

# SAFETY DATA SHEET

Date Printed: 05/21/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Rhenium Telluride Sputtering Target

**Product Code:** RE-TE-05-ST

**CAS Number:** 12067-00-4

**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

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)



Signal word Warning Hazard statements

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P301+P312

IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell.

P312 Call a POISON CENTER/doctor/.../if you feel unwell.

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

D1B - Toxic material causing immediate and serious toxic effects

Classification system

HMIS ratings (scale 0-4)

Health (acute effects) = 2

Flammability = 0

Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable. vPvB: Not applicable.

---

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

Chemical characterization: Substances

CAS# Description:

12067-00-4 Rhenium telluride

Identification number(s):

EC number: 235-074-5

---

## **SECTION 4. FIRST AID MEASURES**

Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

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

After swallowing Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed No further relevant information available.

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

---

## **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: Tellurium dioxide (TeO<sub>2</sub>)

Hydrogen telluride

Rhenium oxides

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

---

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

Environmental precautions: Do not allow product to reach sewage system or any water course.

Methods and material for containment and cleaning up:

Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation.

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.

---

## 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

Storage

Requirements to be met by storerooms and receptacles: 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.

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.

Control parameters

Components with limit values that require monitoring at the workplace:

12067-00-4 Rhenium telluride (100.0%)

PEL (USA) Long-term value: 0.1 mg/m<sup>3</sup> as Te

TLV (USA) Long-term value: 0.1 mg/m<sup>3</sup> as Te

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed. 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. 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:  
Impervious gloves  
Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.  
Material of gloves Butyl rubber, BR Penetration time of glove material (in minutes) Not determined  
Eye protection: Safety glasses Body protection: Protective work clothing

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:  
Form: Powder  
Color: Grey Odor: Odorless  
Odor threshold: Not determined.  
pH-value: Not applicable.  
Change in condition  
Melting point/Melting range: Not determined  
Boiling point/Boiling range: Not determined  
Sublimation temperature / start: Not determined  
Flammability (solid, gaseous) Not determined.  
Ignition temperature: Not determined  
Decomposition temperature: Not determined  
Auto igniting: Not determined.  
Danger of explosion: Not determined.  
Explosion limits:  
Lower: Not determined  
Upper: Not determined  
Vapor pressure: Not applicable. Density: Not determined  
Relative density Not determined.  
Vapor density Not applicable. Evaporation rate Not applicable. Solubility in / Miscibility with  
Water: Insoluble  
Partition coefficient (n-octanol/water): Not determined.  
Viscosity:  
dynamic: Not applicable. kinematic: Not applicable. Other information No further relevant information available

---

## SECTION 10. STABILITY AND REACTIVITY

Reactivity No information known.  
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 further relevant information available.  
Incompatible materials: Acids  
Hazardous decomposition products:  
Tellurium dioxide (TeO<sub>2</sub>)  
Hydrogen telluride  
Rhenium oxides

---

## SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

Harmful if inhaled.

Harmful in contact with skin.

Harmful if swallowed.

Danger through skin absorption.

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

Skin irritation or corrosion: May cause irritation Eye irritation or corrosion: May cause irritation

Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known.

Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

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: No effects known.

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

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available.

---

## SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

---

## SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA UN3284

UN proper shipping name

DOT Tellurium compound, n.o.s. (Rhenium telluride) IMDG, IATA TELLURIUM COMPOUND, N.O.S. (Rhenium telluride)

Transport hazard class(es)  
DOT  
Class 6.1 Toxic substances.  
Label 6.1  
Class 6.1 (T5) Toxic substances Label 6.1  
IMDG, IATA  
Class 6.1 Toxic substances.  
Label 6.1  
Packing group  
DOT, IMDG, IATA III  
Environmental hazards: Not applicable.  
Special precautions for user Warning: Toxic substances EMS Number: F-A,S-A  
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.  
Transport/Additional information:  
DOT  
Marine Pollutant (DOT): No  
UN "Model Regulation": UN3284, Tellurium compound, n.o.s. (Rhenium telluride), 6.1, III

---

## SECTION 15. REGULATORY INFORMATION

### 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.

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

---

## 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.

---

**AMERICAN ELEMENTS** | 10884 WEYBURN AVE. | LOS ANGELES, CALIFORNIA 90024  
TEL. 310-208-0551 | FAX 310-208-0351 | customerservice@americanelements.com