Safety Data Sheet (SDS)

SECTION 1: IDENTIFICATION

Brand Name: Nickel Plus ® **Recommended Use:** Fertilizer

Chemical Name: Nickel lignosulfonate 5.4%, derived from Nickel Sulfate

Restrictions on Use: Use only as directed by the label.

Manufacturer/Supplier: Nipan LLC
P.O. Box 5611
Valdosta, GA 31603
Tel: (229)242-2965

Emergency Assistance: **Nipan LLC**
Tel: (229)460-5922

SECTION 2: HAZARDS IDENTIFICATION

Pictograms:

Signal Word: *Warning*

Hazard Statements: H302 H332 H315 H320 H317 H351	Acute toxicity, oral (category 4) Acute toxicity, inhalation (Category 4) Skin irritation (Category 2) Eye damage/irritation (Category 2B) Skin sensitization (Category 1A) Carcinogenicity (Category 2) Acute aquatic toxicity (Category 1) Chronic aquatic toxicity (Category 1)
Prevention Statements: P270+P264+P261	Do not eat, drink of smoke when using this product. Wash thoroughly with soap and water after handling. Avoid inhaling vapors, mists or fumes.
Response Statements: Eyes: P305+351+338 Skin: P302+P361+P353+ Ingestion: 310+301 Inhalation: 304+312+301	**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention, immediately, preferably from an ophthalmologist. **IF ON SKIN:** Wash with plenty of soap and water. Immediately take off all contaminated clothing. Obtain medical attention. **IF SWALLOWED**: Immediately call a POISON CENTER or doctor/physician. **IF INHALED:** Call a POISON CENTER or doctor/physician if you feel unwell. Remove victim to fresh air and keep at rest in position comfortable for breathing.
Storage Statements: P402+P411+P204	Store in a cool dry place. Store at temperatures not exceeding 158 F. Keep only in original container.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization

Chemical	GHS Codes	GHS Classification	Percent	CAS #
Nickel Sulfate	H302 H332 H315 H334 H317 H341 H350 H360 H372 H400 H410	Acute Toxicity, Oral (category 4) Acute Toxicity, Inhalation (Category 4) Skin Irritation (Category 2) Respiratory sensitization (Category 1) Skin sensitization (Category 1) Germ Cell Mutagenicity (Category 2) Carcinogenicity (Category 1A) Reproductive Toxicity (Category 1B) STOTR, Inhalation (Category 1) Acute aquatic toxicity (Category 1 Chronic aquatic toxicity (Category 1)	<30%	7786-81-4
Urea	H302 H332 H315 H320 H372	Acute Toxicity, Oral (category 5) Acute Toxicity, Inhalation (Category 4) Skin Irritation (Category 2) Eye Irritation (Category 2B) STOTR, Inhalation (Category 1)	<15%	57-13-6
Other Non-Hazardous Ingredients	N/A	N/A	>55%	N/A

Hazardous Ingredient(s): Nickel sulfate & urea

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

Eye: Hold eyelids apart and flush eyes with a gentle stream of water for 15 minutes. See an eye doctor immediately

Skin: Wash with copious water. Remove contaminated clothing immediately to avoid further skin exposure. Get medical attention.

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

Ingestion: Induce vomiting. Call a physician or poison control center immediately.

Most Important Symptoms and Effects (Long-Term and Acute):

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.

Indication of any Immediate Medical Attention or Special Treatment Needed: N/E

SECTION 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media: Non-flammable. Use water spray, fog, foam or CO_2; foam is preferred.

Unsuitable Extinguishing Media: None known.

Exposure Hazards: None known.

Advice for Firefighters: Do not get material on skin or clothing. Avoid inhalation of fumes or mists. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Ventilate closed spaces before entering. Cool containers from the side with water until fire is out. Fight fire from protected location or maximum possible distance. Avoid heavy hose streams. Dike area to prevent water runoff.

Protective Equipment: Firemen should wear self-contained breathing apparatus and protective clothing.

Fire and Explosion Hazards: Non-flammable, however heating above 212 F can lead to rapid pressure build up.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Do not get product on skin or clothing. Thoroughly wash body areas that are exposed to the product.

Protective Equipment: Wear NIOSH approved respiratory protection and appropriate personal protective equipment when cleaning spills.. See section 8, Personal protection.

Emergency Procedures: It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.

Environmental Precautions: Contain spills to keep out of sewers or streams. For larger spills, consult Nipan LLC. The used containers should be properly closed and labelled. Refer to section 13 for disposal.

Containment/Cleanup Methods: 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, Zorball, or soil.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

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.

Conditions for Safe Storage, including

any incompatibilities Storage: Keep container tightly closed and upright. 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.

Incompatible Materials: Acids

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Guidelines:

Product name	Exposure limits
Urea	No occupational exposure limits listed
Nickel Sulfate	**ACGIH TLV (United States, 6/2013). Notes: as Ni Refers to Appendix A -- Carcinogens. Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM–TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract. 1998 Adoption.** TWA: 0.1 mg/m^3, (as Ni) 8 hours. Form: Inhalable fraction **OSHA PEL 1989 (United States, 3/1989). Notes: as Ni** TWA: 0.1 mg/m^3, (as Ni) 8 hours. Form: Soluble **OSHA PEL (United States, 2/2013). Notes: as Ni** TWA: 1 mg/m^3, (as Ni) 8 hours. **NIOSH REL (United States, 4/2013). Notes: as Ni See Appendix A - NIOSH Potential Occupational Carcinogen** TWA: 0.015 mg/m^3, (as Ni) 10 hours.

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

Personal Protective Equipment:

Respiratory: Atmospheric levels of the chemical vapor should be maintained below the exposure guidelines. 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.

Eyes/Face: Use splash protective safety glasses or goggles.

Hands: Chemical resistant gloves.

Skin/body: All handlers must wear a long-sleeved shirt, long pants, chemical-resistant gloves, and shoes and socks. Personal protective equipment required for early entry permitted under the Worker Protection Standard is coveralls, waterproof gloves, and shoes and socks.

Environmental Exposure Controls: Proper ventilation is required when handling or using this product to keep exposure to airborne contaminates below the exposure limit.

General Industrial Hygiene Considerations: 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	**Vapor Pressure (@20° C):**	N/A
Appearance:	Opaque, dark brown	**Vapor Density:**	N/A
Odor:	Essentially odorless	**Solubility:**	Miscible
Odor Threshold:	None established	**Auto-ignition Temperature:**	N/A
pH:	6.5 – 6.8	**Decomposition Temperature:**	N/D
Boiling Point:	215 F	**Viscosity:**	N/D
Freezing/Melting Point:	approximately 28 F	**Specific Gravity:**	1.31
Flash Point:	Non-flammable	**Bulk Density:**	N/A
Evaporation Rate:	N/D	**Purity:**	Mixture
Flammability Limits:	N/A		

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Temperature above 158 F or below 50 F
Incompatible Materials: Acids
Possibility of Hazardous Reactions: Will not occur
Hazardous Decomposition Products: Oxides of nickel and sulfur upon thermal decomposition.
Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, ingestion, eye and skin contact.

Signs and Symptoms:

Skin contact: Short, single exposures may cause skin irritation/allergic dermatitis. May cause sensitization or allergic reaction resulting in "nickel itch" or chronic eczema. A single moderate exposure is not likely to result in the material being absorbed through the skin in harmful amounts.

Eye contact: Causes irritation to the eyes and surrounding areas.

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

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

Occupational Exposure Limits:

Long-Term Effects:

Toxicity (data for Nickel Sulfate):

LD_{50} Oral LD50 values of 46 or 39 mg Ni/kg as nickel sulfate in male and female rats (Mastromatteo 1986)

LC_{50} Not supplied as a powder or dust. Not vapor or fume inducing at recommended application temperatures.

Skin A single moderate exposure is not likely to result in the material being absorbed through the skin in harmful amounts.
Short, single exposures may cause skin irritation/allergic dermatitis. May cause sensitization or allergic reaction resulting in "nickel itch" or chronic eczema.

Eye Causes irritation to the eyes and surrounding areas.

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

Sensitization	**Reproductive Effects**	**Developmental Effects**	**Endocrine Disruptor**
Skin sensitizer (Category 1A)	Suspected teratogen and human reproductive toxin (Category 2)	Insufficient data	N/A

Carcinogenicity	**Teratogenicity**	**Mutagenicity**
Suspected of causing cancer (Category 2)	Suspected teratogen (Category 2)	Suspected mutagen (Category 2)

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:
LC50 Prawn 13.9 ppm/48 hr (salt water)
TLm Rainbow trout 160 ppm/48 hr (fresh water)
LC50 Puntius conchonius 158.4 mg/L calcium carbonate (soft water)
LC50 Puntius conchonius 397.9 mg/l 48 hr in 396.3 mg/l calcium carbonate (hard water)
LC50 Salmo gairdneri 263 mg/l/48 hr in a static bioassay

Mobility: No data available

Degradability: No data available

Bioaccumulation: No data available

Additional Information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Product Waste: Open burning or dumping of this material or its packaging is prohibited. Wastes are toxic. Improper disposal of excess product, spray mixture, rinsate, 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.

Packaging Waste: If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

SECTION 14: TRANSPORTATION INFORMATION

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Transport Hazard Class(es)	14.4 Packaging Group	14.5 Label(s)
DOT	N/A	N/A	N/A	N/A	N/A

Not DOT regulated in domestic (USA ground) transportation in package sizes less than 667 lbs (64 gallons); 302 kg (242 liters) The DOT transportation information below is for shipments with package sizes equal to or exceeding this value.. IMDG Regulated Marine Pollutant.

SECTION 15: REGULATORY INFORMATION

TSCA: All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

CERCLA: Nickel Sulfate 100 pounds

SARA TITLE III: Nickel Sulfate (as nickel compounds)

RCRA: Material as supplied does not meet characteristic or listed waste requirements. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

CWA 311 Nickel Sulfate

Shipping Classification: See section 14.

SECTION 16: OTHER INFORMATION

Last Revision Date: 4/22/10
Preparation Date: 4/20/17
Revision: 3
Additional Information
Disclaimer/ Statement of Liability:
Reasonable care has been taken in preparation of this information. The information contained herein is based on the data available to us and is believed to be correct as of the date prepared; however Nipan makes no warranty, expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.