LTS Research Laboratories, Inc.
Safety Data Sheet
Copper Gallium Telluride

## 1. Product and Company Identification

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| Trade Name: | Copper gallium telluride |
| Chemical Formula: | $CuGaTe_2$ |
| Recommended Use: | Scientific research and development |
| Manufacturer/Supplier: | LTS Research Laboratories, Inc. |
| Street: | 37 Ramland Road |
| City: | Orangeburg |
| State: | New York |
| Zip Code: | 10962 |
| Country: | USA |
| Tel #: | 855-587-2436 / 855-lts-chem |
| 24-Hour Emergency Contact: | 800-424-9300 (US & Canada)<br>+1-703-527-3887 (International) |

## 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):

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| Health: | 2 |
| Flammability: | 0 |
| Physical: | 1 |

## 3. Composition

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| Chemical Family: | Ceramic |
| Additional Names: | Copper gallium ditelluride |

Copper gallium telluride ($CuGaTe_2$):

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| Percentage: | 0-100 wt% |
| CAS #: | 12018-84-7 |
| EC #: | NIL |

## 4. First Aid Procedures

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| 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 |

## 5. Firefighting Measures

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| 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. |

## 6. Accidental Release Measures

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| 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. |

## 7. Handling and Storage

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| 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. |

## 8. Exposure Controls and Personal Protection

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| Permissible Exposure Limits: | 0.1 $mg/m^3$ as Te, long-term value |
| Threshold Limit Value: | 0.1 $mg/m^3$ 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. |

## 9. Physical and Chemical Characteristics

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| 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 |

## 10. Reactivity

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| Stability: | Stable under recommended storage conditions |
| Reacts With: | Mineral acids, Oxidizing agents |
| Incompatible Conditions: | None |
| Hazardous Decomposition Products: | Metal oxide fume |

## 11. Toxicological Information

Potential Health Effects:

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| 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. |

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| 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. |

## 12. Ecological Information

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

## 13. Disposal Considerations

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

## 14. Transportation Data

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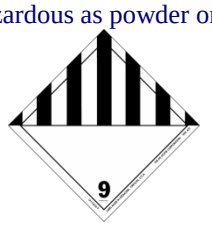
| Hazardous: | Hazardous as powder only. |

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| 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) |

## 15. Regulatory Information

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| Sec 302 Extremely Hazardous: | No |
| Sec 304 Reportable Quantities: | N/A |
| Sec 313 Toxic Chemicals: | Yes |

## 16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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| Document Last Revised: | 06/23/2015 |