



## Zinc-Aluminum-Lead Alloys, Continuous Galvanizing Grade (CGG)

Date of Preparation: 16 January 2019

### Section 1 - Chemical Product and Company Identification

**Product/Chemical Name:** Zinc-Aluminum-Lead Alloys, Zinc Metal CGG

**Other Designations:** Zinc Blocks; Zinc Slabs

**General Use:** Galvanizing / Alloying Metal

**Manufacturer:** Nyrstar Clarksville Inc.

Zinc Plant Rd

P.O. Box 1104

Clarksville, TN 37041-1104

**Contact:** Technology or Sales Manager (931) 552-4200

### Section 2 – Composition/Ingredient Information

Ingredient Name	CAS Number	% wt or % vol	Permissible Air Conc.
Lead (Pb)	7439-92-1	0-0.035%	TLV as dust, oxide, fume 0.05 mg / m <sup>3</sup>
Iron (Fe)	7439-89-6	0- 0.10%	5.0 mg/m <sup>3</sup>
Cadmium (Cd)	7440-43-9	0- 0.10%	0.005 mg/ m <sup>3</sup>
Zinc (Zn)	7440-66-6	>98.0 (balance)	5.0 mg/ m <sup>3</sup> (ZnO fume), 15 mg/ m <sup>3</sup> (dust)
Aluminum (Al)	7429-90-5	0.01-0.83%	10 mg/ m <sup>3</sup>
Tin (Sn)	7440-31-5	0-0.01%	2 mg/ m <sup>3</sup>
Copper (Cu)	7440-50-8	0-0.01%	0.20 mg/ m <sup>3</sup>
Titanium (Ti)	7440-32-6	0-0.01%	10 mg/ m <sup>3</sup>
Antimony (Sb)	7440-36-0	0-0.01%	0.5 mg/m <sup>3</sup> m <sup>3</sup>

### Section 3 - Hazards Identification

#### Potential Health Effects

**Acute Effects:**

**Inhalation:** Zinc fumes may cause metal-fume fever with dry throat, metallic taste, chest pain, dyspnea, rales, and dry cough.

**Eye:** Contact with Zinc fumes or dust may cause irritation, redness, and pain.

**Skin:** No effect.

**Ingestion:** In large dosages, zinc may cause nausea, diarrhea, or constipation .

**Medical Conditions Possibly Aggravated:** respiratory diseases

**Unusual Chronic Activity:** Fume inhalation: clinically latent liver dysfunction, peptic ulcer, debility, abdominal pain, heartburn at 50 mg/m<sup>3</sup> of zinc.

**HMIS**

**H** 1

**F** 0

**R** 0

**PPE**<sup>†</sup>

<sup>†</sup>Sec. 8

### Section 4 - First Aid Measures

**Inhalation:** Remove victim from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration, maintain blood pressure, maintain airway and get medical help.

**Eye Contact:** Not anticipated due to size of slabs or blocks.

**Skin Contact:** Wash with soap and water

**Ingestion:** Not anticipated under normal conditions due to size of slabs or blocks; otherwise, do not induce vomiting.

**Additional:** Keep affected person warm and at rest. Treat symptomatically.

**After first aid, get appropriate in-plant, paramedic, or community medical support.**

**Note to Physicians:** None

**Special Precautions/Procedures:** None

## Section 5 - Fire-Fighting Measures

**Flash Point:** NA

**Flash Point Method:** NA

**Burning Rate:** NA

**Autoignition Temperature:** No Data

**LEL:** N / A

**UEL:** N / A

**Flammability Classification:** NA

**Extinguishing Media:** Metal - X Powder

**Fire Extinguishing Agents to Avoid:** water, high-pressure dry chemical

**Unusual Fire or Explosion Hazards:** Flame will trace fine zinc dust. Dust in certain concentrations with air can be explosive. Products of combustion are metal oxides.

**Hazardous Combustion Products:** Metal Oxides

**Special Firefighting Precautions:** Adapt extinguishing media to the surrounding environment for adjacent fires

**Fire-Fighting Equipment:** Self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

## Section 6 - Accidental Release Measures

**Spill /Leak Procedures:** Contain material and dispose of properly per Federal, State and Local regulations.

Spilled materials that are discarded may be subject to hazardous waste disposal regulations due to metal content (40 CFR 261).

**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

## Section 7 - Handling and Storage

**Handling Precautions:** Hot metal can cause metal burns, avoid creating dust

**Storage Requirements:** Keep dry. Melting wet zinc may contribute to explosion hazards.

**Regulatory Requirements:** NA

## Section 8 - Exposure Controls / Personal Protection

**Eye and Face:** Employee must wear protective eyewear to prevent eye irritation.

**Respiratory Protection:** Fume or high efficiency particulate respirator, supplied air respirator, self-contained breathing apparatus.

**Protective Clothing/Equipment:** Protective gloves are not required, but recommended.

**Personal Hygiene:** Good industrial hygiene practices are to be followed at all times.

**Engineering Controls:** Mechanical ventilation indicated in dusty environments.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance and Odor:** Bluish gray metal, odorless

**Vapor Pressure:** 1 mm Hg @ 487 C

**Vapor Density (Air=1):** NA

**Formula Weight:** 65.37 (as 100% Zn)

**Density:** 7140 kg/m<sup>3</sup>

**Specific Gravity (H<sub>2</sub>O=1, at 4 °C):** 7.14

**Water Solubility:** NA

**Other Solubilities:** NA

**Boiling Point:** 907 C

**Freezing/Melting Point:** 419 C

**Viscosity:** NA

**Refractive Index:** NA

**Surface Tension:** NA

**% Volatile:** NA

**Evaporation Rate:** NA

## Section 10 - Stability and Reactivity

**Stability:** Stable under normal conditions

**Polymerization:** Hazardous polymerization will not occur

**Chemical Incompatibilities:** Strong acids

**Conditions to Avoid:** See Incompatibilities

**Hazardous Decomposition Products:** Metal oxide fume may be created at high temperatures

## Section 11- Toxicological Information

**Eye Effects:** NA

**Skin Effects:** NA

### Toxicity Data:

**Acute Inhalation Effects:** Metal Fume Fever(cough, fever, chills, headache, nausea), sweet taste, dry throat.  
Human, inhalation, TC<sub>LO</sub>: No Data

### Acute Oral Effects:

Rat, oral, LD<sub>50</sub>: No Data

**Chronic Effects:** None Known or anticipated

**Carcinogenicity:** Not Listed

**Mutagenicity:** N/A

**Teratogenicity:** N/A

## Section 12 - Ecological Information

**Ecotoxicity:** EPA hazardous; a reportable quantity of 1000 pounds is assigned to the generic or broad class for zinc and zinc compounds.

## Section 13 - Disposal Considerations

**Disposal (Disposal must comply with federal, state, and local disposal or discharge laws):** If hazardous under 40 CFR 261, Subparts B & C, material must be located or disposed in a facility meeting the requirements of 40 CFR 264 or 265. If non-hazardous, material should be disposed of in a facility meeting the requirements of 40 CFR 257.

**RCRA status of Unused Material:** If discarded in unaltered form, material may be considered a solid waste with some possible leaching of the zinc metal in low pH environments.

## Section 14 - Transport Information

### DOT Transportation Data (49 CFR 172.101):

**Shipping Name:** Zinc

**Shipping Symbols:**

**Hazard Class:** non-regulated

**ID No.:**

**Packing Group:**

**Label:**

**Special Provisions (172.102):**

### Packaging Authorizations

a) **Exceptions:** NA

b) **Non-bulk Packaging:** NA

c) **Bulk Packaging:** NA

### Quantity Limitations

a) **Passenger, Aircraft, or Railcar:** NA

b) **Cargo Aircraft Only:** NA

### Vessel Stowage Requirements

a) **Vessel Stowage:** NA

b) **Other:** -

## Section 15 - Regulatory Information

### EPA Regulations:

CERCLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity RQ 1000 lb as Zinc or Zinc Compounds.

SARA 311/312 Codes:

SARA Toxic Chemical (40 CFR 372.65): Listed as Zinc Dust/Fume.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

### OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Zinc Oxide

OSHA Specifically Regulated Substance (29CFR 1910.NA)

### State Regulations:

## Section 16 – References, Comments

### Permissible Concentration References

OSHA 29 CFR 1910 Subpart Z1

ACGIH

**Hazard Information References;** “Handbook of Toxic and Hazardous Chemicals and Carcinogens”, Marshall Sittig, Second Edition.

**Supplier Notification:** NA

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