

Chemical Safety Data Sheet MSDS / SDS

Tin(II) fluoride

Revision Date:2026-03-21 Revision Number:1

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

Product identifier

Product name : Tin(II) fluoride
CBnumber : CB6478090
CAS : 7783-47-3
EINECS Number : 231-999-3
Synonyms : STANNOUS FLUORIDE;SnF2

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

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

Continuerinsing.

P302+P352 IF ON SKIN: wash with plenty of soap and water.

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

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

P234 Keep only in original container.

Hazard statements

H411 Toxic to aquatic life with long lasting effects

H318 Causes serious eye damage

H315 Causes skin irritation
H301 Toxic if swallowed
H290 May be corrosive to metals

SECTION 3: Composition/information on ingredients

Substance

Product name : Tin(II) fluoride
Synonyms : STANNOUS FLUORIDE; SnF₂
CAS : 7783-47-3
EC number : 231-999-3
MF : F₂Sn
MW : 156.71

SECTION 4: First aid measures

General advice

Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure. Show this safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

First treatment with calcium gluconate paste. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Protection of first-aiders

For personal protection see section 8.

Notes to physician

No data available

SECTION 5: Firefighting measures

Suitable extinguishing media

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

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards during fire fighting

Not combustible. Ambient fire may liberate hazardous vapours.

Hazardous combustion products

Hydrogen fluoride Tin/tin oxides

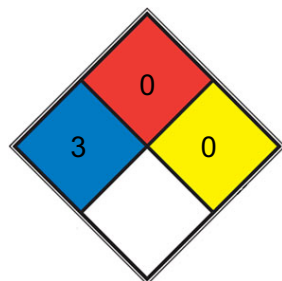
Specific extinguishing methods

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

NFPA 704



■ HEALTH 3 Short exposure could cause serious temporary or moderate residual injury (e.g. [liquid hydrogen](#), [sulfuric acid](#), [calcium hypochlorite](#), hexafluorosilicic acid)

■ FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

■ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

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 HAZ.
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SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7: Handling and storage

Handling

Avoidance of contact

glass

Storage

Conditions for safe storage

No metal containers.

Further information on storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class

6.1D, Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

Recommended storage temperature

Recommended storage temperature see product label.

Further information on storage stability

Do not store in glass

Packaging material

Suitable material: Poly Drum

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Biological occupational exposure limits

Engineering measures

No data available

Personal protective equipment

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type

Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Tightly fitting safety goggles

Skin and body protection

protective clothing

Hand protection

Material

Nitrile rubber

Break through time

480 min

Glove thickness

0.11 mm

Protective index

Full contact

Manufacturer

KCL 741 L

Material

Nitrile rubber

Break through time

480 min

Glove thickness

0.11 mm

Protective index

Splash contact

Manufacturer

KCL 741 L

Remarks

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D- 36124 Eichenzell, Internet: www.kcl.de).

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

powder

Color

white

Odor

No data available

Odor Threshold

No data available

pH

No data available

Melting point/ range

215 °C

Boiling point/boiling range

850 °C (1,013 hPa)

Flash point

Not applicable

Evaporation rate

No data available

Flammability (solid, gas)

The product is not flammable.

Flammability (liquids)

No data available

Burning rate

No data available

Upper explosion limit / Upper flammability limit

No data available

Lower explosion limit / Lower flammability limit

No data available

Vapor pressure

No data available

Relative vapor density

No data available

Relative density

4.57 g/mL at 25 °C (lit.)

Density

4.57 g/mL (25 °C)

Method: lit.

Water solubility

Soluble in potassium hydroxide and potassium fluoride. Insoluble in water, ethanol, ether and chloroform.

Partition coefficient: n-octanol/water

Not applicable for inorganic substances

Autoignition temperature

No data available

Decomposition temperature

No data available

Viscosity, dynamic

No data available

Viscosity, kinematic

No data available

Flow time

No data available

Explosive properties

No data available

Oxidizing properties

none

Molecular weight

156.71 g/mol

Particle characteristics Particle size

No data available

Metal corrosion rate

May be corrosive to metals.

Solubility

soluble in H₂O; insoluble in ethanol, ethyl ether, chloroform

Physical state

Powder, Crystals or Crystalline Powder

SECTION 10: Stability and reactivity

Reactivity

No data available

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

No data available

Conditions to avoid

Reacts dangerously with glass. no information available

Incompatible materials

glass

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - 148.5 mg/kg

Remarks: (ECHA)

Inhalation: No data available

LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation

Skin - In vitro study (OECD Test Guideline 439)

Serious eye damage/eye irritation

Eyes - Bovine cornea

Result: Irreversible effects on the eye (OECD Test Guideline 437)

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Classified based on available data. For more details, see section 2

Carcinogenicity

Classified based on available data. For more details, see section 2

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Classified based on available data. For more details, see section 2

11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Lowest observed adverse effect level - 150 mg/kg

RTECS: XQ3450000

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.

Salivation, Nausea, Vomiting, Fever, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

Ecotoxicity

Components:

Tin difluoride:

Toxicity to fish

NOEC (Oncorhynchus mykiss (rainbow trout)): 0.3 mg/l Exposure time: 28 d Test Type: flow-through test Analytical monitoring: yes Method: OECD Test Guideline 215 GLP: yes Remarks: (referred to the cation) LC50 (Oncorhynchus mykiss (rainbow trout)): 51 mg/l Exposure time: 96 h Analytical monitoring: yes Remarks: (referred to the anion)

Toxicity to daphnia and other aquatic inverted brates

NOEC (Daphnia (water flea)): 3.7 mg/l Exposure time: 21 Remarks: (referred to the anion) NOEC (Daphnia (water flea)): 4.8 mg/l Exposure time: 21 d Analytical monitoring: yes GLP: yes Remarks: (referred to the cation)

Toxicity to algae/aquatic plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.179 mg/l Exposure time: 72 h Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes

Ecotoxicology Assessment

Chronic aquatic toxicity

Toxic to aquatic life with long lasting effects.

Persistence and degradability

Components:**Tin difluoride:****Biodegradability**

Remarks: Not applicable for inorganic substances

Bioaccumulative potential**Components:****Tin difluoride:****Partition coefficient: noctanol/water**

Remarks: Not applicable for inorganic substances

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations

Disposal methods**Waste from residues**

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

International Regulations**IATA-DGR**

UNID No. : UN 2923

Proper shipping name : Corrosive solid, toxic, n.o.s.

(Tin difluoride)

Class : 8

Subsidiary risk : 6.1

Packing group : III

Labels : Class 8 - Corrosive substances, Division 6.1 - Toxic substances

Packing instruction (cargo aircraft) : 864

Packing instruction (passenger aircraft) : 860

IMDG-Code

UN number : UN 2923

Proper shipping name : CORROSIVE SOLID, TOXIC, N.O.S.

(Tin difluoride)

Class : 8

Subsidiary risk : 6.1

Packing group : III

Labels : 8 (6.1)

EmS Code : F-A, S-B

Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

JT/T 617

UN number : UN 2923

Proper shipping name : CORROSIVE SOLID, TOXIC, N.O.S.

(Tin difluoride)

Class : 8

Subsidiary risk : 6.1

Packing group : III

Labels : 8 (6.1)

Environmentally hazardous : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15: Regulatory information

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals

Hazardous Chemicals for Priority Management

Not applicable under SAWS

Catalogue of Specially Controlled Hazardous

Not listed Chemicals

List of Explosive Precursors

Not listed

Regulations on Labour Protection in Workplaces where Toxic Substances are Used

Catalogue of Highly Toxic Chemicals

Listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export

Not applicable

Regulation on the Administration of Precursor Chemicals

Catalogue and Classification of Precursor Chemicals

Not listed

Regulations on the Administration of Controlled Chemicals

List of Controlled Chemicals

Not listed

Regulations of Ozone Depleting Substances Management

List of Controlled Ozone Depleting Substances

Not listed

List of Controlled Ozone Depleting Substances Import and Export

Not listed

Environmental Protection Law

List of Priority Controlled Chemicals

Not listed

List of Key Controlled New Pollutants

Not listed

SECTION 16: Other information

Full text of other abbreviations

ACGIH

USA. ACGIH Threshold Limit Values (TLV)

ACGIH BEI

ACGIH - Biological Exposure Indices (BEI)

CN BEI

China. Biological Occupational Exposure Indices

GBZ 2.1-2007

Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA

8-hour, time-weighted average

GBZ 2.1-2007 / PC-TWA AIC - Australian Invent Transport by Land of Bra bw - Body weight; CMR Standard of the German List (Canada); ECx - Conc associated with x% respo Chemical Substances (Jap response; ERG - Emerge GLP - Good Laboratory P cer; IATA - International Construction and Equipm Half maximal inhibitory c tion; IECSC - Inventory o tional Maritime Dangerou Industrial Safety and H Standardisation; KECl - K tration to 50 % of a test (Median Lethal Dose); MA lution from Ships; MERC of Dangerous Goods; n.o. - No Observed (Adverse) fect Level; NOELR - No Norm; NTP - National Toxi icals; OECD - Organisatio fice of Chemical Safety a and Toxic substance; PIC stances; (Q)SAR - (Quant (EC) No 1907/2006 of th Registration, Evaluation, Accelerating Decompositi Chemical Substance Inve Thailand Existing Chemicala States); UN - United Nat Transport of Dangerous

WHMIS - Workplace Hazar

Permissible concentration - time weighted average ry of Industrial Chemicals

ANTT - National Agency for il

ASTM - American Society for the Testing of Materials

- Carcinogen, Mutagen or Reproductive Toxicant

DIN nstitute for Standardisation

DSL - Domestic Substances ntration associated with x% response

ELx - Loading rate se

EmS - Emergency Schedule

ENCS - Existing and New n)

ErCx - Concentration associated with x% growth rate cy Response Guide

GHS - Globally Harmonised System

actice

IARC - International Agency for Research on Canir Transport Association

IBC - International Code for the nt of Ships carrying Dangerous Chemicals in Bulk

IC50 ncentration

ICAO - International Civil Aviation Organiza- Existing Chemical Substances in China

IMDG - Interna- Goods

IMO - International Maritime Organisation

ISHL alth Law (Japan)

ISO - International Organisation for rea Existing Chemicals Inventory

LC50 - Lethal Concenopulation

LD50 - Lethal Dose to 50% of a test population POL - International Convention for the Prevention of Pol- SUR - The Agreement for the Facilitation of the Transport . - Not Otherwise Specified

Nch - Chilean Norm

NO(A)EC ffect Concentration

NO(A)EL - No Observed (Adverse) Efbserveable Effect Loading Rate

NOM - Official Mexican ology Program

NZIoC - New Zealand Inventory of Chemicals for Economic Co-operation and Development

OPPTS - Office of Pollution Prevention

PBT - Persistent, Bioaccumulative and Toxic - Philippines Inventory of Chemicals and Chemical Substances Structure Activity Relationship

REACH - Regulation of the European Parliament and of the Council concerning the restriction and restriction of Chemicals

SADT - Self-Heating Temperature

SDS - Safety Data Sheet

TCSI - Taiwanese Chemical Safety Information

TDG - Transportation of Dangerous Goods

TECS Inventory

TSCA - Toxic Substances Control Act (United States)

UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

vPvB - Very Persistent and Very Bioaccumulative

Global Harmonized System of Classification and Labelling of Chemicals

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.