

ZINC ALUMINUM MAGNESIUM ALLOY

Safety Data Sheet

APR 1 2017

Section-1 CHEMICAL PRODUCTS AND COMPANY IDENTIFICATION

Products Identify: Zinc-Aluminum-Magnesium alloy ingot

Trade Name : AZC2

Manufacture : **Akita Zinc Solutions Co., Ltd. (AZS),**

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Section-2 Hazards Identification

GHS Classifi-cation

Physical and chemical hazards

Explosives	Not subject to the classification
Combustible/flammable gases	Not subject to the classification
Combustible/flammable aerosols	Not subject to the classification
Oxidizing gases	Not subject to the classification
Gases under pressure	Not subject to the classification
Flammable liquid	Not subject to the classification
Combustible solid	Not classified among the categories
Self-reactive substances and mixtures	Not subject to the classification
Pyrophoric liquids	Not subject to the classification
Pyrophoric solids	Not classified among the categories
Self-heating substances and mixtures	Not classified among the categories
Substances and mixtures, which in contact with water, emit combustible gases	Not classified among the categories
Oxidizing liquids	Not subject to the classification
Oxidizing solids	Not subject to the classification
Organic peroxides	Not subject to the classification
Corrosive to metals	Classification not possible

Human Health Hazards

Acute toxicity (oral)	Not classified among the categories
Acute toxicity (dermal)	Classification not possible
Acute toxicity (inhalation: gas)	Not subject to the classification
Acute toxicity (inhalation: vapour)	Classification not possible
Acute toxicity (inhalation: dust)	Not classified among the categories

Acute toxicity (inhalation: mist)	Not subject to the classification
Skin corrosivity/irritation	Not classified among the categories
Serious eye damage/eye irritation	Category 2B
Respiratory sensitization	Classification not possible
Skin sensitization	Not classified among the categories
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproduction toxicity	Classification not possible
Specific target organs/systemic toxicity (following single exposure)	Classification not possible
Specific target organs/systemic toxicity (following repeated exposure)	Classification not possible
Aspiration hazards	Classification not possible

Label Element

In the form of ingots, this information is not applicable to this metal, but in the form of powder, it is applicable.

Pictogram or Symbol



Signal Words

Hazards Identification

Warning

Eye irritation

Toxic to aquatic organisms

Toxic to aquatic organisms by causing long-term adverse effects in the aquatic environment.

Precautionary statement

[Safety Measures]

Wash hands thoroughly after handling.

Avoid release into the environment.

[First Aid Measures]

If contact with eyes occurs, flush carefully with clean water for several minutes. Then if easy to do, remove contact lenses, if worn. And continue flushing thereafter.

If contact with eyes occurs, seek medical attention if eye irritation persists.

Collect spilled material.

[Storage]

No data

[Disposal]

Request disposal of the product as content of containers and the containers by a state/federal licensed industrial waste disposal contractor.

Section-3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Percentage (wt%)	Exposure Limit	
			ACGIH(U.S.A.) TLV-TWA (mg/m ³)	OSHA(U.S.A.) PEL-TWA (mg/m ³)
Zinc	7440-66-6	95.6 - 96.0	Not listed (ZnO dust: 10, ZnO fume : 5)	Not listed (ZnO total dust: 15, ZnO respirable: 5)
Aluminum	7429-90-5	3.9 - 4.3	Not listed (Al ₂ O ₃ dust: 10, Al ₂ O ₃ fume : 5)	Not listed (Al ₂ O ₃ total dust: 15, Al ₂ O ₃ respirable: 5)
Magnesium	7439-95-4	0.03 - 0.06	Not listed (MgO dust : 10)	Not listed (MgO total dust :15)

ACGIH : American Conference of Governmental Industrial Hygienists

OSHA : Occupational Safety and Health Administration

Section-4 RISKS IDENTIFICATION

Flammability : Contact with acids or alkalis may generate flammable hydrogen gas.

Potential Health Effects : Metallic zinc, aluminum and magnesium are relatively non-toxic to human.

Potential Environmental Effects : In the form of solid, this alloy does not represent a significant threat to the environment.

Section-5 FIRST AID MEASURES

Eye Contact : Flush with running water for at least 15 minutes.

Skin Contact (Dust) : Remove contaminated clothing and wash affected area with soap and water.

Skin Contact (Molten Metal) : Flush contact area to solidify and cool. If the damage is serious, seek medical attention immediately.

Inhalation : Remove victim from exposure area to fresh air immediately. Wash mouth, throat and/or nose if necessary. Exposure to zinc oxide fume may cause “metal fume” fever, characterized by flu-like symptoms. Although it may recover after several hours, seek medical attention if necessary.

Ingestion : Wash mouth with water and try vomiting if possible. Excess-ingestion may causes fever, chills and nausea. Seek medical attention if necessary.

Section-6 FIRE FIGHTING MEASURES

Massive metal is not flammable.

Section-7 ACCIDENTAL RELEASE MEASURES

Vacuuming recommended for accumulated metal dust. Return uncontaminated spilled material to the process if possible. Protective clothing, gloves and respirator equipment are recommended for persons exposed to potentially hazardous levels of zinc oxide fume.

Section-8 HANDLING AND STORAGE

Handling : Keep metal ingots away from contacting with acids or alkalis, and powders even with neutral water. Handle powders with the ventilation facilities.

Storage : Store in a dry area.

Section-9 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit : 5 mg/m³ (as zinc oxide fume), 10 mg/m³ (as zinc oxide dust)

Ventilation : Use local or general ventilation to maintain the concentration of zinc oxide fume below recommended occupational exposure limits.

Protective Clothing : Safety gloves, goggles, clothing, boots, respirator are recommended to prevent the direct contact of dust and fume.

Section-10 PHYSICAL, CHEMICAL AND MECHANICAL PROPERTIES

Appearance : Shiny silver metal

Melting Point : 381 degC

Density : 6.6

Specific Heat : 402 J/kg/degC

Rupture Stress : 29 kgf/mm²

Elongation : 4 – 12 %

Hardness : 101 – 115 Hv

Solubility : Insoluble in water

Vapor Pressure : Negligible at 20 degC

Section-11 STABILITY / REACTIVITY DATA

Flash point : Not applicable

Auto-Ignition Temperature : Approximately 680 degC (metallic dust in air)

Section-12 TOXICOLOGICAL INFORMATION

Toxicity : Metallic zinc, aluminum and magnesium are relatively non-toxic to human. (cf. zinc sulfate LD , human : 5 - 15 g)

Carcinogenicity : Not available

Reproductive Effects : Not available

Mutagenicity : Not available

Teratogenicity : Not available

Section-13 ECOLOGICAL INFORMATION

In the form of ingots, this information is not applicable to this metal, but in the form of powder, it is applicable.

Acute hazard to aquatic environment: Category 1

Chronic hazard to aquatic environment : Category 1

Section-14 DISPOSAL CONSIDERATIONS

Return uncontaminated spilled material to the process if possible. If material cannot be returned to process, dispose in accordance with applicable regulations.

Section-15 TRANSPORT INFORMATION

Pack powders appropriately to avoid spillage. Bundle ingots properly to avoid collapsing.

Section-16 REGULATORY INFORMATION

[Japan]

Shoubou-hou : Not regulated

Section-17 OTHER INFORMATIONS

References -ACGIH, TLVs and BEIs, 1999

-NIOSH U.S.-Pocket Guide to Chemical Hazards - WWW database, 1999

Notice to Reader

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