

# Shijiazhuang Shiyun Metal Tech Co.,Ltd

Add: No.8 Huaian Road, Shijiazhuang, Hebei, China  
Tel/Fax: 86-0311-80710268 Website: www.cnsyte.com

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## MATERIAL SAFETY DATA SHEET

### ALUMINUM POWDER

#### 1. Product Identification

Name: aluminum powder  
CAS No.: 7429-90-5  
Chemical Formula: Al

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#### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
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Aluminum Powder	7429-90-5	99.7 - 99.75%	NO

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#### 3. Hazards Identification

##### Potential Acute Health Effects:

Slightly hazardous in case of skin contact (irritant). Non-irritating to the eyes. Non-hazardous in case of ingestion.

##### Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance is toxic to lungs. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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#### 4. First Aid Measures

##### Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

**Skin Contact:** Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

**Serious Skin Contact:** Not available.

##### Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Serious Inhalation:** Not available.

**Ingestion:**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available

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## 5. Fire Fighting Measures

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not available.

**Flash Points:** Not available.

**Flammable Limits:** Not available.

**Products of Combustion:** Some metallic oxides.

**Fire Hazards in Presence of Various Substances:** Not available.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

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## 6. Accidental Release Measures

**Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:**

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.

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## 7. Handling and Storage

**Precautions:**

Do not ingest. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids, alkalis.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Moisture sensitive.

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## 8. Exposure Controls/Personal Protection

**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Safety glasses. Lab coat. Gloves.

**Personal Protection in Case of a Large Spill:** Safety glasses. Lab coat. Gloves.

**Exposure Limits:**

TWA: 5 (mg (Al)/m) from ACGIH (TLV) [United States] Inhalation (pyro powders, welding fumes) TWA: 10 (mg (Al)/m) from

ACGIH (TLV) [United States] Inhalation (metal dust) Consult local authorities for acceptable exposure limits.

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## 9. Physical and Chemical Properties

**Physical state and appearance:** Solid.

**Odor:** Odorless.

**Taste:** Not available.

**Molecular Weight:** 26.98

**Color:** Silver-grey

**PH (1% soln/water):** Not applicable.

**Boiling Point:** 2327°C (4220.6°F)

**Melting Point:** 660°C (1220°F)

**Critical Temperature:** Not available.

**Specific Gravity:** Density: 2.7 (Water = 1)

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff. :** Not available.

**Iconicity (in Water):** Not available.

**Dispersion Properties:** Not available.

**Solubility:**

Insoluble in cold water, hot water. Soluble in alkalis, Sulfuric acid, Hydrochloric acid. Insoluble in concentrated Nitric Acid, hot Acetic acid.

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## 10. Stability and Reactivity

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, exposure to moist air or water.

**Incompatibility with various substances:** Reactive with oxidizing agents, acids, alkalis.

**Corrosivity:** Not available.

**Special Remarks on Reactivity:**

Moisture sensitive. Aluminum reacts vigorously with Sodium Hydroxide. Aluminum is also incompatible with strong oxidizers, acids, chromic anhydride, iodine, carbon disulfide, methyl chloride, and halogenated hydrocarbons, acid chlorides, ammonium nitrate, ammonium persulfate, antimony, arsenic oxides, barium bromated, barium chlorate, barium iodate, metal salts

**Special Remarks on Corrosivity:**

In moist air, oxide film forms which protects metal from corrosion. Aluminum is strongly electropositive so that it corrodes

Rapidly contact with other metals.

**Polymerization:** Will not occur

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## 11. Toxicological Information

**Routes of Entry:** Not available.

**Toxicity to Animals:** Not available

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:**

Slightly hazardous in case of skin contact (irritant). Non-hazardous in case of ingestion. Non-hazardous in case of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects: Skin: Exposure to aluminum may cause skin irritation. Eyes: Not expected to be a hazard unless aluminum dust particles are present. Exposure to aluminum dust may cause eye irritation by mechanical action. Aluminum particles deposited in the eye are generally innocuous. Inhalation: Not expected to be an inhalation hazard unless it is heated or if aluminum dust is present. If heated or in dust form, it may cause respiratory tract irritation. Heating Aluminum can release Aluminum Oxide fumes and cause fume metal fever when inhaled. This is a flu-like illness with symptoms of metallic taste, fever, chills, aches, chest tightness, and cough. Ingestion: Acute aluminum toxicity is unlikely. Chronic

Potential Health Effects: Skin: Contact dermatitis occurs rarely after aluminum exposure. Most cases of aluminum toxicity in humans are in one of two categories: patients with chronic renal failure, or people exposed to aluminum fumes or dust in the workplace. The main source of aluminum in people with chronic renal failure was in the high aluminum content of the water for the dialyzer used for dialysis in the 1970's. Even though this problem was recognized and corrected, aluminum toxicity continues to occur in some individuals with renal who chronically ingest aluminum-containing phosphate binders or antacids.

Inhalation: Chronic exposure to aluminum dust may cause dyspnea, cough, asthma, chronic obstructive lung disease, pulmonary fibrosis, pneumothorax, pneumoconiosis, encephalopathy, weakness, incoordination and epileptiform seizures and other neurological symptoms similar to that described for chronic ingestion. Hepatic necrosis is also a reported effect of exposure to airborne particulates carrying aluminum. Ingestion:

Chronic ingestion of aluminum may cause Aluminum Related Bone Disease or aluminum-induced Osteomalacia with fracturing Osteodystrophy, microcytic anemia, weakness, fatigue, visual and auditory hallucinations, memory loss, speech and language impairment (dysarthria, stuttering, stammering, anomia, hypo fluency, aphasia and eventually, mutism), epileptic seizures (focal or grand mal), motor disturbance (tremors, myoclonic jerks, ataxia, convulsions, asterixis, motor apraxia, muscle fatigue), and dementia (personality changes, altered mood, depression, diminished alertness, lethargy, 'clouding of the sensorium', intellectual deterioration, obtundation, coma), and altered EEG.

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## 12. Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

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## 13. Disposal Considerations

### **Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

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## 14. Transport Information

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

**Special Provisions for Transport:** Not applicable.

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## 15. Regulatory Information

### **Federal and State Regulations:**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found. California

prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. Connecticut hazardous material survey. Aluminum Illinois toxic substances disclosure to employee act: Aluminum Rhode Island RTK hazardous substances: Aluminum Pennsylvania RTK: Aluminum Minnesota:

Aluminum Massachusetts RTK: Aluminum New Jersey: Aluminum New Jersey spill list: Aluminum California Director's List of Hazardous Substances: Aluminum TSCA 8(b) inventory: Aluminum SARA 313 toxic chemical notification and release reporting: Aluminum

### **Other Regulations:**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the

European Inventory of Existing Commercial Chemical Substances.

### **Other Classifications:**

**WHMIS (Canada):** Not controlled under WHMIS (Canada).

**DSCL (EEC):**

**HMIS (U.S.A.):**

**Health Hazard:** 1

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:** B

**National Fire Protection Association (U.S.A.):**

**Health:** 1

**Flammability:** 1

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Gloves. Lab coat. Not applicable. Safety glasses.

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## 16. Other Information

References: Not available.

Other Special Considerations: Not available