


<a href="#">Bismuth Fluoride Sputtering Target</a>	<a href="#">Pricing &gt;</a>
<a href="#">Bismuth(III) Fluoride</a>	<a href="#">Pricing &gt;</a>

<b>Linear Formula</b>	BiF <sub>3</sub>
<b>Pubchem CID</b>	82233
<b>MDL Number</b>	MFCD00010893
<b>EC No.</b>	232-124-8
<b>IUPAC Name</b>	trifluorobismuthane
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	F[Bi](F)F
<b>Inchl Identifier</b>	InChI=1S/Bi.3FH/h;3*1H/q+3;;;/p-3
<b>Inchl Key</b>	BRCWHGIUHLWZBK-UHFFFAOYSA-K

<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H314
<b>Hazard Codes</b>	C
<b>Precautionary Statements</b>	P260-P280-P303 + P361 + P353-P304 + P340 + P310-P305 + P351 + P338
<b>Flash Point</b>	Not applicable
<b>Risk Codes</b>	N/A
<b>Safety Statements</b>	N/A
<b>RTECS Number</b>	N/A
<b>Transport Information</b>	UN 3260 8 / PGII
<b>WGK Germany</b>	3
<b>GHS Pictograms</b>	<b><u>GHS05</u></b> <b><u>Corrosive</u></b> 

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## SAFETY DATA SHEET

Date Accessed: 04/20/2024

Date Revised: 01/15/2022

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## SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #7787-61-3

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
GHS05 Corrosion  
Skin Corr. 1C H314 Causes severe skin burns and eye damage.  
GHS07  
Eye Irrit. 2A H319 Causes serious eye irritation.  
Classification according to Directive 67/548/EEC or Directive 1999/45/EC  
Xi; Irritant  
R36/38: Irritating to eyes and skin.  
Information concerning particular hazards for human and environment:  
N/A  
Hazards not otherwise classified  
No data available  
Label elements  
Labelling according to Regulation (EC) No 1272/2008  
The substance is classified and labeled according to the CLP regulation.  
Hazard pictograms



GHS05  
Signal word: Danger  
Hazard statements  
H314 Causes severe skin burns and eye damage.

#### Precautionary statements

P260 Do not breathe

dust/fume/gas/mist/vapors/spray.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P405 Store locked up.

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

#### WHMIS classification

D2B - Toxic material causing other toxic effects

E - Corrosive material

#### Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH

FIRE

REACTIVITY

3

0

2

Health (acute effects) = 3

Flammability = 0

Physical Hazard = 2

Other hazards

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

CAS No. / Substance Name:

7787-61-3 Bismuth (III) fluoride

Identification number(s):

EC number: 232-124-8

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### SECTION 4. FIRST AID MEASURES

#### Description of first aid measures

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.  
Rub in calcium gluconate solution or calcium gluconate gel immediately.  
Seek immediate medical advice.  
In case of eye contact:  
Rinse opened eye for several minutes under running water. Consult a physician.  
If swallowed:  
Seek medical treatment.  
Information for doctor  
Most important symptoms and effects, both acute and delayed  
No data available  
Indication of any immediate medical attention and special treatment needed  
No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing agents  
Product is not flammable. Use fire-fighting measures that suit the surrounding fire.  
Special hazards arising from the substance or mixture  
If this product is involved in a fire, the following can be released:  
Hydrogen fluoride (HF)  
Advice for firefighters  
Protective equipment:  
Wear self-contained respirator.  
Wear fully protective impervious suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures  
Use personal protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Environmental precautions:  
Do not allow material to be released to the environment without official permits.  
Do not allow product to enter drains, sewage systems, or other water courses.  
Do not allow material to penetrate the ground or soil.  
Methods and materials for containment and cleanup:  
Pick up mechanically.  
Prevention of secondary hazards:  
No special measures required.

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 disposal information.

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## **SECTION 7. HANDLING AND STORAGE**

Handling  
Precautions for safe handling  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.  
Information about protection against explosions and fires:  
The product is not flammable  
Conditions for safe storage, including any incompatibilities  
Requirements to be met by storerooms and receptacles:  
No special requirements.  
Information about storage in one common storage facility:  
Not required.  
Further information about storage conditions:  
Keep container tightly sealed.  
Store in cool, dry conditions in well-sealed containers.  
Specific end use(s)  
No data available

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## **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.  
Control parameters  
Components with limit values that require monitoring at the workplace:  
Fluorides (as F)  
mg/m<sup>3</sup>  
ACGIH TLV 2.5  
Austria MAK 2.5  
Belgium TWA 2.5  
Finland TWA 2.5  
France TWA 2.5  
Germany MAK 2.5  
Hungary TWA 1; 2-STEL  
Netherlands MAC-K 3.5

Norway TWA 0.6  
Poland TWA 1; 3-STEL  
Sweden NGV 2  
Switzerland MAK-W 1.5; 3-KZG-W  
United Kingdom TWA 2.5  
Russia TWA 2  
Denmark TWA 2.5  
USA PEL 2.5  
7787-61-3 Bismuth (III) fluoride (100.0%)  
PEL (USA) Long-term value: 2.5 mg/m<sup>3</sup> as F  
REL (USA) Long-term value: 2.5 mg/m<sup>3</sup> as F  
TLV (USA) Long-term value: 2.5 mg/m<sup>3</sup> as F, BEI  
EL (Canada) Long-term value: 2.5 mg/m<sup>3</sup> as F  
Ingredients with biological limit values:  
7787-61-3 Bismuth (III) fluoride (100.0%)  
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  
Exposure controls  
Personal protective equipment  
Follow typical protective and hygienic practices for handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.  
Maintain an ergonomically appropriate working environment.  
Breathing equipment:  
Use suitable respirator when high concentrations are present.  
Protection of hands:  
Impervious gloves  
Inspect gloves prior to use.  
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.  
Eye protection:  
Safety glasses  
Body protection:  
Protective work clothing.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Powder or solid in various forms

Color: White

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 727 °C (1341 °F)

Boiling point/Boiling range: No data available

Sublimation temperature / start: No data available

Flash point: N/A

Flammability (solid, gas): No data available.

Ignition temperature: No data available

Decomposition temperature: No data available

Autoignition: No data available.

Danger of explosion:

Product does not present an explosion hazard.

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure: N/A

Density at 20 °C (68 °F): 5.32 g/cm<sup>3</sup> (44.395 lbs/gal)

Relative density: No data available.

Vapor density: N/A

Evaporation rate: N/A

Solubility in Water (H<sub>2</sub>O): Insoluble

Partition coefficient (n-octanol/water): No data available.

Viscosity:

Dynamic: N/A

Kinematic: N/A

Other information

No data available

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions

No dangerous reactions known

Conditions to avoid

No data available

Incompatible materials:

No data available

Hazardous decomposition products:

## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects

Acute toxicity: No effects known.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: Causes skin irritation.

Eye irritation or corrosion: Causes serious eye irritation.

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: No effects known.

Carcinogenicity:

IARC-3: Not classifiable as to carcinogenicity to humans

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.

Reproductive toxicity: No effects known.

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:

Bismuth and bismuth compounds are often poorly absorbed. Should absorption occur, however, exposure may cause loss of appetite, headache, skin rash, exodermatitis, kidney injury and jaundice.

Repeated or prolonged exposure may cause a bismuth line or black spots on the gums, foul breath and salivation.

Fluorides may cause salivation, nausea, vomiting, diarrhea and abdominal pain, followed by weakness, tremors, shallow respiration, convulsions and coma.

May cause brain and kidney damage. Chronic fluoride poisoning can cause severe bone changes, loss of weight, anorexia, anemia and dental defects.

Subacute to chronic toxicity: No effects known.

Additional toxicological information:

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

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## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity

Aquatic toxicity:

No data available

Persistence and degradability



No data available  
Bioaccumulative potential  
No data available  
Mobility in soil  
No data available  
Additional ecological information:  
Do not allow material to be released to the  
environment without official permits.  
Avoid transfer into the environment.  
Results of PBT and vPvB assessment  
PBT: N/A  
vPvB: N/A  
Other adverse effects  
No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods  
Recommendation  
Consult official regulations to ensure proper disposal.  
Uncleaned packagings:  
Recommendation:  
Disposal must be made according to official  
regulations.

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## **SECTION 14. TRANSPORT INFORMATION**

UN-Number  
DOT, IMDG, IATA  
UN3260  
UN proper shipping name  
DOT  
Corrosive solid, acidic, inorganic, n.o.s. (Bismuth (III)  
fluoride)  
IMDG, IATA  
CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
(Bismuth (III) fluoride)  
Transport hazard class(es)  
DOT  
Class  
8 Corrosive substances.  
Label  
8  
Class  
8 (C2) Corrosive substances  
Label  
8  
IMDG, IATA  
Class  
8 Corrosive substances.

Label  
8  
Packing group  
DOT, IMDG, IATA  
III  
Environmental hazards:  
N/A  
Special precautions for user  
Warning: Corrosive substances  
Segregation groups  
Acids  
Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code  
N/A  
Transport/Additional information:  
DOT  
Marine Pollutant (DOT):  
No  
UN "Model Regulation":  
UN3260, Corrosive solid, acidic, inorganic, n.o.s.  
(Bismuth (III) fluoride), 8, III

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## **SECTION 15. REGULATORY INFORMATION**

Safety, health and environmental  
regulations/legislation specific for the substance or  
mixture  
National regulations  
All components of this product are listed in the U.S.  
Environmental Protection Agency Toxic Substances  
Control Act Chemical substance Inventory.  
All components of this product are listed on the  
Canadian Non-Domestic Substances List (NDSL).  
SARA Section 313 (specific toxic chemical listings)  
Substance is not listed.  
California Proposition 65  
Prop 65 - Chemicals known to cause cancer  
Substance is not listed.  
Prop 65 - Developmental toxicity  
Substance is not listed.  
Prop 65 - Developmental toxicity, female  
Substance is not listed.  
Prop 65 - Developmental toxicity, male  
Substance is not listed.  
Information about limitation of use:  
For use only by technically qualified individuals.  
Other regulations, limitations and prohibitive  
regulations  
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.

REACH - Pre-registered substances

Substance is listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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