

# Safety data sheet

Safe Work Australia - Code of Practice



**Sodium fluoride ≥99 %, p.a., ACS, ISO**

article number: **P756**  
Version: **GHS 1.0 en**

date of compilation: 2018-10-25

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Identification of the substance	<b>Sodium fluoride</b>
Article number	P756
Registration number (REACH)	01-2119539420-47-xxxx
Index No	009-004-00-7
EC number	231-667-8
CAS number	7681-49-4

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

<b>Identified uses:</b>	laboratory chemical laboratory and analytical use
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### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

**e-mail (competent person)** : [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification acc. to GHS

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	(Acute Tox. 3)	H301
3.2	skin corrosion/irritation	(Skin Irrit. 2)	H315
3.3	serious eye damage/eye irritation	(Eye Irrit. 2)	H319

#### Supplemental hazard information

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Code	Supplemental hazard information
EUH032	contact with acids liberates very toxic gas

## 2.2 Label elements

### Labelling GHS

#### Signal word

**Danger**

#### Pictograms

GHS06



#### Hazard statements

H301 Toxic if swallowed  
H315 Causes skin irritation  
H319 Causes serious eye irritation

#### Precautionary statements

##### **Precautionary statements - prevention**

P280 Wear protective gloves.

##### **Precautionary statements - response**

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P330 Rinse mouth.  
P337+P313 If eye irritation persists: Get medical advice/attention.

##### **Precautionary statements - disposal**

P501 Dispose of contents/container to industrial combustion plant.

#### **Supplemental hazard information**

EUH032 Contact with acids liberates very toxic gas.

#### **Labelling of packages where the contents do not exceed 125 ml**

Signal word: **Danger**

Symbol(s)



H301 Toxic if swallowed.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P330 Rinse mouth.  
P501 Dispose of contents/container to industrial combustion plant.  
EUH032 Contact with acids liberates very toxic gas.

## 2.3 Other hazards

There is no additional information.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Sodium fluoride
Index No	009-004-00-7
Registration number (REACH)	01-2119539420-47-xxxx
EC number	231-667-8
CAS number	7681-49-4
Molecular formula	NaF
Molar mass	41.99 g/mol

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours. Take off immediately all contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. Rub with a gel containing calcium gluconate. Call a physician in any case.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Consult an ophthalmologist.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Call a physician immediately.

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

Following inhalation: Cough, pain, choking, and breathing difficulties,  
Following skin contact: Causes burns, Irritation,  
After eye contact: Causes severe burns, Irritation, Corneal opacity, Risk of blindness,  
After ingestion: Nausea, Spasms, Irreversible damage to nerve system Fatality

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

none

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: hydrogen fluoride (HF)

### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

### 6.3 Methods and material for containment and cleaning up

#### Advices on how to contain a spill

Covering of drains.

#### Advices on how to clean up a spill

Take up mechanically. Control of dust.

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Provide adequate ventilation. Clear contaminated areas thoroughly. Avoid dust formation.

- **Measures to prevent fire as well as aerosol and dust generation**

Removal of dust deposits.

#### Advice on general occupational hygiene

When using do not eat or drink. Thorough skin-cleansing after handling the product.

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

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice

Store locked up.

- **Ventilation requirements**

Use local and general ventilation.

- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 - 25 °C.

#### 7.3 Specific end use(s)

No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [mg/m <sup>3</sup> ]	STEL [mg/m <sup>3</sup> ]	Source
AU	fluoride	16984-48-8	F	WES	2.5		WES

##### Notation

F Calculated as F (fluorine)

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

##### Relevant DNELs/DMELs/PNECs and other threshold levels

- **human health values**

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	2.5 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	2.5 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
DNEL	0.36 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

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Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	0.36 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects

### • environmental values

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	0.9 mg/l	freshwater	short-term (single instance)
PNEC	51 mg/l	sewage treatment plant (STP)	short-term (single instance)
PNEC	11 mg/kg	soil	short-term (single instance)

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

#### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

#### • type of material

NBR (Nitrile rubber)

#### • material thickness

>0,11 mm

#### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P3 (filters at least 99,95 % of airborne particles, colour code: White).

#### Environmental exposure controls

Keep away from drains, surface and ground water.

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### SECTION 9: Physical and chemical properties

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

##### Appearance

Physical state	solid (powder)
Colour	white
Odour	odourless
Odour threshold	No data available

##### Other physical and chemical parameters

pH (value)	~ 10.5 (water: 40 g/l, 20 °C)
Melting point/freezing point	993 °C at 1,013 hPa
Initial boiling point and boiling range	1,704 °C at 1,013 hPa
Flash point	not applicable
Evaporation rate	no data available
Flammability (solid, gas)	These information are not available
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	these information are not available
Vapour pressure	1 hPa at 1,077 °C
Density	2.78 g/ml at 20 °C
Vapour density	This information is not available.
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	42 g/l at 20 °C
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	-0.77 (calc.)
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	no data available
Viscosity	not relevant (solid matter)
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

#### 9.2 Other information

There is no additional information.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Dangerous/dangerous reactions with: Acids,

=>

Release of an acute toxic gas: Fluorine

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Exposure route	Endpoint	Value	Species	Source
oral	LD50	148.5 mg/kg	rat	ECHA

#### Skin corrosion/irritation

Causes skin irritation.

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

- **Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

- **Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics



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### • If swallowed

gastrointestinal complaints, nausea, circulatory collapse, poisoning effect on central nervous system can cause convulsions, laboured breathing and loss of consciousness

### • If in eyes

risk of serious damage to eyes, Irritating to eyes

### • If inhaled

cough, pain, choking, and breathing difficulties, Irritating to respiratory system

### • If on skin

risk of absorption via the skin, causes skin irritation, causes poorly healing wounds

### Other information

None

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

#### Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
EC50	48 mg/l	aquatic invertebrates	ECHA	96 h

#### Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
NOEC	4 mg/l	fish	ECHA	21 d

### 12.2 Process of degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)

-0.77

BCF

53 – 58 (ECHA)

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

##### Sewage disposal-relevant information

Do not empty into drains.

##### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

##### Sewage disposal-relevant information

Do not empty into drains.

##### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.


#### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

### SECTION 14: Transport information

<b>14.1</b>	UN number	<b>1690</b>
<b>14.2</b>	UN proper shipping name	<b>SODIUM FLUORIDE, SOLID</b>
	Hazardous ingredients	Sodium fluoride
<b>14.3</b>	Transport hazard class(es)	
	Class	6.1 (toxic substances)
<b>14.4</b>	Packing group	III (substance presenting low danger)
<b>14.5</b>	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)
<b>14.6</b>	<b>Special precautions for user</b>	
	Provisions for dangerous goods (ADR) should be complied within the premises.	
<b>14.7</b>	<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	
	The cargo is not intended to be carried in bulk.	
<b>14.8</b>	<b>Information for each of the UN Model Regulations</b>	
	• <b>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b>	
	UN number	1690

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Proper shipping name	SODIUM FLUORIDE, SOLID
Particulars in the transport document	UN1690, SODIUM FLUORIDE, SOLID, 6.1, III, (E)
Class	6.1
Classification code	T5
Packing group	III
Danger label(s)	6.1



Special provisions (SP)	802(ADN)
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	60
<b>Emergency Action Code</b>	2Z

### • International Maritime Dangerous Goods Code (IMDG)

UN number	1690
Proper shipping name	SODIUM FLUORIDE, SOLID
Particulars in the shipper's declaration	UN1690, SODIUM FLUORIDE, SOLID, 6.1, III
Class	6.1
Marine pollutant	-
Packing group	III
Danger label(s)	6.1



Special provisions (SP)	-
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-A
Stowage category	A

### • International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1690
Proper shipping name	Sodium fluoride, solid
Particulars in the shipper's declaration	UN1690, Sodium fluoride, solid, 6.1, III
Class	6.1

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Packing group	III
Danger label(s)	6.1
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 kg

## SECTION 15: Regulatory information

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

#### National inventories

Substance is listed in the following national inventories:

Country	National inventories	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
JP	ISHA-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

#### Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

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### SECTION 16: Other information

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
TWA	time-weighted average
vPvB	very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne conatminants

#### Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

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## List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H301	toxic if swallowed
H315	causes skin irritation
H319	causes serious eye irritation

### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.