



LTS Research Laboratories, Inc.
Safety Data Sheet
Zirconium Nitride

1. Product and Company Identification

Trade Name: Zirconium Nitride
Chemical Formula: ZrN
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: Warning



Hazard Statements: H228: Flammable solid
H315: Causes skin irritation
H319: Causes serious eye irritation
H335: May cause respiratory irritation

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P240: Ground/bond container and receiving equipment
P241: Use explosion-proof electrical/ventilating/light/equipment
P261: Avoid breathing dust/fume/gas/mist/vapors/spray
P264: Wash face, hands, and any exposed skin thoroughly after handling
P271: Use only outdoors or in a well-ventilated area
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with soap and water
P304+P340+P311: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
P332+P313: If skin irritation occurs: Get medical advice/attention
P337+P313: If eye irritation persists get medical advice/attention
P362: Take off contaminated clothing and wash before reuse
P370+P378: In case of fire: Use suitable extinguishing media for extinction
P403+P233: Store in a well-ventilated place. Keep container tightly closed

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:	2
Physical:	0

3. Composition

Chemical Family:	Ceramic
Additional Names:	N/A

Zirconium nitride (ZrN)

Percentage:	100 wt%
CAS #:	25658-42-8
EC #:	247-166-2

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:	Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.

Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
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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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5. Firefighting Measures

Flammability:	Non-flammable, except as powder
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Extinguishing Media:	Use CO ₂ , alcohol-resistant foam, dry chemical, extinguishing powder, or water spray.
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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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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.
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Environmental Precautions:	Isolate runoff to prevent environmental pollution.
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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:	5 mg/m ³ as Zr, long-term value
Threshold Limit Value:	5 mg/m ³ as Zr, 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

Color	Yellow to brown
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	2980 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	7.09 g/cc
Molecular weight:	105.23 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Acids, Oxidizing agents
Incompatible Conditions:	None
Hazardous Decomposition Products:	Nitrogen oxides, Zirconium oxides, Metal oxides

11. Toxicological Information

Potential Health Effects:	
Eyes:	Causes serious eye irritation
Skin:	Causes skin irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogen:	N/A

12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	May persist
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product of large quantities to reach ground water, water course or sewage system. May cause long lasting harmful effects to aquatic life.

13. Disposal Considerations

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

14. Transportation Data

Hazardous: Hazardous as powder only



Hazard Class:	4.1 Flammable solids
Packing Group:	III
UN Number:	UN3178
Proper Shipping Name:	Flammable solid, inorganic, n.o.s. (Zirconium Nitride)

15. Regulatory Information

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

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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