

Aluminum Metal Powder

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Aluminum Metal Powder

Synonyms/Generic Names: None

SDS Number: 27.20

Product Use: For Educational Use Only

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Contact: Ward's Science
5100 West Henrietta Rd.
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Rochester, NY 14692
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Water reactive, Carcinogen

Target Organs: None Known

Signal Words: Danger

Pictograms:



GHS Classification:

Pyrophoric solids	Category 1
Substances, which in contact with water, emit flammable gases	Category 2
Acute aquatic toxicity	Category 1

GHS Label Elements, including precautionary statements:

Hazard Statements:

H250	Catches fire spontaneously if exposed to air.
H261	In contact with water, releases flammable gases.
H400	Very toxic to aquatic life.

Precautionary Statements:

P222	Do not allow contact with air.
P231+P232	Handle under inert gas. Protect from moisture.
P273	Avoid release to the environment.
P422	Store contents under inert gas.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	1
Flammability	3
Reactivity	1
Specific hazard	W

HMIS Ratings

Health	1
Fire	3
Reactivity	1
Personal	F

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Aluminum	100	7429-90-5	231-072-3	Al	26.98 g/mol

4. FIRST-AID MEASURES

Eyes	In case of eye contact, rinse with plenty of water and seek medical attention if necessary.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if necessary.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Dry chemical, dry sand. Do not use water, foam, or carbon dioxide.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes under fire conditions. (Aluminum oxide) Reacts violently with water. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and place in suitable containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Keep away from sources of ignition – No smoking. Avoid formation of dusts and aerosols.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Never allow product to get in contact with water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Ventilation and appropriate grounding of containers.

Component	Exposure Limits	Basis	Entity
Aluminum	5 mg/m ³ (resp) 10 mg/m ³ (total)	PEL	OSHA
	5 mg/m ³ (resp) 15 mg/m ³ (total)	REL	NIOSH
	1 mg/m ³	TLV	ACGIH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	White to silver powder, granules, or flakes.
Odor	Not Available
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	660°C (1220°F)
Initial boiling point and boiling range	2460°C (4460°F)
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Flammable solid
Upper/lower flammability or explosive limit	Not Available
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	Soluble
Partition coefficient: n-octanol/water	Not Available
Ignition temperature	760°C (1400°F)
Auto-ignition temperature	Catches fire spontaneously if exposed to air
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Reacts violently with water.
Conditions to Avoid	Moisture, heat.
Incompatible Materials	Acids, acid chlorides, halogens, oxidizing agents, bases, Oxygen.
Hazardous Decomposition Products	Aluminum oxide

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	Not Available

Carcinogenicity

IARC	1 – Group 1: Carcinogenic to humans (Aluminum)
ACGIH	A4: Not classifiable as a human carcinogen.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation, redness, swelling of exposed tissues.
Eyes	Irritation, redness.
Respiratory	Irritation, especially to mucous membranes and upper respiratory tract, coughing, sneezing, headaches, nausea.
Ingestion	Diarrhea, nausea.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	LC50 – Oncorhynchus mykiss (rainbow trout) – 0.12 mg/l – 96 hours Mortality LOEC – Ctenopharyngodon idella – 0.1 mg/l – 96 hours
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Salvalinus fontinalis – 56 days Bioconcentration factor (BCF): 36
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1396, Aluminum powder, Uncoated, 4.3, pg II
TDG	UN1396, ALUMINUM POWDER, UNCOATED, 4.3, pg II
IMDG	UN1396, ALUMINUM POWDER, UNCOATED, 4.3, pg II
Marine Pollutant	No
IATA/ICAO	UN1396, Aluminum powder, Uncoated, 4.3, pg II

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Aluminum
SARA 312	Aluminum
SARA 313	Listed: Aluminum
WHMIS Canada	Class B6: Reactive Flammable Material

16. OTHER INFORMATION

Revision	Date
Revision 1	01/28/2013
Revision 2	06/19/2013

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