

# SAFETY DATA SHEET

|           |                     |
|-----------|---------------------|
| SDS Name: | Zinc Casting Alloys |
|-----------|---------------------|

## 1. Identification of the substance or mixture and the Supplier

Identification of the substance or preparation

|   |   |
|---|---|
| <b>Product Name</b>                     | EAZALL  |
| <b>Common/Trade Name</b>                | EAZALL #3, #5, #7, Alloy 2; AC 43A; ZnAl4Cu3; Zamak 2 . Alloy 3; AG 40A; ZnAl4; Zamak 3 . Alloy 5; AC 41A; ZnAl4Cu1; Zamak 5; ZA-8; Zamak KS; ZDC1; ZDC2; HF; ACuZinc; Kirksite |
| <b>Use of the substance/preparation</b> | Metal Alloy for Die Casting   |
| <b>Supplier</b>                         | Eastern Alloys, Inc.<br>Henry Henning Drive<br>Maybrook, NY 12543<br>(845) 427-2151<br>www.eazall.com   |
| <b>Emergency Telephone #</b>            | 845-427-2151  |
| <b>Emergency contact</b>                | J. Malmgreen  |

## 2. Hazard Identification

- **Classification:** None.
- **GHS Label Elements:** None.
- **Other Hazards:**
  - Burn hazard upon heating
  - Respiratory hazard from dust upon cutting or grinding
  - Presence of moisture during melting carries risk of explosion
  - Fume inhalation hazard upon melting

## 3. Composition/Information on Ingredients

| Ingredient Name | CAS #     | %         | EC #      | Classification |
|-----------------|-----------|-----------|-----------|----------------|
| Zinc (Zn)       | 7440-66-6 | 90.5-96.1 | 231-175-3 | None           |
| Aluminum (Al)   | 7429-90-5 | 2.5-8.8   | 231-072-3 | None           |
| Copper (Cu)     | 7440-50-8 | 0 - 6.0   | 231-159-6 | None           |

## 4. First Aid Measures

- **After inhalation:** After inhalation of fume: Remove the victim into fresh air: Respiratory problems: consult a doctor/medical service
- **Skin contact:** In case of burns: Wash immediately with lots of water (15 minutes)/shower; Remove clothing while washing; Do not tear off solidified product from the skin; Do not remove clothing if it sticks to the skin; Cover wounds with sterile bandage
  - Consult a doctor/medical service
  - If burned surface > 10% of body, take victim to hospital
- **Eye contact:** Rinse immediately with plenty of water for 15 minutes
  - Take victim to an ophthalmologist
- **After ingestion:** Not applicable

## 5. Fire-Fighting Measures

# SAFETY DATA SHEET

- **Suitable extinguishing media:** Use an extinguishing agent suitable for the surrounding fire. Typically, apply dry chemical, dry sand, or special powder extinguishing (Class D) media. Do NOT use water, carbon dioxide or foam on molten metals. Water may be ineffective for extinguishing a fire but should be used to keep fire exposed billets, ingots and castings cool.
- **Unsuitable extinguishing media:** If molten: no water
- **Special exposure hazards:** On burning formation of metallic fumes (zinc oxide)  
In molten state: violent to explosive reaction with water (moisture)
- **Instructions:** Dilute toxic gases with water spray  
In case of metal bath fire: add metal blocks  
When cooling/extinguishing: no water in the substance
- **Special protective equipment for fire-fighters:** Gloves; Protective clothing  
Heat/fire exposure: compressed air/oxygen apparatus

## 6. Accidental Release measures

- **Personal precautions (PPE):**
  - Respiratory protection from dust production: dust mask
  - Hand protection: gloves
  - Eye protection: safety eyewear
- **Skin protection:** protective clothing
- **Environmental precautions:** Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
- **Methods for cleaning up:** If melted: allow liquid to solidify before taking it up
  - Pick up the material; wash clothing and equipment after handling

## 7. Handling and Storage

- **Handling:** Avoid raising dust; Observe strict hygiene; Keep away from naked flames/heat
  - On melting down: dry and preheat before use
  - Add only dry material to the metal bath
- **Safe storage requirements:**
  - Store in a dry area
  - Keep at temperature above dew point
  - Keep away from strong acids

## 8. Exposure Controls/Personal Protection

### Exposure Limits

| Ingredient Name | Occupational Exposure Limits  |
|-----------------|---|
| Zinc            | <b>ACGIH TLV (United States, 1/2005).</b><br>TWA: 10 mg/m <sup>3</sup> 8 hour/hours. Form: Particulates (Insoluble)<br>Not Otherwise Specified (PNOS)   |
| Aluminum        | <b>ACGIH TLV (United States, 2003). Notes:</b><br>TWA: 5 mg/m <sup>3</sup> 8 hour/hours.<br>TWA: 10 mg/m <sup>3</sup> 8 hour/hours. Form: Dust<br>TWA: 5 mg/m <sup>3</sup> 8 hour/hours. Form: Fume |
| Copper          | <b>OSHA TLV 29 CFR 1910.1000 Table Z-1</b><br>TWA: 0.1 mg/m <sup>3</sup> . Form: Fume   |

### Exposure Controls/Personal Protection

- **Exposure controls:**
  - Carry out operations in well ventilated areas or with respiratory protection
  - Personal protective equipment:
    - Respiratory protection from dust production: dust mask
    - Hand protection: gloves; on heating: insulated gloves

# SAFETY DATA SHEET

- Eye protection: safety eyewear; on (re)melting: face shield & goggles/safety glasses
- Skin protection: protective clothing; on (re)melting: heat resistant clothing, safety footwear

## 9. Physical and Chemical Properties

### General Information

|                      |             |
|----------------------|-------------|
| <b>Physical Form</b> | Solid       |
| <b>Odor</b>          | None        |
| <b>Color</b>         | Silver Gray |

### Important Health, Safety, and Environmental information

|                             |  |
|-----------------------------|--|
| <b>Boiling Point</b>        | 900 – 910 °C (1652 – 1670 °F)  |
| <b>Melting Point</b>        | 375 – 487 °C (714 – 903 °F)  |
| <b>Density</b>              | 6.0 – 6.8 g/cm <sup>3</sup>  |
| <b>Solubility</b>           | Insoluble in water; soluble in acids   |
| <b>Flash Point</b>          | Not Applicable   |
| <b>Explosive Properties</b> | Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. |

## 10. Stability and Reactivity

- **Conditions to avoid:**
  - Possible fire hazard: heat sources
  - Stability: Stable under normal conditions
  - Reactions: In molten state: violent to explosive reaction with water (moisture)
  - Oxidizes slowly in moist air
- **Materials to avoid:**
  - Strong acids
- **Hazardous decomposition products:**
  - Reacts with some acids: release of highly flammable gases/vapors (hydrogen)
  - On burning formation of metallic fumes (zinc oxide)

## 11. Toxicological information - No test data on the mixture available

- **Acute toxicity:** No (test) data on the mixture available.

| Ingredient name | Test | Result     | Route | Species |
|-----------------|------|------------|-------|---------|
| Zinc            | LD50 | 2000 mg/kg | Oral  | Rat     |
| Zinc            | LDLo | 388 mg/kg  | Oral  | Duck    |

- **Potential chronic health effects**

### Inhalation:

AFTER INHALATION OF DUST: Irritation of the nasal mucous membranes, dry/sore throat, coughing

AFTER INHALATION OF FUMES: Inhalation of fumes or very fine dust may lead to metal fever, a flu-like syndrome with symptoms of fever, chills, malaise and cough. The syndrome is benign and symptoms usually disappear after a few hours. Symptoms include: Feeling of weakness, vomiting, and nausea

**Skin contact:** In molten state: Burns

**Eye contact:** In molten state: Burns

**Ingestion:** No data available

## 12. Ecological Information

- **Ecotoxicity** - No test data on the mixture available

| Ingredient name | Species                    | Period (hours) | Result     |
|-----------------|----------------------------|----------------|------------|
| Zinc            | Daphnia magna (EC50)       | 48             | 2.8 mg/l   |
|                 | Pimephales promelas (LC50) | 96             | 0.238 mg/l |

# SAFETY DATA SHEET

|          |                            |    |           |
|----------|----------------------------|----|-----------|
|          | Oncorhynchus mykiss (LC50) | 96 | 0.24 mg/l |
|          | Oncorhynchus mykiss (LC50) | 96 | 0.41 mg/l |
|          | Oncorhynchus mykiss (LC50) | 96 | 0.56 mg/l |
|          | Daphnia magna (LC50)       | 96 | 0.57 mg/l |
| Aluminum | Oncorhynchus mykiss (LC50) | 96 | 0.12 mg/l |
|          | Oncorhynchus mykiss (LC50) | 96 | 0.16 mg/l |
|          | Oncorhynchus mykiss (LC50) | 96 | 0.31 mg/l |

- **Mobility:**  
Volatile organic compounds (VOC) Not applicable  
Solubility in/reaction with water Literature reports: insoluble in water  
Substance sinks in water
- **Persistence and degradability:**  
BOD20: Not applicable  
Biodegradability: not applicable
- **Bioaccumulative potential:**  
No bioaccumulation data available
- **Results of PBT assessment:**  
Not applicable, based on available data
- **Other adverse effects:**  
Not dangerous for the ozone layer (1999/45/EC)

## 13. Disposal Considerations

- **Provisions relating to waste:**  
Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.  
Waste material code (Directive 2008/98/EC, decision 2001/118/EC) 11 01 99: wastes not otherwise specified  
Can be considered as non-hazardous waste according to Directive 2008/98/EC
- **Disposal methods:**  
The generation of waste should be avoided or minimized wherever possible.  
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.  
Recycle/reuse. Remove waste in accordance with local and/or national regulations
- **Packaging/Container:** No available data.

## 14. Transportation information

- **US / Canada regulations**  
U.S. DOT and Transport Canada Hazard Classification ..... Not applicable  
U.S. DOT and Transport Canada Product Identification Number ..... Not applicable  
Marine Pollutant ..... No  
IMO Classification ..... Not regulated
- **International transport regulations**  
ADR/RID: Not regulated  
ADNR: Not regulated  
IMO/IMDG: Not regulated  
IATA Class: Not regulated

## 15. Regulatory Information

- **U.S.**  
Ingredients Listed on TSCA Inventory ..... Yes  
Hazardous Under Hazard Communication Standard ..... No Ingredients Qualify  
CERCLA Section 103 Hazardous Substances ..... Zinc ..... Yes ..... RQ: 1,000 lbs. (454 kg.)\*

# SAFETY DATA SHEET

\* reporting not required when diameter of the pieces of solid metal released is equal to or exceeds 100 micrometers (0.004 inches).

EPCRA Section 302 Extremely Hazardous Substance: ..... No Ingredients Qualify

EPCRA Section 311/312 Hazard Categories: ..... No Hazard Categories Apply

EPCRA Section 313 Toxic Release Inventory: ..... This product does not contain any toxic chemicals

subject to the Toxic Release reporting requirements. However, potential by-products from working with this product, "Zinc (Fume or Dust)" CAS 7440-66-6 and "Aluminum (Fume or Dust)" CAS 7429-90-5 are reportable.

▪ **CANADIAN:**

Ingredients Listed on DSL: ..... Yes

WHMIS Classification: ..... In ingot form, this product is not a Controlled Product under the CPR.

▪ **EUROPEAN UNION:**

Ingredients Listed on the European Inventory of Existing

Commercial Chemical Substances (EINECS): ..... Yes

▪ **EU GHS CLP Classification:** ..... Neither zinc nor aluminum is classified.

## 16. Other Information

### History

|               |           |
|---------------|-----------|
| Date of issue | 3/25/2014 |
| Revision date |           |
| Revision #    |           |

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Each of the products covered by this document is considered an article in its final form and not subject to the requirements for classification or labeling under 29 CFR 1910.1200.

### Notice to Reader

To the best of our knowledge, the information contained in this Safety Data Sheet is accurate and reliable and reasonable precautions have been taken in the preparation of the data contained herein. It is offered solely for your information, consideration and investigation. Eastern Alloys, Inc. and its subsidiaries extend no warranty and assume no responsibility for the accuracy of the content and expressly disclaims all liability for reliance thereon. This safety data sheet provides guidelines for the safe handling and processing of this product; it does not and cannot advise on all possible situations. Therefore, your specific use of this product should be evaluated to determine if additional precautions are required. This Safety Data Sheet shall not constitute a guarantee for any specific product features. Determination of suitability of this material is the sole responsibility of the user. All materials may present unknown hazards and should be used and handled with caution and following reasonable safety procedures. Consequently the buyer assumes all risks in connection with the use and handling of this material.