

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Copper Gallium Telluride Sputtering Target

**Product Code:** CU-GATE-04-ST

**CAS Number:** 12018-84-7

**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

Signal Word: Danger



Hazard Statements: H301: Toxic if swallowed

H332: Harmful if inhaled

Precautionary Statements: P261 Avoid breathing dust/fume/vapor

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

P312: Call a POISON CENTER or doctor/physician if you feel unwell

P405: Store locked up

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

HMIS Health Ratings (0-4):

Health: 2

Flammability: 0

Physical: 1

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family: Ceramic  
Additional Names: Copper gallium ditelluride  
Copper gallium telluride (CuGaTe<sub>2</sub>):  
Percentage: 0-100 wt%  
CAS #: 12018-84-7  
EC #: N/A

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## SECTION 4. FIRST AID MEASURES

General Treatment: Seek medical attention if symptoms persist.  
Special Treatment: None  
Important Symptoms: None  
Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.  
Ingestion: Seek medical attention  
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.  
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

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## SECTION 5. FIREFIGHTING MEASURES

Flammability: Non-flammable  
Extinguishing Media: No special restrictions – use suitable extinguishing agent for surrounding material and type of fire  
Spec. Fire Fighting Procedure: Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

If Material Is Released/Spilled: Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.  
Environmental Precautions: Isolate runoff to prevent environmental pollution.

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## SECTION 7. HANDLING AND STORAGE

Handling Conditions: Wash thoroughly after handling.  
Storage Conditions: Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.  
Work/Hygienic Maintenance: Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.  
Ventilation: Provide sufficient ventilation to maintain concentration at or below threshold limit.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Permissible Exposure Limits: 0.1 mg/m<sup>3</sup> as Te, long-term value

Threshold Limit Value: 0.1 mg/m<sup>3</sup> as Te, long-term value

Special Equipment: None

Respiratory Protection: Dust Respirator

Protective Gloves: Rubber gloves

Eye Protection: Safety glasses or goggles

Body Protection: Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Color Gold/grey

Form: Powder, Granules, Pellets, Sputtering target, Custom parts

Odor: Odorless

Water Solubility: Insoluble

Boiling Point: N/A

Melting Point: N/A

Flash Point: N/A

Autoignition Temperature: N/A

Density: N/A

Molecular weight: 388.47 g/mol

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## SECTION 10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions

Reacts With: Mineral acids, Oxidizing agents

Incompatible Conditions: None

Hazardous Decomposition Products: Metal oxide fume

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## SECTION 11. TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eyes: Causes irritating effect

Skin: Irritant to skin and mucous membranes

Ingestion: May cause irritation

Inhalation: May cause irritation

Chronic: Gallium and gallium compounds may cause metallic taste, dermatitis, depression of the bone marrow function. Large doses may cause hemorrhagic nephritis. Tellurium is converted in the body to dimethyl telluride which imparts garlic-like odor to the breath and sweat. Heavy exposure may result in headache, drowsiness, metallic taste, loss of appetite, nausea, tremors, convulsions, and respiratory arrest.

Signs & Symptoms: N/A

Aggravated Medical Conditions: N/A

Median Lethal Dose: N/A

Carcinogen: EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

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## SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity: Low

Persistent Bioaccumulation Toxicity: No

Very Persistent, Very Bioaccumulative: No

Notes: Do not allow material to be released to the environment without proper governmental permits  
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.

Avoid transfer into the environment.

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## SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, national, and international regulations.

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## SECTION 14. TRANSPORT INFORMATION

Hazardous: Hazardous as powder only.

Hazard Class: 9 Miscellaneous dangerous substances and articles

Packing Group: III

UN Number: UN3077

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Copper gallium telluride)

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## SECTION 15. REGULATORY INFORMATION

Sec 302 Extremely Hazardous: No

Sec 304 Reportable Quantities: N/A

Sec 313 Toxic Chemicals: Yes

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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.