Safety Data Sheet

NICKEL SULFATE

SECTION 1: PRODUCT DESCRIPTION

PRODUCT IDENTIFIER

Product form: Crystalline Powder
Product Name: Nickel Sulfate (Inorganic Salt)
Formula: NiSO4-6H2O
REACH Reg #: 01-2119439361-44-002

INTENDED USE OF PRODUCT

Plating Agent, Battery Manufacturing, production of Nickel Salts

EMERGENCY TELEPHONE NUMBER

CHEMTREC 24 HR Emergency number: 1-800-424-9300
INTERNATIONAL CHEMTREC call: 1-703-527-3887

SUPPLIER

NATHAN TROTTER & COMPANY
241 W. STEWART HUSTON DRIVE
COATESVILLE, PA 19320
PH. 610-524-1440
FX. 610-524-2496

SECTION 2: HAZARD IDENTIFICATION

GHS CLASSIFICATION: Acute Tox. Oral-Cat 4, Acute Tox. Inhale-Cat 4, Carcin.-Cat 1A, Mutag.-Cat 2, Skin sens.-Cat 1, Skin irr.-Cat 2, Spec. Target Org. Tox. Repeat-Cat 1, Reprod.-Cat 1B, Resp. Sens.-Cat 1, Aquatic Acute-Cat 1, Aquatic Chron.-Cat1



DANGER

HAZARD STATEMENTS:

H302: Harmful if swallowed
H332: Harmful if inhaled
H350: May cause cancer, inhalation
H341: Suspected of causing genetic defects
H317: May cause an allergic reaction
H315: Causes skin irritation
H372: Causes damage to organs through prolonged or repeated exposure
H360: May damage fertility or the unborn child
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H410: Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS:

P264: Wash hands thoroughly after handling
P270: Do not eat, drink, or smoke when using this product
P301+P312: IF SWALLOWED, call a poison center/doctor if you feel unwell
P260: Do not breathe in dust or fumes.
P271: Use only outdoors or in a well-ventilated area
P304+P340: IF INHALED, Remove person to fresh air and keep comfortable for breathing,
P312: Call a POISON CENTER or doctor if you feel unwell
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood
P280: Wear protective gloves/clothing and face/eye protection.
P308+P313: If exposed or concerned, get medical advice.
P405: Store locked up
P302+P352: IF ON SKIN: wash with plenty of water.
P333+P313: IF skin irritation occurs: Get medical advice/attention.
P362+P364: Take off contaminated clothing and wash before reuse.
P284: In case of inadequate ventilation, wear respiratory protection.
P342+P311: If experiencing respiratory symptoms, call a POISON CENTER or doctor if you feel unwell.
P273: Avoid release into the environment
P391: Collect spillage.
P501: Dispose of contents in accordance with local and federal regulations

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE			
Name	Product Identifier	%	Classification (GHS-US)
Nickel Sulfate	10101-97-0	100	See section 2

MIXTURE: Inorganic salt (NiSO4-6H2O)

SECTION 4: FIRST AID MEASURES

General First-aid Measures: Emergency responders should take care to avoid secondary exposure to nickel particulate. Wear appropriate protective equipment.

INHALATION: In case of accident by inhalation: remove victim to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration

INGESTION: If swallowed, do not induce vomiting: rinse mouth and seek medical advice immediately and show this container or label.

SKIN: After contact with skin, wash immediately with plenty of water

EYES: Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention.

SECTION 5: FIRE FIGHTING PROCEDURES

Extinguishing Media: Use media suitable to extinguish surrounding fire. DO NOT use a strong jet.

Specific Hazards Arising from the Material: In the event of a fire, the following may be released: Metal dust, Metallic oxides, Sulphur Oxides

Special Protective Equipment and Precautions for Firefighters: Full face, self-contained breathing apparatus and full protective clothing when necessary.

Specific Methods: Collect contaminated fire extinguishing water separately. Neutralize with e.g. sodium hydroxide. Do not discharge into the drains/surface waters/groundwater.

SECTION 6: SPILL OR LEAK MEASURES/PROCEDURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate respiratory and protective equipment specified in section 8. Avoid creating dusts. Avoid breathing dust or fume. Isolate spill area and provide ventilation.

Methods and Materials for Containment and Cleaning Up: For larger pieces - pick up mechanically. For chips or dust - vacuum spill using a system equipped with a HEPA filtration system and place in properly labeled closed containers. Special precautions must be taken when changing filters on HEPA vacuum cleaners used to clean up hazardous materials. Caution should be taken to minimize airborne generation of particulate and avoid contamination of air and water.

Environmental Precautions: Do not allow to enter drains or to be released to the environment.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: Take note of Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work. Handle in a well-ventilated area. Avoid creating dust. Avoid breathing dust or fumes. Avoid contact with skin and eyes. Wash thoroughly before eating or smoking. See section 8 for information on personal protection equipment.

Conditions for Safe Storage, Including Any Incompatibilities: Council Directive 96/82/EC on the control of major accident hazards involving dangerous substances (SEVESO II directive). Store in a sealed container. Store in a cool, dry, well ventilated area. Incompatible with ACIDS. See section 10 for more information on incompatible materials.

SECTION 8: PROTECTION INFORMATION

CHEMICAL NAME: Nickel, Sulfate

ACGIH		OSHA PEL	
TWA	STEL	TWA	STEL
0.1 MG/M3 (INHALABLE FRACTION)	N/A	0.1 MG/M3	N/A

CONTROL PARAMETERS/ ENGINEERING MEASURES: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Lab coat, apron, eye wash, safety shower.

RESPIRATORY PROTECTION: When potential exposures are above the occupational limits, approved respirators must be used. Respiratory protection may be required in addition to ventilation depending upon conditions of use.

EYE PROTECTION: Wear chemical splash goggles when handling this product. Have an eye wash station available.

SKIN PROTECTION: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

SECTION 9: PHYSICAL DATA

FORMULA: NiSO4
MOLECULAR WEIGHT: 58.71 g/mol
APPEARANCE: Crystalline Light Green
ODOR: Odorless
PHYSICAL STATE: Solid
pH: No data available
MELTING POINT: N/A
BOILING POINT: N/A
FREEZING POINT: No data available
FLAMMABILITY: Does not ignite
FLASH POINT: No data available
AUTO IGNITION TEMPERATURE: No data available
DECOMPOSITION TEMPERATURE: 103°C
VAPOR PRESSURE : N/A
SPECIFIC GRAVITY: N/A
SOLUBILITY: 625 g/l 0° C, 3407 g/l 100° C

SECTION 10: REACTIVITY DATA

REACTIVITY: None under normal processing.

CHEMICAL STABILITY: Stable under recommended handling and storage conditions. (see section 7)

POSSIBILITY OF HAZARDOUS REACTIONS: No dangerous reactions known under conditions of normal use..

CONDITIONS TO AVOID: Avoid creating or accumulating fines or dusts. Avoid high temperatures as to avoid decomposition

INCOMPATABLE MATERIALS: Acids, strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS: Sulfur oxides

SECTION 11: TOXICITY DATA

ACUTE TOXICITY:

CHEMICAL NAME:	CAS NUMBER	ORAL LD50	DERMAL LD50	INHALATION LC50
Nickel Sulfate	10101-97-0	361.9 mg/ml	N/A	4H 2.48 mg/l

CARCINOGENICITY:

CHEMICAL NAME:	CAS NUMBER	IARC	NTP	OSHA
Nickel Sulfate	10101-97-0	Listed	Listed	Listed

CHRONIC EFFECTS: There is evidence of a sensitization effect. Target organ effects: certain forms of this product are considered carcinogens.

SECTION 12: ECOLOGICAL DATA

OVERVIEW: Moderate ecological hazard. This product may be hazardous to plants and/or wildlife. Keep out of waterways.
MOBILITY: N/A
PERSISTANCE: N/A
BIOACCUMULATION: BIOCONCENTRATION FACTOR (BCF) 270
DEGRADABLITY: N/A
OTHER ADVERSE EFFECTS: N/A

Chemical Name	CAS Number	Eco Toxicity
Nickel Sulfate	10101-97-0	96 HR LC50 BRACHYDANIO RERIO > 100 MG/L 96 HR LC50 CYPRINUS CARPIO 1.28 MG/L (STATIC) 48 HR EC50 DAPHNIA MAGNA > 100 MG/L 48 HR EC50 DAPHNIA MAGNA > 1 MG/L (STATIC) 72 HR EC50 PSEUDOKIRCHNERIELLA SUBCAPITATA 0.18 MG/L 48 HR EC50 SALMO GAIRDNERI 0.26MG/L 48 HR EC50 ASELLUS AQUATICUS 435 MG/L

SECTION 13: DISPOSAL INFORMATION

DISPOSAL METHODS: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance

WASTE DISPOSAL CODE(S): Not determined

SECTION 14: TRANSPORT INFORMATION

DOT / 49 CFR

UN/ID/NA NUMBER:	UN 3077
PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUNSTANCE, SOLID, N.O.S.
TECHNICAL NAME:	NICKEL (II) SULFATE HEXAHYDRATE
CLASS:	9
PACKING GROUP:	III
LABELS:	CLASS 9
ERG CODE:	171
MARINE POLLUTANT:	YES

UNRTDG

UN/ID/NA NUMBER:	UN 3077
PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUNSTANCE, SOLID, N.O.S.
TECHNICAL NAME:	NICKEL (II) SULFATE HEXAHYDRATE
CLASS:	9
PACKING GROUP:	III
LABELS:	CLASS 9

IATA—DGR

UN/ID/NA NUMBER:	UN 3077
PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUNSTANCE, SOLID, N.O.S.
TECHNICAL NAME:	NICKEL (II) SULFATE HEXAHYDRATE
CLASS:	9
PACKING GROUP:	III
LABELS:	MISC.
PACKING INSTRUCTION:	956 (CARGO AND PASSENGER)

IMDG-CODE

UN/ID/NA NUMBER:	UN 3077
PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUNSTANCE, SOLID, N.O.S.
TECHNICAL NAME:	NICKEL (II) SULFATE HEXAHYDRATE
CLASS:	9
PACKING GROUP:	III
LABELS:	CLASS 9
EMS CODE:	F-A, S-F
MARINE POLLUTANT:	YES

SECTION 15: REGULATORY INFORMATION

TSCA STATUS: All components in this product are on the TSCA Inventory.

CALIFORNIA PROP 65: **WARNING:** This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

MASSACHUSETTS RIGHT TO KNOW
PENNSYLVANIA RIGHT TO KNOW
NEW JERSEY RIGHT TO KNOW

CERCLA:

Ingredients	CAS –No	Component RQ (lbs)	Calculated product RQ (lbs)
Nickel Sulfate (II) Hexahydrate	10101-97-0	100	101

SARA:

CHEMICAL NAME:	CAS NUMBER	§ 313 hazards	§ 313 name	§ 302 TPQ	§ 304 TPQ
Nickel Sulfate	10101-97-0	Accute and Chronic	Nickel Sulfate Hexahydrate	No	No

SECTION 16: ADDITIONAL INFORMATION

REVISED: MARCH 2016

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Nathan Trotter & Co. Inc. makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

GLOSSARY:

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstract Service Number

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act

DOT: U.S. Department of Transportation

IARC: International Agency for Research on Cancer

N/A: Not Available

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

PPM: Parts per million

RCRA: Resource Conservation and Recovery Act

SARA: Superfund Amendments and Reauthorization Act

TLV: Threshold Limit Value

TSCA: Toxic Substances Control Act

IDLH: Immediately dangerous to life and health

END OF SDS