

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Tantalum(V) Fluoride

**Product Code:** TA5-F-05

**CAS Number:** 7783-71-3

**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:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

Precautionary statement(s)

P260 Do not breathe dust or mist.

P264 Wash skin thoroughly after handling.

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

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

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Strong hydrogen fluoride-releaser

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Formula : F5Ta

Molecular weight : 275.94 g/mol

CAS-No. : 7783-71-3

EC-No. : 232-022-3

Hazardous components

Component Classification Concentration

Tantalum pentafluoride

Skin Corr. 1B; Eye Dam. 1;

H314

<= 100 %

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## SECTION 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. 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.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water.

Consult a

physician. First treatment with calcium gluconate paste.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during

transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a

physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

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

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate

ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible

dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive. Keep in a dry place. Do not store in glass

Storage class (TRGS 510): Non-combustible, corrosive hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components with workplace control parameters

Component CAS-No. Value Control

parameters

Basis

Tantalum

pentafluoride

7783-71-3 TWA 2.500000

mg/m<sup>3</sup>

USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

Remarks CAS number varies with compound

TWA 2.500000

mg/m<sup>3</sup>

USA. Occupational Exposure Limits

(OSHA) - Table Z-2

Z37.28-1969

TWA 2.500000

mg/m<sup>3</sup>

USA. ACGIH Threshold Limit Values

(TLV)

Bone damage

Fluorosis

Substances for which there is a Biological Exposure Index or Indices

(see BEI® section)

Not classifiable as a human carcinogen

varies

TWA 2.500000

mg/m<sup>3</sup>

USA. ACGIH Threshold Limit Values

(TLV)

Bone damage

Fluorosis

Substances for which there is a Biological Exposure Index or Indices  
(see BEI® section)

Not classifiable as a human carcinogen  
varies

TWA 2.5 mg/m<sup>3</sup> USA. Occupational Exposure Limits  
(OSHA) - Table Z-1 Limits for Air

Contaminants

CAS number varies with compound

TWA 2.5 mg/m<sup>3</sup> USA. ACGIH Threshold Limit Values  
(TLV)

Bone damage

Fluorosis

Substances for which there is a Biological Exposure Index or Indices  
(see BEI® section)

Not classifiable as a human carcinogen  
varies

Biological occupational exposure limits

Component CAS-No. Parameters Value Biological  
specimen

Basis

Tantalum

pentafluoride

7783-71-3 Fluoride 3.0000

mg/g

In urine ACGIH - Biological

Exposure Indices

(BEI)

Remarks Prior to shift (16 hours after exposure ceases)

Fluoride 10.0000

mg/g

In urine ACGIH - Biological

Exposure Indices

(BEI)

End of shift (As soon as possible after exposure ceases)

Fluoride 2 mg/l Urine ACGIH - Biological

Exposure Indices

(BEI)

Prior to shift (16 hours after exposure ceases)

Fluoride 3 mg/l Urine ACGIH - Biological

Exposure Indices

(BEI)

End of shift (As soon as possible after exposure ceases)

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks  
and at the end of  
workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under  
appropriate

government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after

use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to

the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type

N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the

sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and

approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Do not let product enter drains.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance Form: powder

Colour: off-white

b) Odor No data available

c) Odor Threshold No data available

d) pH No data available

e) Melting point/freezing point

Melting point/range: 96.8 °C (206.2 °F)

f) Initial boiling point and boiling range

229.5 °C (445.1 °F) at 1,013 hPa (760 mmHg)

g) Flash point N/A

h) Evaporation rate No data available

i) Flammability (solid, gas) No data available

j) Upper/lower

flammability or

explosive limits

No data available

k) Vapor pressure No data available

l) Vapor density No data available

m) Relative density 4.74 g/cm<sup>3</sup> at 25 °C (77 °F)

n) Water solubility No data available

o) Partition coefficient: noctanol/  
water

No data available

p) Auto-ignition

temperature

No data available

q) Decomposition

temperature

No data available  
r) Viscosity No data available  
s) Explosive properties No data available  
t) Oxidizing properties No data available  
9.2 Other safety information  
No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

10.1 Reactivity  
No data available  
10.2 Chemical stability  
Stable under recommended storage conditions.  
10.3 Possibility of hazardous reactions  
No data available  
10.4 Conditions to avoid  
Avoid moisture.  
Reacts dangerously with glass.  
10.5 Incompatible materials  
Strong oxidizing agentsglass  
10.6 Hazardous decomposition products  
Hazardous decomposition products formed under fire conditions. - Hydrogen fluoride, Tantalum Oxides  
Other decomposition products - No data available  
In the event of fire: see section 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

11.1 Information on toxicological effects  
Acute toxicity  
No data available  
Inhalation: No data available  
Dermal: No data available  
No data available  
Skin corrosion/irritation  
No data available  
Serious eye damage/eye irritation  
No data available  
Respiratory or skin sensitisation  
No data available  
Germ cell mutagenicity  
No data available  
Carcinogenicity  
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Tantalum pentafluoride)  
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.  
Reproductive toxicity  
No data available  
No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: Not available

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

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.,

spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary

edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea

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## **SECTION 12. ECOLOGICAL INFORMATION**

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

13.1 Waste treatment methods

Product

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

disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a

chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT (US)

UN number: 3260 Class: 8 Packing group: II

Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Tantalum pentafluoride)

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG

UN number: 3260 Class: 8 Packing group: II EMS-No: F-A, S-B  
Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Tantalum pentafluoride)  
IATA  
UN number: 3260 Class: 8 Packing group: II  
Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Tantalum pentafluoride)

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## SECTION 15. REGULATORY INFORMATION

### SARA 302 Components

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

### SARA 313 Components

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.

### SARA 311/312 Hazards

#### Acute Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know Components

Tantalum pentafluoride

CAS-No.

7783-71-3

Revision Date

2008-06-01

### New Jersey Right To Know Components

Tantalum pentafluoride

CAS-No.

7783-71-3

Revision Date

2008-06-01

### California Prop. 65 Components

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

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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.