



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Aluminum Carbide

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1. Product and Company Identification

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Trade Name: Aluminum carbide  
Chemical Formula:  $Al_4C_3$   
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)

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2. Hazards Identification

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Signal Word: Danger



Hazard Statements: H315 Causes skin irritation  
H319 Causes serious eye irritation  
H335: May cause respiratory irritation  
H228: Flammable solid  
H261: In contact with water releases flammable gas

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking  
P231+P232: Handle under inert gas. Protect from moisture  
P261 Avoid breathing dust/fume/vapor  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing  
P405: Store locked up  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):  
Health: 1  
Flammability: 3  
Physical: 2

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### 3. Composition

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|   |           |
|---|-----------|
| Chemical Family:                                    | Ceramic   |
| Additional Names:                                   | None      |
| Aluminum Carbide (Al <sub>4</sub> C <sub>3</sub> ): |           |
| Percentage:   | 100 wt%   |
| CAS #:  | 1299-86-1 |
| EC #:   | 215-076-2 |

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### 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 |

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### 5. Firefighting Measures

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|                                |   |
|--------------------------------|---|
| Flammability:                  | Contact with water produces highly flammable Methane gas  |
| Extinguishing Media:           | Do not use water, use CO <sub>2</sub> , 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. |

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### 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.   |

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### 7. Handling and Storage

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|                            |   |
|----------------------------|---|
| Handling Conditions:       | Handle under dry protective gas. Wash thoroughly after handling.  |
| Storage Conditions:        | Store in a cool dry place in a tightly sealed container. Store under dry inert gas. 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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## 8. Exposure Controls and Personal Protection

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|                              |  |
|------------------------------|--|
| Permissible Exposure Limits: | 15 mg/m <sup>3</sup> as Al <sub>4</sub> C <sub>3</sub> , long-term value |
| Threshold Limit Value:       | 1 mg/m <sup>3</sup> as Al, 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.  |

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## 9. Physical and Chemical Characteristics

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|                           |  |
|---------------------------|--|
| Color                     | Grey   |
| Form:                     | Powder, Granules, Pellets, Sputtering target, Custom parts |
| Odor:                     | Odorless   |
| Water Solubility:         | Insoluble  |
| Boiling Point:            | N/A  |
| Melting Point:            | 2100 °C  |
| Flash Point:              | N/A  |
| Autoignition Temperature: | N/A  |
| Density:                  | 2.36 g/cc  |
| Molecular weight:         | 143.93 g/mol   |

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## 10. Reactivity

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|                                   |   |
|-----------------------------------|---|
| Stability:                        | Stable under recommended storage conditions |
| Reacts With:                      | Oxidizing agents                            |
| Incompatible Conditions:          | Water/moisture                              |
| Hazardous Decomposition Products: | Metal oxide fume                            |

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## 11. Toxicological Information

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|                                |                           |
|--------------------------------|---------------------------|
| Potential Health Effects:      |                           |
| Eyes:                          | Causes serious eye damage |
| 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                       |

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## 12. Ecological Information

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|  |     |
|--|-----|
| Aquatic Toxicity:                      | Low |
| Persistent Bioaccumulation Toxicity:   | No  |
| Very Persistent, Very Bioaccumulative: | No  |
| Notes:                                 | N/A |

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## 13. Disposal Considerations

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

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#### 14. Transportation Data

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Hazardous: Hazardous for transportation.



Hazard Class: 4.3 Substances which, in contact with water, emit flammable gases.  
Packing Group: II  
UN Number: UN1394  
Proper Shipping Name: Aluminum carbide

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#### 15. Regulatory Information

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

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#### 16. Other Information

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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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