

# **SAFETY DATA SHEET**

## **Spherical Metal Powders**

- According to:
  - OSHA Hazard Communication Standard (29 CFR 1910.1200)
  - Globally Harmonized System (GHS)
  - EU REACH Regulation

## **SECTION 1: Identification**

### **Product Identifier**

Spherical Metal Powders

### **Synonyms**

Atomized Metal Powders, Spherical Alloy Powders, Additive Manufacturing Powders, AM Powders

### **Typical Products Include**

Ti6Al4V, Inconel alloys, CoCr alloys, stainless steel powders, aluminum alloys, copper alloys, nickel alloys, titanium alloys, refractory metal powders, and related spherical metallic powders.

### **Recommended Use**

Additive manufacturing, 3D printing, laser cladding, thermal spraying, powder metallurgy, scientific research, industrial use.

### **Supplier**

Thin-Film Materials

Email: [sales@thinfilmmaterials.com](mailto:sales@thinfilmmaterials.com)

Website: <https://www.thinfilmmaterials.com>

## **SECTION 2: Hazard(s) Identification**

### **GHS Classification**

Spherical metal powders may present combustible dust hazards depending on particle size, composition, and airborne concentration.

Dust generated during handling may cause:

- Eye irritation
- Skin irritation
- Respiratory irritation

Certain powders may be flammable or reactive in finely divided form.

### **Signal Word**

Warning

### **Hazard Statements**

H228: Flammable solid, for certain fine metal powders.

H335: May cause respiratory irritation.

### **Precautionary Statements**

P210: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

P240: Ground and bond container and receiving equipment.

P261: Avoid breathing dust.

P271: Use only in well-ventilated areas.

P280: Wear protective gloves and eye protection.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P370+P378: In case of fire: Use dry sand, Class D extinguishing agent, or dry powder for extinction.

### **Hazards Not Otherwise Classified**

Dust clouds may form explosive mixtures with air under certain conditions.

## **SECTION 3: Composition / Information on Ingredients**

### **Component**

Spherical Metallic Powders

### **CAS Number**

Various

### **Content**

99%

### **Component**

Trace Impurities

### **CAS Number**

Various

### **Content**

<1%

Product composition varies depending on powder system.

## **SECTION 4: First-Aid Measures**

### **Eye Contact**

Flush with water for at least 15 minutes.

## **Skin Contact**

Wash thoroughly with soap and water.

## **Inhalation**

Move affected person to fresh air.

## **Ingestion**

Rinse mouth with water. Seek medical attention if symptoms persist.

# **SECTION 5: Fire-Fighting Measures**

## **Suitable Extinguishing Media**

- Dry sand
- Class D fire extinguishing agent
- Dry powder

## **Unsuitable Extinguishing Media**

- Water, for reactive powders
- Foam
- Carbon dioxide on reactive powders

## **Specific Hazards**

Fine spherical powders may ignite or explode under certain airborne dust conditions.

Reactive powders may generate heat or flammable gas upon contact with moisture or oxidizing agents.

## **Protective Equipment**

Use self-contained breathing apparatus and appropriate protective equipment.

## **SECTION 6: Accidental Release Measures**

### **Personal Precautions**

Avoid dust generation and ignition sources. Ensure adequate ventilation.

### **Cleanup Methods**

Collect powder using non-sparking tools and grounded equipment.

Do not dry sweep if dust generation may occur.

### **Environmental Precautions**

Avoid uncontrolled release to the environment.

## **SECTION 7: Handling and Storage**

### **Handling**

Avoid generating airborne dust.

Prevent static discharge and ignition sources during handling.

Use grounded equipment where applicable.

Avoid contact with moisture, oxidizers, and acids.

### **Storage**

Store in tightly sealed containers in a cool, dry, well-ventilated area.

Keep away from heat, sparks, ignition sources, and incompatible materials.

Certain reactive powders may require inert atmosphere storage.

## **SECTION 8: Exposure Controls / Personal Protection**

### **Engineering Controls**

Use explosion-proof local exhaust ventilation where dust generation may occur.

### **Eye Protection**

Safety glasses or goggles.

### **Skin Protection**

Protective gloves and protective clothing.

### **Respiratory Protection**

NIOSH-approved dust respirator where airborne particles are generated.

## **SECTION 9: Physical and Chemical Properties**

### **Physical State**

Solid powder

### **Appearance**

Fine spherical metallic powder

### **Color**

Metallic gray, silver, dark gray, or characteristic alloy color

## **Odor**

Odorless

## **Solubility**

Generally insoluble in water

## **Density**

Varies by alloy composition

## **Particle Size**

Varies by specification

## **Melting Point**

Varies by material type

# **SECTION 10: Stability and Reactivity**

## **Chemical Stability**

Stable under recommended storage conditions.

## **Conditions to Avoid**

- Dust generation
- Static discharge
- Heat and sparks
- Contact with moisture, for reactive powders
- Contact with oxidizers

## **Incompatible Materials**

Strong oxidizers, strong acids, halogens.

## **Hazardous Decomposition Products**

Metal oxides and toxic fumes may form during combustion.

# **SECTION 11: Toxicological Information**

## **Likely Routes of Exposure**

- Inhalation
- Eye contact
- Skin contact

## **Symptoms**

- Respiratory irritation
- Eye irritation
- Skin irritation

## **Chronic Effects**

Long-term inhalation of metal powder dust should be avoided.

# **SECTION 12: Ecological Information**

## **Ecotoxicity**

No known significant environmental hazards in bulk form.

## **Environmental Precautions**

Prevent uncontrolled release of powder into waterways or soil.

## **SECTION 13: Disposal Considerations**

### **Disposal Method**

Dispose in accordance with local, regional, and national regulations.

### **Recycling**

Metal recycling is recommended where applicable.

## **SECTION 14: Transport Information**

### **UN Number**

Varies depending on powder composition and particle size.

### **Proper Shipping Name**

May require hazardous materials classification for certain reactive or flammable powders.

### **Hazard Class**

Varies by material type.

### **Packing Group**

Varies by material type.

## **SECTION 15: Regulatory Information**

### **Regulatory Statement**

This product is intended for industrial and research use only.

## **Compliance Reference**

This SDS complies with:

- OSHA Hazard Communication Standard
- GHS Classification System
- EU REACH requirements (format reference)

## **SECTION 16: Other Information**

### **Disclaimer**

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