LTS Research Laboratories, Inc.
Safety Data Sheet
Zinc oxide-Gallium

1. Product and Company Identification

Trade Name:	Zinc oxide-gallium
Chemical Formula:	ZnO/Ga
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 #:	845-587-2436 / 845-lts-chem
24-Hour Emergency Contact:	800-424-9300 (US & Canada) +1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Warning

Hazard Statements:
H401: Toxic to aquatic life
H290: May be corrosive to metals

Precautionary Statements:
P234: Keep only in original container
P390: Absorb spillage to prevent material damage
P406: Store in a corrosive resistant container with a resistant inner liner

HMIS Health Ratings (0-4):

Health:	1
Flammability:	0
Physical:	1

3. Composition

Chemical Family:	Composite
Additional Names:	N/A
Zinc oxide (ZnO):	
Percentage:	0-99 wt%
CAS #:	1314-13-2
EC #:	215-222-5
Gallium (Ga):	
Percentage:	0-99 wt%
CAS #:	7440-55-3
EC #:	231-163-8

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.
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

Flammability:	Non-flammable, except as powder
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. Gallium melts at only slightly elevated temperatures.
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:	5 mg/m^3 as ZnO respirable fraction (USA)
Threshold Limit Value:	2 mg/m^3 as ZnO long-term respirable fraction (USA)
Special Equipment:	None
Respiratory Protection:	Dust Respirator NIOSH approved
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	Yellow
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:	N/A

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Acids, Halogens, Aluminum/aluminum alloys, Magnesium/magnesium alloys, Oxidizing agents
Incompatible Conditions:	None
Hazardous Decomposition Products:	Metal oxide fume

11. Toxicological Information

Potential Health Effects:

Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	Low toxicity
Inhalation:	May cause irritation
Details:	Zinc compounds have variable low toxicity. Zinc is not inherently a toxic element. However, when heated it evolves a fume of zinc oxide which, when inhaled fresh can cause a disease known as “brass founders” “ague”, or brass chills”. Zinc dust which is not freshly formed is virtually innocuous. There is no cumulative effect from the inhalation of zinc fumes.

Routes of Entry:	None
Target Organs:	N/A
Signs & Symptoms of Exposure:	N/A
Medical Conditions Aggravated by Exposure:	N/A
Median Lethal Dose:	N/A
Carcinogen:	Inadequate information

12. Ecological Information

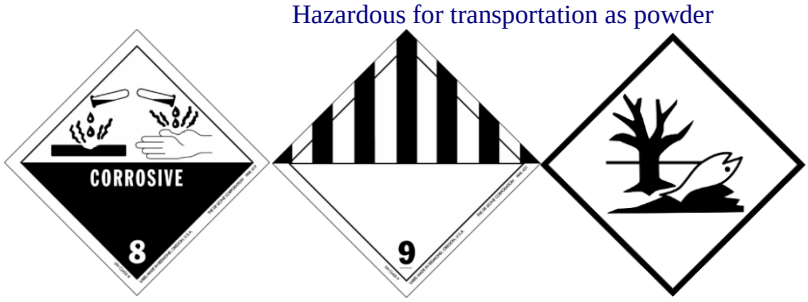
Aquatic Toxicity:	Yes
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Danger to drinking water, even in small doses. Poisonous to fish and aquatic life.

13. Disposal Considerations

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

14. Transportation Data

Hazardous: Hazardous for transportation as powder



Hazard Class: 8 Corrosive substances.
9 Miscellaneous dangerous goods

Packing Group: III

UN Number: UN3077
UN2803

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

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.

Document Last Revised: 07/21/2015