LTS Research Laboratories, Inc.
Safety Data Sheet
Gallium Arsenide

1. Product and Company Identification

Trade Name:	Gallium Arsenide
Chemical Formula:	GaAs
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) +1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger

Hazard Statements: H301+H331: Toxic if swallowed or 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
P311: Call a POISON CENTER or doctor/physician
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	3
Flammability:	0
Physical:	1

3. Composition

Chemical Family:	Ceramic
Additional Names:	Gallium arsenide, Gallium monoarsenide
Gallium arsenide (GaAs):	
Percentage:	100 wt%
CAS #:	1303-00-0
EC #:	215-114-8

4. First Aid Procedures

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. Remove breathing apparatus only after contaminated clothing has been completely removed.
Ingestion:	Do not induce vomiting. Seek immediate 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

Flammability:	Non-flammable
Extinguishing Media:	Do not use water for metal fires – use CO_2, sand, extinguishing powder.
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

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

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

Permissible Exposure Limits:	0.01 mg/m^3 as As, long-term value
Threshold Limit Value:	0.01 mg/m^3 as As, long-term value
Special Equipment:	None
Respiratory Protection:	Refer to 29CFR1910.1018 for regulations on respiratory protection required during exposure to inorganic arsenic.
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

Color	Dark grey
Form:	Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Reacts
Boiling Point:	N/A
Melting Point:	1238 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	5.31 g/cc
Molecular weight:	144.642 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	N/A
Incompatible Conditions:	None
Hazardous Decomposition Products:	Arsenic compounds

11. Toxicological Information

Potential Health Effects:

Eyes:	Causes irritation
Skin:	Causes irritation
Ingestion:	Toxic
Inhalation:	Toxic
Chronic:	Acute arsenic poisoning from ingestion results in marked irritation of the stomach and intestines with nausea, vomiting, and diarrhea. In severe cases, the vomitus and stools are bloody and the patient goes into collapse and shock with weak, rapid pulse, cold sweats, coma and death. Chronic arsenic poisoning may cause disturbances of the digestive system such as loss of appetite, cramps, nausea, constipation or diarrhea.

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:
Behavioral: Excitement, ataxia, somnolence (general depressed activity), food intake (animal)
Biochemical: Enzyme inhibition, induction, or change in blood or tissue level – true cholinesterase, Metabolism (intermediary) – plasma proteins not involving coagulation, other.
Blood: Changes in serum composition (e.g. TP, bilirubin, cholesterol). Pigmented or nucleated red blood cells, changes in erythrocyte (RBC) count.
Brain and Coverings: recordings from specific areas of CNS
Endocrine: changes in spleen weight, thymus weight.
Kidney, Ureter, Bladder: Changes in tubules (including acute renal failure, acute tubular necrosis)
Liver – changes in liver weight.
Lungs, Thorax, or Respiration: respiratory stimulation, changes in lung weight, fibrosis, focal (pneumoconiosis), dyspnea, tumors, other changes.
Nutritional and Gross Metabolic: weight loss or decreased weight gain, changes in calcium, phosphorus, flaccid paralysis without anesthesia (usually neuromuscular blockage), related to chronic data – death.
Sense Organs and Special Senses (Eye) – conjunctive irritation.
Reproductive:
Maternal Effects: other effects
Effects on embryo or fetus: fetotoxicity (except death, e.g., stunted fetus)
Paternal Effects: spermatogenesis (including genetic material, sperm morphology, motility, and count), testes, epididymis, sperm duct.
Fertility: post-implantation mortality (e.g. dead/or resorbed implants per total number of implants), other measures of fertility.
Specific developmental abnormalities: craniofacial (including nose and tongue), musculoskeletal system.
Effects on Embryo or fetus: fetal death.
Tumorigenic: carcinogenic by RTECS criteria.

Signs & Symptoms: N/A

Aggravated Medical Conditions: N/A

Median Lethal Dose: N/A

Carcinogen:

EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer
IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.
ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.
Carcinogen as defined by OSHA.
NTP-K: Known to be carcinogenic: sufficient evidence from human studies.

12. Ecological Information

Aquatic Toxicity:	High
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	Very toxic for aquatic organism. May cause long lasting harmful effect on aquatic life. Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach any water sources. Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment.

13. Disposal Considerations

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

14. Transportation Data

Hazardous:	Hazardous for transportation.

Hazard Class:	6.1 Toxic substances
Packing Group:	II
UN Number:	UN1557
Proper Shipping Name:	Arsenic compounds, solid, n.o.s. (Gallium arsenide)

15. Regulatory Information

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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