

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

1.1 Product identifier

Trade name **Sodium fluoride**

CAS Number:

7681-49-4

EC number:

231-667-8

Index number:

009-004-00-7

1.2 Relevant identified uses of the substance or mixture and uses advised against. No further relevant information available.

Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Wuhan Xinru Chemical Industry Co., Ltd
 2805, Building 1, Fuxinghuiyu Fuxing city (North Area)
 Jianghan District, Wuhan, Hubei Province, China
 Tel: +86-27-5984 3601
 Fax: +86-27-6666 0488
 Email: xinru@whxinru.cn
 www.whxinru.cn

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Other hazards that do not result in classification No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS06

Signal word Danger

Hazard statements

H301 Toxic if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves / eye protection / face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH032 Contact with acids liberates very toxic gas.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances

CAS# Designation:

7681-49-4 Sodium fluoride

Concentration: ≤100%

Identification number(s):

EC number: 231-667-8

Index number: 009-004-00-7

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Instantly remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

Rub in Ca-gluconate solution or Ca-gluconate gel immediately.

After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing Do not induce vomiting; instantly call for medical help.

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4.2 Most important symptoms and effects, both acute and delayed

Causes skin irritation.
Causes serious eye irritation.
Toxic if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

5.2 Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Hydrogen fluoride (HF)

Sodium oxide

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Put on breathing apparatus.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

6.2 Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

6.3 Methods and material for containment and cleaning up: Dispose of contaminated material as waste according to section 13.

Prevention of secondary hazards: No special measures required.

6.4 Reference to other sections

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.

Information about protection against explosions and fires: The product is not flammable

7.2 Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and containers: No special requirements.

Information about storage in one common storage facility: Do not store together with acids.

Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Store in a locked cabinet or with access restricted to technical experts or their assistants.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters

Components with critical values that require monitoring at the workplace:

7681-49-4 Sodium fluoride (100,0%)

AGW (Germany) Long-term value: 1 E mg/m³
4(II);als Fluor berechnet; DFG, Y, H

PEL (USA) Long-term value: 2,5 mg/m³
as F

REL (USA) Long-term value: 2,5 mg/m³
as F

TLV (USA) Long-term value: 2,5 mg/m³
as F, BEI

Ingredients with biological limit values:

7681-49-4 Sodium fluoride (100,0%)

BGW (Germany) 7,0 mg/g Kreatinin
Untersuchungsmaterial: Urin
Probennahmezeitpunkt: Expositionsende bzw. Schichtende
Parameter: Fluorid

4,0 mg/g Kreatinin
Untersuchungsmaterial: Urin
Probennahmezeitpunkt: vor nachfolgender Schicht
Parameter: Fluorid

BEI (USA) 2 mg/L
Medium: urine
Time: prior to shift
Parameter: Fluoride (background, nonspecific)

3 mg/L
Medium: urine
Time: end of shift
Parameter: Fluoride (background, nonspecific)

Additional information: No data

8.2 Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

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Breathing equipment: Use breathing protection with high concentrations.

Recommended filter device for short term use:

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves Nitrile rubber, NBR

Penetration time of glove material (in minutes) 480

Glove thickness: 0.11 mm

Eye protection:

Face protection

Safety glasses with side shields / NIOSH (US) or EN 166(EU)

Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: Powder
Odour: Odourless
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/freezing point: 993 °C
Initial boiling point and boiling range: 1704 °C
Sublimation temperature / start: Not determined
Inflammability (solid, gaseous) Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Self-inflammability: Not determined.

Explosive properties: Not determined.

Critical values for explosion:

Lower: Not determined
Upper: Not determined

Steam pressure at 1077 °C: 1,3 hPa

Density at 20 °C 2,78 g/cm³

Relative density Not determined.

Vapour density Not applicable.

Evaporation rate Not applicable.

Solubility in / Miscibility with

Water at 25 °C: 40 g/l

Partition coefficient: n-octanol/water: Not determined.

Viscosity:

dynamic: Not applicable.

kinematic: Not applicable.

9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity Contact with acids liberates very toxic gas.

10.2 Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions Contact with acids liberates very toxic gas.

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: Acids

10.6 Hazardous decomposition products:

Hydrogen fluoride

Sodium oxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Toxic if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

Toxic if swallowed.

LD/LC50 values that are relevant for classification:

Oral LD50 31 mg/kg (rat)

Skin irritation or corrosion:

Causes skin irritation.

Causes skin irritation.

Eye irritation or corrosion:

Causes serious eye irritation.

Causes serious eye irritation.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity:

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

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12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Do not allow material to be released to the environment without proper governmental permits.
Water hazard class 1 (Assessment by list): slightly hazardous for water.
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer into the environment.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number

ADR, IMDG, IATA

UN1690

14.2 UN proper shipping name

ADR

IMDG

IATA

1690 SODIUM FLUORIDE, SOLID
SODIUM FLUORIDE, SOLID, MARINE POLLUTANT
SODIUM FLUORIDE, SOLID

14.3 Transport hazard class(es)

ADR



Class

Label

IMDG

6.1 (T5) Toxic substances.
6.1



Class

Label

IATA

6.1 Toxic substances.
6.1



Class

Label

6.1 Toxic substances.
6.1

Packing group

ADR, IMDG, IATA

III

14.5 Environmental hazards:

Marine pollutant:

Yes (P)
Symbol (fish and tree)

14.6 Special precautions for user

Kemler Number:

EMS Number:

Stowage Category

Segregation Code

Warning: Toxic substances.

60

F-A,S-A

A

SG35 Stow "separated from" acids.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

Transport/Additional information:

ADR

Excepted quantities (EQ):

Limited quantities (LQ)

Excepted quantities (EQ)

E1

5 kg

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

Transport category

Tunnel restriction code

2

E

IMDG

Limited quantities (LQ)

Excepted quantities (EQ)

5 kg

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

UN "Model Regulation":

UN 1690 SODIUM FLUORIDE, SOLID, 6.1, III

SECTION 15: Regulatory information

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

Australian Inventory of Chemical Substances Substance is listed.

Standard for the Uniform Scheduling of Medicines and Poisons Substance is not listed.

Directive 2012/18/EU

Named dangerous substances - ANNEX I Substance is not listed.

Seveso category H2 ACUTE TOXIC

Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.

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For use only by technically qualified individuals.

Technical instructions (air):

Class	Share in %
III	100,0

Water hazard class: Water hazard class 1 (Assessment by list): slightly hazardous for water.

Other regulations, limitations and prohibitive regulations

ELINCS (European List of Notified Chemical Substances) Substance is not listed.

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

P: Marine Pollutant

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety and Health Administration (USA)

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2