

MSDS – Aluminium Metal

MATERIAL SAFETY DATA SHEET (MSDS) / SAFETY DATA SHEET (SDS)

1. Identification

Product Name: Aluminium / Aluminum

Chemical Name: Aluminium

CAS Number: 7429-90-5

Molecular Formula: Al

Recommended Use: Manufacturing, fabrication, construction, electrical applications

Supplier: Generic / Manufacturer-specific

Emergency Contact: Local emergency services

2. Hazard Identification

GHS Classification:

Not classified as hazardous in solid form

Flammable solid (fine powder or dust)

Dust explosion hazard

Hazard Statements:

Fine aluminium dust may form explosive mixtures with air

Reacts with acids and alkalis to produce flammable hydrogen gas

Signal Word: Warning

Potential Health Effects:

Inhalation: Dust may cause respiratory irritation

Skin Contact: Generally non-irritating

Eye Contact: Mechanical irritation from dust

Ingestion: Low toxicity; not expected to be harmful

3. Composition / Information on Ingredients

Component	CAS No.	Concentration
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Aluminium	7429-90-5	≥ 99%
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4. First-Aid Measures

Inhalation: Move to fresh air; seek medical attention if symptoms persist

Skin Contact: Wash with soap and water

Eye Contact: Rinse cautiously with water for several minutes

Ingestion: Rinse mouth; seek medical advice if discomfort occurs

5. Fire-Fighting Measures

Suitable Extinguishing Media:

Class D dry powder extinguishers, dry sand

Unsuitable Media:

Water, foam, CO₂ (on molten aluminium or powder)

Special Hazards:

Dust explosions; hydrogen gas formation

Protective Equipment:

Full protective gear and self-contained breathing apparatus (SCBA)

6. Accidental Release Measures

Avoid dust formation

Use non-sparking tools

Collect mechanically; dispose according to regulations
Do not allow powder to enter drains or waterways

7. Handling and Storage

Handling:

Avoid generating dust

Ground and bond containers

Keep away from acids and oxidizers

Storage:

Store in a cool, dry, well-ventilated area

Keep away from moisture and incompatible materials

8. Exposure Controls / Personal Protection

Exposure Limits (OSHA):

Aluminium dust: 15 mg/m³ (total), 5 mg/m³ (respirable)

Engineering Controls:

Local exhaust ventilation

Personal Protective Equipment (PPE):

Respiratory: Dust mask or respirator if airborne dust present

Eyes: Safety goggles

Skin: Protective gloves and clothing

9. Physical and Chemical Properties

Appearance: Silvery-grey solid

Odour: Odourless

Melting Point: ~660°C (1220°F)

Boiling Point: ~2519°C

Density: 2.7 g/cm³

Solubility: Insoluble in water

Flammability: Non-flammable solid; flammable as dust

10. Stability and Reactivity

Stability: Stable under normal conditions

Reactivity: Reacts with strong acids and bases

Hazardous Decomposition: Hydrogen gas

Incompatible Materials: Acids, alkalis, oxidizing agents

Conditions to Avoid: Heat, sparks, dust accumulation

11. Toxicological Information

Acute Toxicity: Low

Chronic Effects: Prolonged inhalation of dust may cause lung irritation

Carcinogenicity: Not listed by IARC, OSHA, or NTP

12. Ecological Information

Not expected to be harmful to aquatic life in solid form

Aluminium ions may be toxic in acidic aquatic environments

13. Disposal Considerations

Dispose in accordance with local, regional, and national regulations

Recycling is preferred and widely available

14. Transport Information

UN Number: Not regulated (solid form)

Hazard Class: Not applicable

Packing Group: Not applicable

15. Regulatory Information

Complies with OSHA Hazard Communication Standard

GHS labelling applies mainly to powder or dust forms

16. Other Information

Revision Date: 21st June 2026