SAFETY DATA SHEET

SDS Name:	Zinc Casting Alloys

1. Identification of the substance or mixture and the Supplier

Identification of the substance or preparation

Product Name	EAZALL
Common/Trade Name	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
Use of the substance/preparation	Metal Alloy for Die Casting
Supplier	Eastern Alloys, Inc. Henry Henning Drive Maybrook, NY 12543 (845) 427-2151 www.eazall.com
Emergency Telephone #	845-427-2151
Emergency contact	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

- **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	**ACGIH TLV (United States, 1/2005).** TWA: 10 mg/m 3 8 hour/hours. Form: Particulates (Insoluble) Not Otherwise Specified (PNOS)
Aluminum	**ACGIH TLV (United States, 2003). Notes:** TWA: 5 mg/m 3 8 hour/hours. TWA: 10 mg/m 3 8 hour/hours. Form: Dust TWA: 5 mg/m 3 8 hour/hours. Form: Fume
Copper	**OSHA TLV 29 CFR 1910.1000 Table Z-1** TWA: 0.1 mg/m^3. 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

- 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

Physical Form	Solid
Odor	None
Color	Silver Gray

Important Health, Safety, and Environmental information

Boiling Point	900 – 910 ^{o}C (1652 – 1670 ^{o}F)
Melting Point	375 – 487 ^{o}C (714 – 903 ^{o}F)
Density	6.0 – 6.8 g/cm^3
Solubility	Insoluble in water; soluble in acids
Flash Point	Not Applicable
Explosive Properties	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) Pimephales promelas (LC50)	48 96	2.8 mg/l 0.238 mg/l

	Oncorhynchus mykiss (LC50) Oncorhynchus mykiss (LC50) Oncorhynchus mykiss (LC50) Daphnia magna (LC50)	96 96 96 96	0.24 mg/l 0.41 mg/l 0.56 mg/l 0.57 mg/l
Aluminum	Oncorhynchus mykiss (LC50) Oncorhynchus mykiss (LC50) Oncorhynchus mykiss (LC50)	96 96 96	0.12 mg/l 0.16 mg/l 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.)*

* 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

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