MATERIAL SAFETY DATE SHEET

ALUMINIUM MAGNALIUM ALLOY POWDER

Section 1: Chemical product and company identification

Chinese name of the chemical product:aluminium magnalium alloy powder

Company name:shan dong jie han metal material co.,ltd

Address:qingyang town zou ping city shandong china

Post Code: 250033

Telephone no.: 0531-88823503

Fax no.:0531-88823503

Web:www.jhaluminiumpaste.com

Section 2: Composition / information on ingredients

CAS No.: 12604-68-1

Molecular Weight: 26.98

Chemical Formula: Mg_4Al_3

Chemical Type: Metallic Powder

Section 3: Hazards Overview

Dangerous cargo grade: 4.3 Combustiele solid

Inhalation methods: Inhalation、skin contact

Health Hazard: Pulmonary fibrosis from chronic inhalation has been reported, Causesirritation to eyes and respiratory tract, may affect lungs, May cause skin irritation.

Environmental Hazard: N/A

Explosion conditions:

1. Reacts with water、some acids and caustic solutions to producehydrogen.
2. Flammable Solid, Dust may form flammable or explosive mixture with

Section 4: First Aid Measures:

Skin Contact: Wash exposed area with soap and water. Get medical advice if irritation develops.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

Section 5: Fire Fighting Measures

Dangerous Property:

1. Fine dust dispersed in air in sufficient concentrations,and in the presence of an ignition source is a potential dustexplosion hazard.
2. May cause flame when meeting water or damp air, when the temperatureis high
3. Reacts with oxidizer，may foam explosion with the flame、high heat.
4. Reacts with acids and caustic solutions to release of flammable hydrogengas

Hazardous Combustion product: Al2O3，MgO Fire-fighting measures and extinguishing media: The use of inert dry granular material (sand Rugan) fire-fighting materials such as asbestos were gently covered in circle; up to avoid dust; onlyfor Class D fire extinguisherFire-fighting comments and measures: Fire-fighters must wear Fire-fightingprotective clothes. Water and carbon dioxide kind extinguishers are forbidden.

Section 6: Accidental Release Measures

Emergency action: Segregate the area of lead or spill, remove the sources of ignition and water from the polluted area.

Personnel protective measurements: wear dust-proof mask, heat-proof clothes and use the explosion prevention tools and equipments.

Environmental protective measurements: avoid powder flying, collect the Pick up spill for recovery or disposal and place in a closed container.

Section 7: Handling and storage:

Handling: Operators must pass special trade, obey the operating rules. Suggest operators wear filter-type dust-proof respirator, chemical safe goggles, static-free working clothes. Far away from sources of ignition and heat and smoking is not allowed in working area. Apply explosion prevention ventilation system and equipment. Avoid power flying and contact with oxidant, acids and alkalis. Load and unload slightly and protect package from breaking out. Prepare the related suitable extinguisher with full quantity and accidental release handling devices. It may leave harmful materials in emptied out containers.

Storage: Store in day and ventilated warehouse. Be far away from sources of ignition and heat. Humidity of the warehouse should max 85%. Stored in separated place against oxidant, acids and alkalis and shouldn’t be swapped. Use explosion prevention ventilation and lighting devices.
Be not stored in long time to avoid out of date. Prepare the related suitable extinguisher with full quantity; There are suitable containers to pick up the leaking powder.

Section 8: Exposure controls / personal protection

China MAC（mg/m^3）：NO Standard

Te former Soviet Union MAC（mg/m^3）：2[AL]

USA TLV-TWA：NO Standard TLVTN:ACGIH 10mg/m^3[dust]/ 5mg/m^3 [welding smoke]

USA TLV-STEL：NO Standard TLVWN：NO Standard

Project Control: Operation in a closed devise, be well ventilated in the workshop. Supply the shower and safety devise.

Respiratory tract protection: must wear protective mask when contacting thepowder, if necessary, wear air-purifying respirators

Eye Protection: Use chemical safety goggles.

Body protection: wear antistatic working clothes.

Hands' protection: wear antistatic gloves.

Additional information: No smoking, eating and drinking in the workshop,wash the hands before eating. Wash thoroughly and change the clothing after handling. Do physical examination regularly if contacting the powder with a long time.

Section 9: Physical /chemical properties

Appearance: Fine, silver-gray powder.

Boiling point（℃）: 2467

Melting point （℃）: 660℃

Relative density: ≧1.40 (Tap density)

Relative density of steam (air=1): No Data

Saturated vapor pressure: 0.13 (1284℃)

Burning hot: 822.9

Critical temperature (℃): Meaningless

Critical press (MPa): meaningless

Flash point: No Data

octanol/water partion coefficient：No Data

Ignition Temperature (℃): 700 ℃

Explosion max limit: No Data

Explosion min limit: 40g/ m^3

Solubility: react with water and ethanol, insoluble in other organic solvents.

Mainly applications: metal pigment, chemical catalyst, powder and refractory material and so on.Other chemical and physical properties: microns grade powder, no organic, no radioactive and corrosive, min ignition heat 15mg.

Section 10 Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur.

Avoid contact: fire, heat and humid air.

Conditions to Avoid: flames, heat, moisture

Taboo: water, acids, alkalis and strong oxidant.

Combustion product: Al2O3

Section 11 Toxicological Information

Acute toxicity: LD50: No Data

LC50: No Data

Irritation: light stimulate to eyes

Allergenicity: No Data

Sub-acute and chronic toxicity: No Data

Mutagenicity: No Data

Teratogenicity: No Data

Carcinogenicity: No Data

Section 12 Ecological Data

Biological effect: This substance is harmful to environment，please pay special attention to mammal.

Biodegradable: No Data

Non-biodegradable: No Data

Bioconcentration: No Data

Environmental migration: No Data

Section 13 Waste Disposal

Waste characters: not belong to hazardous waste

Waste: must follow the laws of the Country and location before dispose it. If can recycling, also can bury safety.

Disposal attentions: Suggest the operator wear self-priming and filter to dust mask.

Section 14 Transport Data

Dangerous goods Code: 43013

UN No:3208

Packing mark: Easy to flame material meet met.

Packing Group: II

Packing: put into the double-coated bags, sealing with double-coated HDPE (High DensityPolyethylene) bags in inner. Or put into the steel drums, 0.5mm thick, with double-coated HDPE bags sealing

Attentions: Railway transportation should be strictly accordance with the Ministry of Railway's the Transportation of Dangerous Goods Rules in the distribution of dangerous goods loaded table for compatibility. It is ban to put away when the goodson railway transportation. It should be packing well when shipment, loading shouldbe safe. During the shipment, must ensure the containers no leaking, no collapsing,not falling, no damage. It is strictly prohibited shipping mix with oxidizer, acids,bases, etc. Transportation vehicles should be equipped with the corresponding varietyand quantity of the leak and fire equipment and emergency equipment. During thetransport should anti-exposure, anti-rain, anti-high-temperature, anti-leaking andthrowing and sprinkling , and it should stop away from fire and heat. The vehiclesand vessels must be dry, and have good water-resistant facilities. The vehicles mustbe cleaning completely after transporting.

Section 15 Laws and Regulations Data

Dangerous Chemical Goods Regulations (published by the State Council in February 17,1987), the Implementation of Details of Chemical Safety Management of DangerousGoods Regulations (published by chemical labor council [1992] NO.677), RegulationsSafety Using Chemical Goods in Workplace ([1996] NO. 423 Labor Departementpublished) etc, all give the regulations focus on hazardous chemicals using, producing,storage, transportation and handling: The classification and mark of usual dangerouschemical goods divided it into 4.3 wet flammable materials. Other regulations: Thedust explosion-proof safety of processing Al and Ma powder (GB17269-2003). Thestandard of Al, alumina and aluminum powder content in workshop air, etc