



# Materials Safety Data Sheet

## Aluminium Powder

### 1. Product and Company Identification

Product Name: Aluminium powder  
Formula: Al  
CAS: 7429-90-5  
Synonyms: Aluminum Powder, Al powder

Recommended Use: Scientific research  
Uses advised against: N/A

Supplier: UltraPurMat Group Co., Ltd  
Address: A11, 5th Floor, Building 5, Digital China Xi'an Science Park, No. 20 Zhangba 4th Road, High-tech Zone, Xi'an, Shaanxi, China.  
Tel: +86-29-88993870  
Email: sales@ulpmat.com  
Website: www.ulpmat.com

24-Hour Emergency Contact: +86-13572830939

### 2. Hazards Identification

#### Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP).

#### GHS Label elements, including precautionary statements

Pictogram: GHS02 (Flame)



Signal Word: Danger

Hazard statement(s):

H250: Catches fire spontaneously if exposed to air

H261: In contact with water releases flammable gas

Precautionary Statement(s):

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P223: Keep away from any possible contact with water, because of violent reaction and possible flash fire.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P231+P232: Handle under inert gas. Protect from moisture.

P370+P378: In case of fire: Use dry sand, dry chemical or metal powder extinguisher.

**Other hazards:**No data available

### 3. Composition

Components	CAS	Classification (H)	Concentration
Aluminium (Al)	7429-90-5	H250 H261	≤ 100%

### 4. First Aid Procedures

#### Description of first aid measures

**General Treatment:** Seek medical attention if symptoms persist.

**Inhalation:** Remove victim to fresh air. Give oxygen if breathing is difficult. Seek medical attention.

**Ingestion:** Seek Medical Attention.

**Skin:** Remove any contaminated clothing. Wash affected area with mild soap and water. Seek medical attention if symptoms develop or persist.

**Eyes:** Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms develop or persist.

#### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

#### Indication of any immediate medical attention and special treatment needed

No data available

### 5. Firefighting Measures

#### Extinguishing media

**Extinguishing Media:** Dry sand, dry powder, Class D extinguisher

**Unsuitable extinguishing media:**Water, foam, CO<sub>2</sub>

#### Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Metal oxide fume

#### Advice for firefighters

Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

#### **Further information**

No data available

## **6. Accidental Release Measures**

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### **Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

### **Environmental precautions**

Prevent product from contacting water or entering drains.

### **Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **Reference to other sections**

For disposal see section 13.

## **7. Handling and Storage**

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### **Precautions for safe handling**

Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid formation of dust. Do not get in eyes, on skin, or on clothing. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. For precautions see section 2.

### **Conditions for safe storage, including any incompatibilities**

Store in a cool dry place in a tightly sealed container. Store under dry, inert atmosphere if feasible.

Storage according to TRGS 510 (Dangerous substances reacting with water)

Store apart from materials and conditions listed in section 10.

### **Specific end use(s)**

Apart from the uses mentioned in section 1 no other specific uses are stipulated

## **8. Exposure Controls/Personal Protection**

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### **Exposure controls**

#### **Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### **Personal protective equipment**

##### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### **Skin protection**

Protective gloves (The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.)

#### **Body Protection**

Protective work clothing. Wear close-toed shoes and long sleeves/pants.

#### **Respiratory protection**

Use a particle filter respirator (P2 or P3 according to EN 143) when dust is generated, as a backup to engineering controls. Risk assessment should be performed to determine if purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards

#### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## **9. Physical and Chemical Characteristics**

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### **Information on basic physical and chemical properties**

Appearance

Form: powder

Colour: Silver-grey metallic

Odor: Odorless

pH: No data available

Melting point/range: 660 °C

Boiling point/range: 2327 °C

Flash point: No data available

Evaporation rate: No data available

Flammability (solid, gas): Highly flammable (in powder form)

Upper/lower flammability or explosive limits: No data available

Vapor pressure: No data available

Relative density: 2.7 g/cm<sup>3</sup>

Water solubility: Reacts with water, releasing flammable hydrogen gas

Partition coefficient: n-octanol/water: not relevant (inorganic)

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

### **Other information**

Molecular formula: Al

Atomic weight: 26.98 g/mol

## **10. Stability and reactivity**

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### **Reactivity**

Stable under dry conditions

Reacts violently to water or acid.

### **Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

No hazardous reaction will occur under dry and moisture-free transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

**Conditions to avoid**

Incompatible products. Excess heat. Avoid dust formation. Exposure to air in finely divided or dispersed form. Static electricity and formation of sparks be prevented.

**Incompatible materials**

Strong oxidizing agents.

Acids (especially oxidizing acids).

Flammable in contact with water.

**Hazardous decomposition products**

Metal oxide fume

In the event of fire: see section 5

## 11. Toxicological Information

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**Information on toxicological effects**

**Acute toxicity**

No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

There are no known carcinogenic chemicals in this product.

**Reproductive toxicity**

No data available

**Specific target organ toxicity -single exposure**

No data available

**Specific target organ toxicity -repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

No data available

## 12. Ecological Information

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**Toxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects**

This product does not contain any known or suspected endocrine disruptors.

### 13. Disposal Considerations

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**Waste treatment methods**

Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible. Disposal by licensed waste contractor in accordance with local regulations. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste.

### 14. Transportation Information

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**ADR**

UN Number: UN 1396

Proper Shipping Name: ALUMINIUM POWDER, UNCOATED

Hazard Class: 4.3 (Dangerous when wet)

Packing Group: II

Label Code: W2

Transport Category: 3

Special Provisions: Limited Quantity = 1 kg, Excepted Quantity = E1

Tunnel Restriction Code: B

Remarks: Must be transported in tightly closed, moisture-proof containers. Separate from water, oxidizing substances, and acids.

**IMDG**

UN Number: UN 1396

Proper Shipping Name: ALUMINIUM POWDER, UNCOATED

Hazard Class: 4.3 (Substances which, in contact with water, emit flammable gases)

Packing Group: II

EmS Number: F-G, S-D

Limited Quantity: 1 kg per package

Marine Pollutant: No

Stowage Category: D (Separated from sources of ignition and water)

**IATA**

UN Number: UN 1396  
Proper Shipping Name: Aluminium powder, uncoated  
Hazard Class: 4.3 (Dangerous when wet)  
Packing Group: II  
Air Transport Category: 3  
Limited Quantity: 1 kg per package  
Packing Instruction: 622

## 15. Regulatory information

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### **Safety, health and environmental regulations/legislation specific for the substance or mixture**

Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: Not applicable

Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: Not applicable

Regulation (EC) 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EC) 850/2004 on persistent organic pollutants, amended by (EU) No 2019/1021: Not applicable

### **Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out for this substance

## 16. Other information

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### **Revision Date**

03/03/2025

### **Disclaimer**

The information of this safety data sheet 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.