

# MATERIAL SAFETY DATA SHEET

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Aluminum**Formula :** Al**Product Code:** R-Al-1001**Chemical Family:** Metal**Synonyms:** Aluminum metal**Atomic Weight:** 26.98**Manufacturer:**

Rhexon Metals Co., Ltd.

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## SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	Wt%
Al	7429-90-5	100

## SECTION 3 HAZARDS IDENTIFICATION

**ROUTES OF ENTRY**Inhalation  Skin  Eyes  Ingestion  Others **CARCINOGEN LISTED IN**NTP  IARC Monographs  OSHA Regulated **POTENTIAL HEALTH EFFECTS:****Inhalation:**

Acute: Inhalation of dust or powder may cause irritation to the respiratory system.

Chronic: Inhalation of finely divided powder may cause pulmonary fibrosis.

**Skin:**

Acute: No acute health effects recorded.

Chronic: No chronic health effects recorded.

**Eyes:**

Acute: Dust and powder may cause abrasive irritation.

Chronic: No chronic health effects recorded.

**Ingestion:**

Acute: No acute health effects recorded.

Chronic: May be implicated in Alzheimer's disease.

**Signs and Symptoms:**

**Inhalation:** May cause a red, dry, throat and coughing.

**Skin:** No acute or chronic health effects recorded.

**Eyes:** May cause red, itching and watering.

**Ingestion:** No acute or chronic health effects recorded.

**Target Organs:** No target organs recorded.

## SECTION 4 FIRST AID MEASURES

**Eyes:** Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if irritation persists.

**Skin:** Wash area with mild soap and water.

**Inhalation:** Remove victim to fresh air; keep warm and quiet; give oxygen if breathing is difficult and seek medical attention if symptoms persist.

**Ingestion:** Not applicable

## SECTION 5 FIRE FIGHTING MEASURE

**Flammable Properties:**

Flash point: Not Applicable

Method used: Not flammable

Explosive limits: LEL/UEL: Not applicable

Auto-ignition Temperature: 649.0C ( 1200.2 F)

**Unusual Fire and Explosion Hazards:**

Dust is moderately flammable/explosive by heat, flame or chemical reaction with powerful oxidizers.

May ignite on contact with vapors of AsCl<sub>3</sub>, SCl<sub>2</sub>, Se<sub>2</sub>Cl<sub>2</sub>, PCI<sub>5</sub>; heating with barium peroxide; contact with O<sub>2</sub>; mixtures with picric acid+water after a delayed period; exothermic reaction with water+iron powder which emits hydrogen gas; and spontaneously ignites in CS<sub>2</sub> vapors.

May ignite and react violently with mixtures of sodium peroxide and O<sub>2</sub>+H<sub>2</sub>O; on contact with halogens and interhalogens.

May react violently with hydrochloric acid, hydrofluoric acid, hydrogen chloride gas and disulfur dibromide; non-metals phosphorus, sulfur and selenium; with sulfur, Sb or As when heated; and potential violent reaction with sodium acetylid.

May have a violent or explosive reaction when heated with metal oxides, oxosalts, some halocarbons, sulfides or hot copper oxide worked with an iron or steel tool.

May have an explosive reaction with sodium sulfate above 800C; in powdered

form with  $\text{KClO}_4 + \text{Ba}(\text{NO}_3)_2 + \text{KNO}_3 + \text{H}_2\text{O}$  and  $\text{Ba}(\text{NO}_3)_2 + \text{KNO}_3 + \text{sulfur} + \text{vegetable adhesives} + \text{H}_2\text{O}$  after delayed period; powder forms sensitive explosive mixture with oxidants; mixtures with powdered  $\text{AgCl}$ ,  $\text{NH}_4$ ,  $\text{NO}_3$ , or  $\text{NH}_4\text{NO}_3 + \text{Ca}(\text{NO}_3)_2 + \text{formamide} + \text{H}_2\text{O}$ ; mixtures with ammonium peroxodisulfate+water; and potential explosive reaction with  $\text{CCl}_4$  during ball milling operations (Sax, Dangerous Properties of Industrial Materials, eighth edition).

**Extinguishing Media:** Use suitable extinguishing agent for surrounding materials and type of fire.

**Special Fire Fighting Procedures:** Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

Wear appropriate respiratory and protective equipment specified in section 8-control measures. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

## SECTION 7 HANDLING AND STORAGE

**Handling:** Keep container tightly closed. Store in a cool, dry, well-ventilated area. Wash thoroughly after use. Other Precautions: Aluminum slowly generates hydrogen and heat on contact with water. Handle and store aluminum powder in a controlled environment and inert gas such as argon.

**Storage:** Store this material in a cool, dry and well-ventilated area. Keep containers tightly closed.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Local and general exhaust ventilation is recommended to control any airborne contaminants and to reduce potential exposure.

### Personal protection

**Eyes:** wear chemical safety glasses or goggles

**Skin:** gloves are recommended when handling solids

**Respirator:** A NIOSH approved air purifying respirator with a particulate filter or a HEPA dust mask is recommended under certain circumstances where airborne concentrations are expected to be elevated or when ventilation is not available. Avoid breathing dust.

**Other:** avoid the use of contact lens in high fume and dust areas. Maintain good housekeeping. Clear up spills immediately. Source of clear water should be available. Good person hygiene is essential. Avoid eating, drinking, or smoking in the work area. Wash hand thoroughly with soap and water immediately upon leaving the working area.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Silver-white  
**Odor:** no odor  
**Boiling Point:** 2467.00 C (4472.6 F)  
**Melting Point:** 660.30 C (1220.5 F)  
**Specific Gravity:** 2.702  
**Solubility in water:** insoluble  
**PH:** No data  
**Percent volatile:** no data

## SECTION 10 STABILITY AND REACTIVITY

**General:** stable  
**Conditions to Avoid:** None  
**Incompatible Materials:** Water, oxidizing agents, acids, acid chlorides, harsh alkalis and halogenated compounds.  
**Hazardous Decompositions or byproducts:** Hydrogen gas  
**Hazardous Polymerization:** Will not occur.

## SECTION 11 TOXICOLOGICAL INFORMATION

**Carcinogenicity**  
**Occupational Safety & Health Administration (OSHA)** NO  
**U.N. International Agency for Research on Cancer (IRAC)** NO

**Irritancy of product :** may be a irritancy  
**Sensitization to product:** not established  
**Reproductive toxicity:** not establish  
**Mutagenicity:** not established  
**Teratogenicity:** not established  
**synergistic products:** not established

## SECTION 12 ECOLOGICAL INFORMATION

Do not allow material to be released to the environment without proper governmental permits.

## SECTION 13 DISPOSAL CONSIDERATIONS

Consult local or national regulations to ensure proper disposals

## SECTION 14 TRANSPORT INFORMATION

Not a hazardous material for transportation. Transport in accordance with applicable regulations and requirements.

## SECTION 15 OTHER INFORMATION

### HMIS Hazard Rating

Minimal 0 ; Slight 1 ; Moderate 2; Serious 3; Extreme 4

Health	1
Flammability	3
Reactivity:	2

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