

May be used to comply with
OSHA's Hazard Communication Standard
29 CFR 1910.1200. Standard must be
consulted for specific requirements.



SAFETY DATA SHEET

Effective Date: 05/19/15

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Revision Number: 01

Section 1 - Identification of the Substance/Mixture and of the Company

1.1 Product Identifier:

Chemical Family:

Zinc

Chemical Product:

Zinc Alloy

1.2 Recommended uses and Restrictions on use:

Recommended Use (*Alloys*):

SHG Zn Slabs, Ball Anodes, Bar Anodes, Zamak #2, #3, #5, #7, #8, #12, & #27, Zn Brighteners. Refer to the Certificate of Analysis with delivered loads for specific elements of the alloy.

Restrictions on Use:

Not for Aquatic use!

1.3 Manufacturer Details:

Manufacturer's Name:

Metropolitan Alloys Corporation, Inc.

Manufacturer's Address:

17385 Ryan Road

Detroit, MI 48212

Manufacturer's Contact / Email:

Henry Szybowicz (hszybowicz@metroalloys.com)

Emergency Telephone No:

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Section 2 - Hazard(s) Identification

2.1 Classification of the substance or mixture:

Classification according to Regulation EC No. 1272/2008

Not classified as dangerous according to the criteria of Regulation (EC) No. 1272/2008

Classification according to Directive 67/548/EEC-
1999/45/EC

Not classified as dangerous according to the criteria of directive(s) 67/548/EEC and/or 1999/45/EC

2.2 Label elements:

Labeling according to Regulation EC No. 1272/2008 (CLP)

Not classified as dangerous according to the criteria of Regulation (EC) No. 1272/2008

2.3 Other Hazards:

- CLP:
- a. Substance does not meet the screening criteria for persistency nor bioaccumulation so it neither PBT nor vPvB.
 - b. The melting down of moist metal leads to explosion risk.
 - c. Heated product causes burns.
 - d. Caution! This substance is subject to exposure limits.
 - e. Highly toxic to fishes.
 - f. Highly toxic to aquatic plants.
 - g. Toxic to bacteria.

Mixtures: a. Not applicable.

Section 3 - Composition/Information on Ingredients

NOTE: Variations in Zinc production account for a wide percentage range of the elements listed below.

	Component	Symbol	EC#	CAS#	OSHA PEL	TLV	Percent Range (%)
3.1	Aluminum	Al	231-072-3	7429-90-5	15MG/M3	10MG/M3	0 - 28%
3.2	Cadmium	Cd	231-152-8	7440-43-9	.05MG/M3	.1MG/M3	0 - .015%
3.3	Copper	Cu	231-159-6	7440-50-8	.01MG/M3	.2MG/M3	0 - 11%
3.4	Iron	Fe	231-096-4	7439-89-6	10MG/M3	5MG/M3	0 - .20%
3.5	Lead	Pb	231-100-4	7439-92-1	.05MG/M3	.15MG/M3	0 - .02%
3.6	Magnesium	Mg	231-104-6	7439-95-4	15MG/M3	10MG/M3	0 - 1%
3.7	Nickel	Ni	231-111-4	7440-02-0	1MG/M3	1MG/M3	0 - .2%
3.8	Silicon	Si	231-130-8	7440-21-3	10MG/M3	10MG/M3	0 - 1%
3.9	Tin	Sn	231-141-8	7440-31-5	2MG/M3	2MG/M3	0 - .01%
3.10	Zinc	Zn	231-175-3	7440-66-6	5MG/M3	10MG/M3	Remainder

Section 4 - First Aid Measures

4.1 Description of First Aid Measures:

4.1.1 After inhalation:

After inhalation of fume: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

4.1.2 After 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 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%: take victim to hospital.

4.1.3 After eye contact:

After contact with fume: Rinse immediately with plenty of water for 15 minutes. Take victim to an ophthalmologist.

4.1.4 After ingestion:

Not applicable.

4.2 Most important symptoms and effects, both acute and delayed:

4.2.1 Acute Symptoms

4.2.1.1 After inhalation:

After inhalation of fume:

Irritation of the nasal mucous membranes. Dry/sore throat. Coughing.

After inhalation of fume:

Feeling of weakness. Metal fume fever. Vomiting. Nausea.

4.2.1.2 After skin contact:

If Melting: Burns

4.2.1.3 After eye contact:

If Melting: Burns

4.2.1.4 After ingestion:

No data available.

4.2.2 Delayed Symptoms

No data available

4.2.3 Indication of any immediate medical attention and special treatment needed:

Not applicable.

Section 5 - Fire Fighting Measures

5.1 Extinguishing media:

Suitable extinguishing media:

Use Media appropriate for surrounding fire.

Unsuitable extinguishing media:

Water (if molten).

5.2 Special hazards arising from the substance or mixture:

On burning formation of metallic fumes (zinc oxide).

In molten state: violent to explosive reaction with water (moisture).

Combustion may produce irritating and toxic gases/fumes.

5.3 Advice for firefighters:





Instructions:

Dilute toxic gases with water spray. In case of metal bath fire: add metal blocks. When cooling/extinguishing: no water in the substance.

Cool fire exposed containers and structures with water (avoid any molten metal with the water).

Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for all fires involving chemicals.




Special Recommended Protective Equipment for Fire Fighters



EYES/FACE	HANDS	RESPIRATORY	SKIN/BODY
			
Protective Faceshields/Safety Glasses or Mask	Gloves	Compressed Air/Oxygen Apparatus	Thermal Protective Clothing

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Protective equipment for emergency responders:

Recommended Protective Equipment for Emergency Responders			
EYES/FACE	HANDS	RESPIRATORY	SKIN/BODY
			
	Gloves	Compressed Air/Oxygen Apparatus	Thermal Protective Clothing

Recommended Protective Equipment for Containment and Clean-up Crews			
EYES/FACE	HANDS	RESPIRATORY	SKIN/BODY
			
Protective Faceshields/Safety Glasses or Mask	Gloves		

6.2 Environmental precautions:

No data available.

6.3 Methods and material for containment and clean-up:

If melted: allow liquid to solidify before taking it up. Pick-up the material. Wash clothing and equipment after handling.

Section 7 - Handling and Storage

NOTE: The information in this section is a general description.

7.1 Precautions for safe handling:

- 7.1.1 Avoid breathing/raising dust.
- 7.1.2 Keep away from naked flame/heat.
- 7.1.3 Observe strict hygiene.
- 7.1.4 On (re)melting down: dry and preheat installation before use.
- 7.1.5 Add only dry material to the metal bath.
- 7.1.6 Avoid contact with the eyes, skin and clothing.
- 7.1.7 Use with adequate ventilation.
- 7.1.8 Wash thoroughly after handling.
- 7.1.9 Keep containers closed when not in use.
- 7.1.10 Empty containers retain product residues and can be hazardous. Follow all SDS precautions when handling empty containers.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Safe storage requirements:

7.2.1.1 Keep away from:

(Strong) acids.

7.2.1.2 Suitable packaging material:

No Data Available.

7.2.1.3 Non suitable packaging material:

No Data Available

Section 8 - Exposure Control/Personal Protection

8.1 Control Parameters:

8.1.1 Occupational Exposure Limits:

Zinc Oxide	United States	2 mg/2 TWA ACGIH TLV (Respirable), 10 mg/m ³ STEL (Respirable), 5 mg/m ³ TWA OSHA PEL (Respirable), 15 mg/m ³ TWA OSHA PEL (Total Dust)
	Germany	0.1 mg/m ³ TWA DFG MAK (Respirable), 2 mg/m ³ TWA (Inhalable)

Section 8 - Exposure Control/Personal Protection (Continued)

United Kingdom	5 mg/m3 TWA UK OEL (Respirable), 2mg/m3 STEL (Respirable)
France	5 mg/m3 TWA INRS VME (France)
Spain	5 mg/m3 TWA VLA-ED (Spain) (Dust)
Italy	None Established
European Union	None Established
Asia	None Established

8.1.2 Biological Exposure Limits:

None Established.

8.2 Exposure Controls:

8.2.1 Appropriate Engineering Controls:

Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

8.3 Individual Protective Measures (PPE):

8.3.1 Specific Eye/Face Protection:

Chemical safety goggles recommended

8.3.2 Specific Hand Protection:




Wear gloves for recommended protection from heat and sharp edges.

8.3.3 Specific Respiratory Protection:

None required under normal use conditions.

8.3.4 Specific Skin/Body Protection:

When handling molten/extremely hot Zinc

EYES/FACE	HANDS	RESPIRATORY	SKIN/BODY
			
Protective Faceshields/Safety Glasses or Mask	Gloves		Thermal Protective Clothing

Section 9 - Physical & Chemical Properties

9.1 Physical Properties:

9.1.1 Physical Form: Solid	9.1.7 Specific Gravity: Range 5.0 - 6.7
9.1.2 Boiling Point: Approx. 1665°F	9.1.8 Density: N/A
9.1.3 Melting Point: Approx. 728°F	9.1.9 Water Solubility: None
9.1.4 Vapor Pressure (mm Hg.): N/A	9.1.10 pH: N/A
9.1.5 Vapor Density (AIR=1): N/A	9.1.11 Color: Silver to Bluish Silver
9.1.6 Evaporation Rate: N/A	9.1.12 Odor: No Odor

9.2 Physical hazards:

No physical hazard class.

9.3 Other information:

No data available.

Section 10 - Stability & Reactivity

10.1 Reactivity:

No unusual reactivity.

10.2 Chemical stability:

Stable under normal conditions.

Section 10 - Stability & Reactivity (continued)

10.3 Possibility of hazardous reactions:

In molten state: violent to explosive reaction with water (moisture). Oxidizes slowly in moist air.

10.4 Conditions to avoid:

Avoid raising dust. Keep away from naked flames/heat. Avoid exposure to moisture.

10.5 Incompatible materials:

Avoid strong oxidizing agents and magnesium.

10.6 Hazardous decomposition products:

reacts with (some) acids: release of highly flammable gases/vapors (hydrogen). On burning formation of metallic fumes (zinc oxide).

Section 11 - Toxicological Information

11.1 Information on Toxicological Effects:

11.1.1 Effects of acute exposure: None reported.	11.1.7 Embrotoxicity: None reported.
11.1.2 Effects of chronic exposure: None reported.	11.1.8 Name of synergistic products/effects: None reported.
11.1.3 Irritancy of product: None reported.	11.1.9 Respiratory sensitization: None reported.
11.1.4 Skin Sensitization: None reported.	11.1.10 Carcinogenicity - ACGIH: None reported.
11.1.5 Carcinogenicity-IARC: None reported.	11.1.11 Teratogenicity: None reported.
11.1.6 Reproductive toxicity: None reported.	11.1.12 Mutagenicity: None reported.

Section 12 - Ecological Information

12.1 Toxicity:

No data available for this product(s). Product(s) is not expected to present an environmental hazard to aquatic and terrestrial flora and fauna.

12.2 Persistence and Degradability:

Zinc is found in almost all minerals in the earth's crust with an average concentration of about 70 mg/kg. It is an essential trace element for life that is found in all living organisms. Zinc compounds are expected to exist in the particulate phase in the ambient atmosphere.

12.3 Bio-accumulative Potential:

Based on monitoring data, zinc is expected to absorb to suspended solids and sediment in water and has been detected in the majority of aquatic organisms studied.

12.4 Mobility in Soil:

Zinc compounds are expected to have low mobility in soils and are absorbed by plants and vegetables.

12.5 Other Adverse Effects:

Zinc oxide is classified as very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Section 13 - Disposal Considerations

13.1 Waste treatment methods:

Material, dross, and baghouse dust sold as product, no waste streams.

13.2 Disposal methods:

No disposal required, all is product for sale.

13.3 Packaging/Container

No Data Available

Section 14 - Transportation Information

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
DOT	None	Not regulated	None	None	No

Section 14 - Transportation Information (Continued)

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
ADR/RID	UN3077	Environmentally Hazardous Substance, solid n.o.s. (zinc oxide)	9	PG III	Yes
IMDG	UN3077	Environmentally Hazardous Substance, solid n.o.s. (zinc oxide)	9	PG III	Marine Pollutant - Yes
IATA/ICAO	UN3077	Environmentally Hazardous Substance, solid n.o.s. (zinc oxide)	9	PG III	Yes

14.6 Special precautions for user:

Not applicable.

Section 15 - Regulatory information

15.1 OSHA/MOSHA *U.S. Federal Regulations (OSHA)/Michigan State Regulations (MOSHA)*: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard (29 CFR 1910.1200)

15.2 EPA/MDEQ *U.S. Federal Regulations (E.P.A.)/Michigan Department of Environmental Quality (MDEQ)*:

S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): This product does NOT contain any chemical subject to the reporting requirements of this standard.

S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of this standard.

302 (EHS) TPQ (40 CFR 355): Not applicable.

15.3 TSCA **TSCA CAS Number**: Not applicable.

Section 16 - Other information

The information in this SDS was obtained from sources which we believe are reliable. Metropolitan Alloys Corp. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person(s) using this (these) product(s). Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. METROPOLITAN ALLOYS CORP. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, METROPOLITAN ALLOYS WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.