

Material Safety Data Sheet-Nickel ZM2

Section 1. Chemical Product and Company Information

Product Name: Nickel ZM2™	Prepared: March 13, 2017
Manufacturer: NIPAN LLC P.O. Box 5611 Valdosta, GA USA 31603	
General Phone: 229-242-2965	
Company Emergency Phone: 229-460-5922	
EPA Registration Number: None Required	

Section 2. Composition, Information on Ingredients

Material	Percent
Proprietary blend of nickel sulfate, zinc sulfate, manganese sulfate, sodium molybdate, citric acid and water	100.00
CAS # 10101-97-0, 7446-19-7, 7785-87-7, 7631-95-0, 77-92-9	
Typical Composition	
Zinc	4.0%
Manganese	3.5%
Nickel	2.0%
Sulfur	5.1%
Molybdenum	0.08%

Section 3. Hazard Identification

Emergency Overview: Emerald Green, clear, odorless liquid; causes eye and skin irritation. Harmful if swallowed or inhaled. Heating to temperatures above 212 degrees Fahrenheit can lead to rapid pressure buildup.
POTENTIAL HEALTH EFFECTS
Primary Routes of Entry: Eyes, mouth, lungs, skin
Eye Contact: May cause irritation, redness, and tearing.
Skin Contact: May cause skin irritation with redness, pain and allergic reaction based on toxicity studies and human experience.
Skin absorption: Not known to be well absorbed through the skin. Exposure is not likely to result in the material being absorbed
Ingestion: Minute amounts swallowed incidental to normal handling operations are not likely to cause serious injury.
Inhalation: Inhalation of spray mist may cause respiratory tract irritation.
Cancer Information: Listed as a carcinogen

Section 4. First Aid Measures

Eyes: Hold eyelids apart and flush eyes with a gentle stream of water for 15 minutes. See an eye doctor immediately.
Ingestion: Induce vomiting. Call a physician or poison control center immediately.

Inhalation: Remove victim to fresh air. Get medical attention immediately.

Note To Physician: N/E.

Section 5. Fire Fighting Measures

Flashpoint and Method: Nonflammable

Flammable Limits: Nonflammable

Extinguishing Media: Nonflammable, use water spray, fog, foam, or CO₂; foam preferred.

Fire and Explosion Hazards: N/E

Fire-Fighting Equipment: Do not get material on skin or clothing. Avoid inhalation of fumes or mists. Stay upwind, out of low areas, and ventilate closed spaces before entering. Cool containers from the side with water until fire is out. Use water spray to reduce any vapor; do not put water directly on leak or spill area.

NOTE: During fire conditions, product may evolve oxides of nickel and sulfur.

Section 6. Accidental Release Measures

Action To Take For Spills: Wear NIOSH/MSHA approved respiratory protection and appropriate personal protective equipment when cleaning spills. Do not get product on skin or clothing. Stop leak if possible without high risk. Dike area or spill to avoid spreading. Isolate and post spill area. Keep animals and unprotected persons out of spill area. Sweep up small spills with material such as Hazorb, Zorbball, or soil. Thoroughly wash body areas that are exposed to the product. Contain spills to keep out of sewers or streams. For larger spills, consult NIPAN LLC.

Section 7. Handling and Storage

Handling: Mechanical handling can cause leaks and spills. Wash thoroughly with soap and water after handling. Avoid getting into eyes, on skin or on clothing. Avoid breathing mist or vapor. Do not take internally. Use only with adequate ventilation. Emptied containers retain vapor and product residue-Observe all label safeguards until container is cleaned, reconditioned, or destroyed. Keep container tightly closed and upright.

Storage: Do not contaminate water, food, or feed storage or disposal areas. Store in cool, dry place away from acids and other incompatible material. Under normal handling and storage conditions, avoid heating above 158 deg. F (70 deg.C). Store in original containers. Material is temperature sensitive. Store above 50 degrees Fahrenheit to avoid product crystallization.

Section 8. Exposure Controls, Personal Protection

Engineering Controls: Provide general and/or local exhaust ventilation to control airborne levels below exposure guidelines.

Exposure Guidelines: Nickel ZM2: American Conference of Governmental Industrial Hygienists PEL is 1.0 mg/m³ as Ni. OSHA PEL is 0.1 mg/m³ as Ni.

Eye/Face Protection: Use splash protective safety glasses.

Skin Protection: All handlers must wear a long-sleeved shirt, long pants, chemical-resistant gloves, and shoes and socks. Wash the outside of gloves before removing. Users should remove clothing immediately if product gets inside. Keep and wash personal protective clothing (and any other clothing worn while handling chemical) separate from other laundry. Personal protective equipment required for early entry permitted under the Worker Protection Standard is coveralls, waterproof gloves, and shoes and socks.

ReRespiratory Protection: Atmospheric levels of the chemical vapor should be maintained
Respiratory Protection: When respiratory protection is required for certain operations, wear a National Institute for Occupational Safety (NIOSH) approved air-purifying respirator. Mixers and loaders must wear a mist-filtering respirator with NIOSH-approval.

Section 9. Physical and Chemical Appearance

Vapor Pressure: NA

Specific Gravity (SG) (H₂O = 1): 1.42 11.40 lbs/gal

Solubility in Water: Miscible

pH: 1.4 -1.8

Boiling Point: 215 Deg. F

Vapor Density: NA

Freezing Point: Approx. 28 Deg. F

Odor: Essentially odorless

Appearance: Clear, emerald green liquid

Section 10. Stability and Reactivity

Chemical Stability: Stable under recommended usage and storage conditions.

Conditions to Avoid: Contact with incompatible materials such as bases. Keep temperature above 40 deg. F. when possible.

Incompatibility with Other Materials: Bases

Hazardous Decomposition Products: Oxides of zinc, nickel and sulfur upon thermal decomposition.

Hazardous Polymerization: Will not occur

Section 11. Toxicological Information

ACUTE STUDIES

Eyes: Causes irritation to the eyes and surrounding areas.

Skin Contact: Short, single exposures may cause skin irritation/allergic dermatitis. May cause sensitization or allergic reaction resulting in "nickel itch" or chronic eczema.

Skin Absorption: A single moderate exposure is not likely to result in the material being absorbed through the skin in harmful amounts.

Ingestion: Nickel sulfate is harmful and will cause gastro-intestinal disorders. Product is considered moderately toxic by ingestion.

Inhalation: Not supplied as a powder or dust. Not vapor or fume inducing at recommended application temperatures. When sprayed respirator use is required.

Sensitization: May cause sensitization as noted above leading to "nickel itch" and acute and/or chronic eczema.

CHRONIC STUDIES

Chronic Toxicity: NIOSH has concluded that some nickel compounds are suspected carcinogens. Nickel and certain nickel compounds are listed as carcinogens by the National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC). The Occupational Health and Safety Administration (OSHA) regulates nickel and specific nickel compounds as carcinogens.

Carcinogenicity: NIOSH has concluded that some nickel compounds are suspected carcinogens (neoplasms in rats via implantation). Nickel and certain nickel compounds are listed as carcinogens by the National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC). The Occupational Health and Safety Administration (OSHA) regulates nickel and specific nickel compounds as carcinogens.

Section 12. Disposal Considerations

Disposal Method: Open burning or dumping of this material or its packaging is prohibited. Wastes are toxic. Improper disposal of excess product, spray mixture, rinseate, or other product waste is a violation of federal law. If these wastes cannot be disposed of by use according to label directions, contact your state chemical or environmental control agency.

Section 13. Transport Information

DOT UN Identification No: NA
DOT Hazard Class: NA
Proper Shipping Name:
 Liquid Plant Food, Contains Nickel Sulfate

Section 14. Regulatory Information

Superfund Amendment and Reauthorization Act (SARA) Hazard Category: This product has been reviewed according to EPA "Hazard Categories" promulgated under Sections 302, 311, 312 and 313 of SARA 1986 (SARA Title III), and is categorized as a Toxic Chemical (Nickel Sulfate 7786-81-4 < 30% wt.). It is classified as both an Immediate (Acute) Health and Delayed (Chronic) Health hazard.

Toxic Substances Control Act (TSCA): Exempt

OSHA Hazard Communication Standard: This product is a "hazardous chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

National Fire Protection Association (NFPA) Ratings:
 0 = least; 1 = slight; 2 = moderate; 3 = high; 4 = extreme

Category	Rating
Health	2
Flammability	0
Reactivity	0

Section 15. Other Information

Product Registration: This product has a Reportable Quantity (RQ) of 100 lbs. (45.4 Kg.) registered under EPA/FIFRA regulations.

Reason For Issue: New Product Release

Supersede Date: 3/13/2017

NIPAN LLC, Registration and Regulatory Affairs, P.O. Box 5611, Valdosta, GA 31603

NA = Not Applicable; N/E= Not Established