

GALLIUM ARSENIDE
SAFETY DATA SHEET
DATE OF LAST REVISION: 06/24/15

Section 1: Identification

Product Name: Gallium Arsenide
CAS Number: 1303-00-0 / **EC Number:** 215-114-8
Company: Angstrom Sciences, Inc.
40 South Linden Street
Duquesne, PA 15110
For more information call: 412-469-8466
(Monday - Friday 9:00 AM -5:00 PM EST)

Section 2: HAZARD 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

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Section 3: Composition/Information on Ingredients

Chemical characterization: Ceramic

Additional Names: Gallium arsenide, Gallium monoarsenide

CAS# Description: 1330-00-0

Percentage: 100 wt%

EC number: 215-114-8

Section 4: FIRST AID MEASURES

General Treatment: Seek medical attention if symptoms persist.

Special Treatment: None

Important Symptoms: None

Eye Contact: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Skin Contact: Wash affected area with mild soap and water. Remove any contaminated clothing.

Inhalation: Remove to fresh air. If required, give artificial respiration. Seek medical advice.

Ingestion: Seek medical attention

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing Media: Do not use water for metal fires - special extinguishing powder.

Flammability: Non-flammable

Special 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.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: 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.

Section 7: HANDLING AND STORAGE

Handling Precautions for safe handling: Handle under dry protective gas. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities 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 CONTROL/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, Full face protection
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Color:	Dark grey
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

Section 10: STABILITY AND REACTIVITY

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

Section 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eyes: Causes irritation

Skin: Causes irritation

Ingestion: Toxic

Inhalation: Toxic

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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.

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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.

Section 12: ECOLOGICAL INFORMATION

Aquatic Toxicity: High

Persistence 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.

Section 13: DISPOSAL CONSIDERATIONS

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

Section 14: TRANSPORT INFORMATION

Hazardous: Hazardous for transportation



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Hazard Class: 6.1 Toxic substances
Packing Group: UN1557
UN Number: II
Proper Shipping Name: Arsenide compounds, solid, n.o.s. (Gallium arsenide)
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Section 15: REGULATORY INFORMATION

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

Section 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.