



NATIONAL MAGNETICS GROUP, INC.

MANUFACTURERS OF MAGNETIC AND ADVANCED MATERIALS

CERAMIC MAGNETICS • CERAMIC POWDERS • FERRONICS, INC. • TCI CERAMICS, INC.

SAFETY DATA SHEET: Mn-Zn Ferrite Powder According to OSHA HCS 29CFR 1910,1200(g), rev 2012 Version Number 1, Date: August 30, 2019

Section 1 – Product and Company Identification

Product Identification:

P/R/Mxx/MNxx/MN8CX/

B/M/T/V/L

Nxx

CAS No.: 12645-49-7

Common Name: Mn-Zn (Manganese Zinc) Ferrite Powder – Calcined/Sintered

Product Use: Industrial Applications including Soft Ferrite manufacturing, Coating.

Manufacturer's Name: National Magnetics Group, Inc.

Manufacturer's Address: 1210 Win Drive, Bethlehem, PA 18017, USA

General Information Telephone: 1-610-867-7600

Emergency Telephone: 1-610-867-7600

Web Site Address: www.magneticsgroup.com

E-mail Address: sales@magneticsgroup.com

Section 2 – Hazards Identification Including Emergency Overview

Potential Health Effect

Routes of Exposures: Inhalation, Ingestion, Skin contact, Eye contact.

Health hazards have not been determined. Hazards associated with components of the mixture are summarized from raw materials suppliers' Safety Data Sheets. Overexposure to manganese oxide or zinc oxide may cause irritation of eyes, skin or respiratory tract.

Acute Exposure

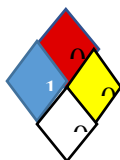
Inhalation: NTP and IARC have listed nickel oxide and unspecified nickel compounds as possible carcinogens.

Ingestion: The US NIOSH concluded that nickel and its inorganic compounds are not carcinogenic when ingested.

Skin: Prolonged or repeated contact may cause irritation or sensitization.

Classification System: NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

NFPA Ratings (scale 0 – 4)



Health = 1
Fire = 0
Reactivity = 0

HMIS Ratings (scale 0 – 4)

| | |
|---------------------|---|
| Health | 1 |
| Fire | 0 |
| Reactivity | 0 |
| Personal Protection | E |



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Emergency Overview

All ingredients of the product are bound and stable. However, fine dust may be released during handling. The end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from inhaling.

Organic additives may volatilize and decompose at temperatures above 110°C, producing hazardous fumes and smoke. Proper ventilation is necessary during heating up.

Section 3 – Composition / Information on Ingredients

| Principal Hazardous Component(s) (chemical & common name(s)) | CAS No. | Weight % as oxide | OSHA PEL (TWA) (mg/m ³) | ACGIH TLV (TWA) (mg/ ³) |
|---|---------|----------------------|--|--|
|---|---------|----------------------|--|--|

| | | | | |
|-----------------|-----------|-------|----|---|
| Iron Oxide | 1309-37-1 | 50-80 | 10 | 5 |
| Manganese Oxide | 1344-43-0 | 10-30 | 5 | 5 |
| Zinc Oxide | 1314-13-2 | 5-15 | 5 | 5 |

Section 4 – First Aid Measures

Inhalation: Remove from exposure. Move to fresh air. Consult physician as needed.

Ingestion: Rinse out mouth. Consult physician as needed.

Eyes: Flush gently with water. Consult physician as needed.

Skin: Wash affected area thoroughly. Remove all particles from wounds. Consult physician as needed.

Section 5 – Fire Fighting Measures

Flammability: Non-flammable.

Flash Points: Not applicable.

Auto-ignition Temperature: Not applicable.

Suitable Extinguishing Media: Appropriate for surrounding area.

Special Fire Fighting Procedure: None.

Unusual Fire/Explosion: Unknown.

Section 6 – Accidental Release Measures

Personal Precautions: Avoid inhaling dust generated during cleanup; wear appropriate personal protection gears such as NIOSH-approved respirator, impervious gloves, boots, safety glasses or goggles and coveralls.

Environmental Precautions: Should not be released into the environment. The product should not be allowed to enter drains, water courses or soil.

Methods for Cleaning up: Cleanup promptly by sweeping (wet sweeping preferred to minimize dust generation) or vacuum. Provide ventilation and/or NIOSH-approved respirator as needed to keep exposure to dust below TLV/PEL. Package all materials in plastic, cardboard or metal containers for disposal. Refer to Section 13 of this SDS for proper disposal methods.



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Section 7 – Handling and Storage

Handling: Avoid inhaling dust generated during material is conveyed or transported. Provide ventilation and/or NIOSH-approved respirator as needed to keep exposure to dust below TLV/PEL.

Storage: Keep containers dry and tightly closed to avoid moisture absorption and contamination. Keep in a dry and cool place.

Section 8 – Exposure Controls & Personal Protection

Respiratory Protection: NIOSH-approved respirator as needed to keep exposure to dust below TLV/PEL.

Eye/Face Protection: Safety glasses with side-shields or goggles.

Hand Protection: Protective gloves.

Skin and Body Protection: Long sleeved clothing.

Additional Protective Gears: Safety shoes.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Engineering Measures: Provide appropriate exhaust ventilation at machinery.

Exposure limits

Refer to Section 2.

Section 9 – Physical & Chemical Properties

| | | | |
|--------------------------|-------------------------------|--------------------------|----------------|
| Appearance: | Solid powder | Melting Point: | 1500°C |
| Color: | Reddish-brown | Boiling Point: | Exceeds 2500°F |
| Odor: | Odorless | Flash Point: | Not applicable |
| pH: | Not applicable | Evaporation Rate: | Not applicable |
| Bulk Density: | Approx. 1.5 g/cm ³ | Flammability: | Not applicable |
| Specific Gravity: | 5.0-5.2 g/cm ³ | Vapor Pressure: | Negligible |
| Water Solubility: | < 2% (additive) | Vapor Density: | Not available |
| Decomp. Temp.: | Not available | Volatility: | Not available |

Section 10 – Stability & Reactivity Data

Reactivity: Not available.

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Not available.

Conditions to Avoid: Not available.

Incompatible Materials: Strong acids, strong oxidizing agents, peroxides.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition: In the presence of a reducing agent, ferrite may be reduced to metals at temperatures in excess of 1000°C.



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Section 11 – Toxicological Information

Refer to Sections 2 and 3.

Section 12 – Ecological Information

Toxicity: Not available.

Persistence and Degradability: Not applicable.

Bioaccumulation Potential: Not applicable.

Mobility in Soil: Not available.

Environmental Toxicity: Not applicable.

Additional Advice: Not available.

Section 13 – Disposal Considerations

Product: Dispose of waste in accordance with applicable federal, state, and local regulations.

Contaminated Packaging Materials: Recycling is preferred if possible. The generator of waste material has the responsibility for proper waste classification, transportation and disposal in accordance with applicable federal, state, and local regulations.

Section 14 –Transport Information

DOT (US) / IMDG / ICAO / IATA: Not regulated for transportation.

Not a Hazardous/Dangerous Material.

No UN Number exists.

Section 15 – Regulatory Information

US Regulation: Refer to Section 2

TSCA status: All components of this product are listed on or exempt from the TSCA Inventory.

SARA Title III Section 302 Extremely Hazardous Substance: Not applicable.

SARA Title III Section 313 Toxic Chemicals: This product contains chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and 40 CFR part 372 (for CAS numbers and weight percentages, refer to Section 3, "Hazardous Ingredients" of this SDS).

National Inventories: Not applicable.

Section 16 – Other Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
