SAFETY DATA SHEET

Pure Metal Powders

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

SECTION 1: Identification

Product Identifier

Pure Metal Powders

Synonyms

Metallic Powders, High Purity Metal Powders, Atomized Metal Powders, Micron Metal Powders

Typical Products Include

Al, Ti, Ni, Co, Cu, Fe, Cr, Mo, W, Ta, Nb, Hf, Zr, Ag, Au, Pt, Pd, Sn, In, Mg and related metallic powders.

Recommended Use

Additive manufacturing, powder metallurgy, thermal spraying, conductive pastes, catalyst applications, scientific research, industrial use.

Supplier

Thin-Film Materials

Email: sales@thinfilmmaterials.com

SECTION 2: Hazard(s) Identification

GHS Classification

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 fine metal powders may be flammable and may react with moisture, acids, or oxidizing agents.

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

Pure Metallic Powders

CAS Number

Various

Content

99%

Component

Trace Impurities

CAS Number

Various

Content

<1%

Product composition varies depending on powder type.

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 metal powders)
· Foam
· Carbon dioxide on reactive powders

Specific Hazards

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

Reactive powders may generate hydrogen gas upon contact with moisture or acids.

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.

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.

Storage

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

Keep away from moisture, oxidizers, acids, and ignition sources.

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 metallic powder

Color

Characteristic metallic color

Odor

Odorless

Solubility

Generally insoluble in water

Density

Varies by composition

Particle Size

Varies by specification

Melting Point

Varies by metal 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

The information provided herein is believed to be accurate and reliable. However, no warranty is expressed or implied regarding its accuracy or completeness. Users are responsible for determining the suitability of this material for their specific applications.