

# SAFETY DATA SHEET

Date Printed: 05/16/2024

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Thallium(I) Hexafluoroacetylacetonate

**Product Code:** TL1-FACA-04-C

**CAS Number:** 15444-43-6

**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)

Acute toxicity, Oral (Category 2), H300

Acute toxicity, Inhalation (Category 2), H330

Specific target organ toxicity - repeated exposure (Category 2), H373

Acute aquatic toxicity (Category 2), H401

Chronic aquatic toxicity (Category 2), H411

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word Danger

Hazard statement(s)

H300 + H330 Fatal if swallowed or if inhaled

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P260 Do not breathe dust/ fume/ gas/ mist/ Vapors/ spray.

P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P284 Wear respiratory protection.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P310 Immediately call a POISON CENTER or doctor/ physician.  
P320 Specific treatment is urgent (see supplemental first aid instructions on this label).  
P330 Rinse mouth.  
P391 Collect spillage.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
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 - none

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## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

3.1 Substances  
Formula : C<sub>5</sub>HF<sub>6</sub>O<sub>2</sub>TI  
Molecular weight : 411.43 g/mol  
CAS-No. : 15444-43-6  
Index-No. : 081-002-00-9  
Hazardous components  
Component Classification Concentration  
Thallium(I) hexafluoroacetylacetonate  
Acute Tox. 2; STOT RE 2;  
Aquatic Acute 2; Aquatic  
Chronic 2; H300 + H330,  
H373, H411  
-

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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.  
If inhaled  
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.  
In case of skin contact  
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.  
In case of eye contact  
Flush eyes with water as a precaution.  
If swallowed  
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

Carbon oxides, Hydrogen fluoride, thallium oxides

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

Wear respiratory protection. 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

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment

must be avoided.

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 contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

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.

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

Thallium(I)

hexafluoroacetylacetate

15444-43-6 TWA 0.1 mg/m<sup>3</sup> USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air

Contaminants

Remarks Skin designation

TWA 0.1 mg/m<sup>3</sup> USA. ACGIH Threshold Limit Values (TLV)

Alopecia

Adopted values or notations enclosed are those for which changes are proposed in the NIC

2010 Revision or addition to the notice of intended changes

See Notice of Intended Changes (NIC)

Danger of cutaneous absorption

varies

TWA 0.1 mg/m<sup>3</sup> USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

Skin notation

### 8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test

method:

EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374,

contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**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**  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1 Information on basic physical and chemical properties

- a) Appearance Form: solid
- b) Odor No data available
- c) Odor Threshold No data available
- d) pH No data available
- e) Melting point/freezing point  
No data available
- f) Initial boiling point and boiling range  
No data available
- g) Flash point No data available
- 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 No data available
- 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

No data available

10.5 Incompatible materials

acids, Oxidizing agents

10.6 Hazardous decomposition products

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

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: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

No data available

Additional Information

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly

investigated., The most characteristic symptom of thallium exposure is alopecia (loss of hair).

Cutaneous effects may

include dry, scaly skin and impairment of nail growth often resulting in the appearance of crescent-shaped strips across

fingernails and toenails (Mees' line). Other symptoms in acute poisoning relate chiefly to the gastrointestinal tract,

nervous system, skin, eyes, and cardiovascular system. Acute poisoning results in swelling of the feet and legs,

arthralgia, vomiting, insomnia, hyperesthesia and paresthesia of the hands and feet, mental confusion, polyneuritis with

severe pain in the legs and loins, partial paralysis of the legs, angina-like pains, nephritis, wasting and weakness, and

lymphocytosis and eosinophilia. In chronic poisoning, central and peripheral nervous system abnormalities may persist

including ataxia, tremor, incoordination, paralysis of extremities, endocrine disorders, memory loss, and psychoses

may develop.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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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

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life with long lasting effects.

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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: 1707 Class: 6.1 Packing group: II  
Proper shipping name: Thallium compounds, n.o.s. (Thallium(I) hexafluoroacetylacetonate)  
Marine pollutant: No  
Poison Inhalation Hazard: No  
IMDG  
UN number: 1707 Class: 6.1 Packing group: II EMS-No: F-A, S-A  
Proper shipping name: THALLIUM COMPOUND, N.O.S. (Thallium(I) hexafluoroacetylacetonate)  
Marine pollutant: Marine pollutant  
IATA  
UN number: 1707 Class: 6.1 Packing group: II  
Proper shipping name: Thallium compound, n.o.s. (Thallium(I) hexafluoroacetylacetonate)

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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  
The following components are subject to reporting levels established by SARA Title III, Section 313:  
Thallium(I) hexafluoroacetylacetonate  
CAS-No.  
15444-43-6  
Revision Date  
2007-07-01  
SARA 311/312 Hazards  
Acute Health Hazard, Chronic Health Hazard  
Massachusetts Right To Know Components  
No components are subject to the Massachusetts Right to Know Act.  
Pennsylvania Right To Know Components  
Thallium(I) hexafluoroacetylacetonate  
CAS-No.  
15444-43-6  
Revision Date  
2007-07-01  
New Jersey Right To Know Components  
Thallium(I) hexafluoroacetylacetonate  
CAS-No.  
15444-43-6  
Revision Date  
2007-07-01  
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.