High Grade Zinc

Date of Preparation: 4/20/04

Section 1 - Chemical Product and Company Identificati

Product/Chemical Name: Zinc
Chemical Formula: Zn

CAS Number: 7440-66-6
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: Technical Services (931) 552-4200

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt *or* % vol	Permissible Air Conc.
			TLV as dust, oxide, fume
		MAX	
Lead	7439-92-1	0.03	0.05 mg / M3
Iron	7439-89-6	0.02	5.0 mg/m3
Cadmium	7440-43-9	0.02	5.0 ug/m3
Zinc	7440-66-6	99.9(MIN)	5.0 mg/m3 (ZNO fume) 15 mg/m3 (dust)
			OSHA ; ACGIH

Section 3 - Hazards Identification

☆☆☆☆☆ **Emergency Overview** ☆☆☆☆☆

HMIS
H 1
F 0
R 0
PPE†
†Sec. 8

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/m3 of zinc.

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: 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: NA
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: NA
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
Density: NA
Specific Gravity (H_2O=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
Polymerization: Hazardous polymerization will not occur
Chemical Incompatibilities: Zinc dust in contact with acids evolves hydrogen gas. Zinc oxide may react violently with chlorinated rubber. Zinc dust in contact with water or moist air may evolve hydrogen.
Conditions to Avoid: See Incompatibilities
Hazardous Decomposition Products: Metal oxide fume.

Section 11- Toxicological Information

Toxicity Data:

Eye Effects: NA

Skin Effects: NA

Acute Inhalation Effects: Metal Fume Fever(cough, fever, chills, headache, nausea), sweet taste, dry throat.
Human, inhalation, TC_{Lo}: No Data

Acute Oral Effects:
Rat, oral, LD_{50}: 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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