**Physical- and photo-chemical  
elimination**

no data available

**Biodegradation****Biodegradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

**Partition coefficient: n-octanol/water** no data available

**Bioconcentration factor (BCF)**

Not applicable

**12.4 Mobility in soil****Adsorption potential (Koc)**

Air  
mobility as solid aerosols

Water  
Solubility(ies)  
Mobility

Soil/sediments  
adsorption on mineral and organic soil constituents

**Known distribution to environmental  
compartments** no data available

**12.5 Results of PBT and vPvB assessment** no data available

**12.6 Other adverse effects** no data available

**Ecotoxicity assessment****Acute aquatic toxicity**

Harmful to aquatic organisms.

**Chronic aquatic toxicity**

. low chronic toxicity.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product Disposal**

- In accordance with local and national regulations.
- Dilute with plenty of water.
- Can be eliminated from water by precipitation.
- Filtrate the product and send the cake to a landfill for industrial waste.
- Discharge liquid filtrate to a wastewater treatment system

**Waste Code**

- Environmental Protection Agency
- Hazardous Waste – NO

**Advice on cleaning and disposal of packaging**

- Empty containers.
- Dispose of as unused product.
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.
- Where possible recycling is preferred to disposal or incineration.
- In accordance with local and national regulations.

**SECTION 14: Transport information**

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification.

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

**DOT**

<b>14.1 UN number</b>	UN 1690
<b>14.2 Proper shipping name</b>	SODIUM FLUORIDE, SOLID
<b>14.3 Transport hazard class</b>	6.1
Label(s)	6.1
<b>14.4 Packing group</b>	III
Packing group	III
ERG No	154
<b>14.5 Environmental hazards</b>	NO
<b>Marine pollutant</b>	

**TDG**

<b>14.1 UN number</b>	UN 1690
<b>14.2 Proper shipping name</b>	SODIUM FLUORIDE, SOLID
<b>14.3 Transport hazard class</b>	6.1
Label(s)	6.1
<b>14.4 Packing group</b>	III
Packing group	III
ERG No	154

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**14.5 Environmental hazards**  
**Marine pollutant** NO

**NOM**

**14.1 UN number** UN 1690

**14.2 Proper shipping name** SODIUM FLUORIDE, SOLID

**14.3 Transport hazard class** 6.1  
**Label(s)** 6.1

**14.4 Packing group**  
**Packing group** III  
**ERG No** 154

**14.5 Environmental hazards**  
**Marine pollutant** NO

**IMDG**

**14.1 UN number** UN 1690

**14.2 Proper shipping name** SODIUM FLUORIDE, SOLID

**14.3 Transport hazard class** 6.1  
**Label(s)** 6.1

**14.4 Packing group**  
**Packing group** III

**14.5 Environmental hazards**  
**Marine pollutant** NO

**14.6 Special precautions for user**  
**EmS** F-A , S-A

For personal protection see section 8.

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**IATA**

<b>14.1 UN number</b>	UN 1690
<b>14.2 Proper shipping name</b>	SODIUM FLUORIDE, SOLID
<b>14.3 Transport hazard class</b>	6.1
Label(s):	6.1
<b>14.4 Packing group</b>	III
Packing instruction (cargo aircraft)	677
Max net qty / pkg	200.00 kg
Packing instruction (passenger aircraft)	670
Max net qty / pkg	100.00 kg
<b>14.5 Environmental hazards</b>	NO
<b>14.6 Special precautions for user</b>	
For personal protection see section 8.	

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

**SECTION 15: Regulatory information****15.1 Notification status**

Inventory Information	Status
United States TSCA Inventory	- Listed on Inventory
Mexico INSQ (INSQ)	- In compliance with the inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- In compliance with the inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory

**15.2 Federal Regulations****US. EPA EPCRA SARA Title III****SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)**

Fire Hazard	no
Reactivity Hazard	no
Sudden Release of Pressure Hazard	no
Acute Health Hazard	yes
Chronic Health Hazard	yes

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**Section 313 Toxic Chemicals (40 CFR 372.65)**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)**

This material does not contain any components with a SARA 302 RQ.

**Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)**

This material does not contain any components with a section 304 EHS RQ.

**US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)**

Ingredients	CAS-No.	Reportable quantity
sodium fluoride	7681-49-4	1000 lb

**15.3 State Regulations****US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**SECTION 16: Other information****NFPA (National Fire Protection Association) - Classification**

Health	3 serious
Flammability	0 minimal
Instability or Reactivity	0 minimal
Special Notices	None

**HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification**

Health	3 serious
Flammability	0 minimal
Reactivity	0 minimal
PPE	Determined by User; dependent on local conditions

**Further information**

- Product evaluated under the US GHS format.

**Date Prepared:** 06/03/2016

**Key or legend to abbreviations and acronyms used in the safety data sheet**

- TWA 8-hour, time-weighted average
- ACGIH American Conference of Governmental Industrial Hygienists
- OSHA Occupational Safety and Health Administration
- NTP National Toxicology Program
- IARC International Agency for Research on Cancer
- NIOSH National Institute for Occupational Safety and Health



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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. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.