*Phyto*Technology Laboratories®

SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Nickel Sulfate, Hexahydrate, ACS Reagent

PRODUCT NUMBER: N458

COMPANY INFO: *Phyto*Technology Laboratories®
PO Box 12205, Shawnee, KS 66282-2205
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EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only
1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *Phyto*Technology Laboratories® are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

GHS Classification:

H302 – Acute toxicity, Oral (Category 4)
H332 – Acute toxicity, Inhalation (Category 4)
H315 - Skin irritation (Category 2)
H317 - Skin sensitization (Category 1)
H334 - Respiratory sensitization (Category 1)
H350 - Carcinogenicity (Category 1A)
H360 - Reproductive toxicity (Category 1B)
H372 – Specific target organ toxicity – Repeated exposure – Inhalation (Category 1)
H400 – Acute aquatic toxicity (Category 1)
H410 – Chronic aquatic toxicity (Category 1)

GHS Label elements, including hazard and precautionary statements:

Pictogram: 

Signal Word: Danger

Hazard Statements:

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

Precautionary Statements:

P202 – Do not handle until all safety precautions have been read and understood.
P260 – Do not breathe dust.
P273 – Avoid release to the environment.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No: 10101-97-0

Formula: $NiSO_4 \cdot 6H_2O$

Molecular Weight: 262.84 g/mol

EC No.: 232-104-9

Ingredient	CAS Number	Percent	Hazardous
Nickel Sulfate, Hexahydrate	10101-97-0	>98 %	OSHA PEL: 1 mg (Ni)/m^3; ACGIH TLV: 0.1 mg (Ni)/m^3

4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. **Get medical attention.**
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. **Get medical attention.**
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. **Get medical attention if irritation persists.**
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. **Get medical attention if irritation persists.**

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.

Special Protective Equipment and Precaution for Firefighters: In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.

Hazardous Combustion Products: May emit toxic fumes under fire conditions.

Toxic Gases Produced: Sulfur oxides, nickel oxides

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Method of Containment and Cleanup: Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let products enter drains.

7. HANDLING AND STORAGE

Precaution for Safe Handling: Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Provide adequate ventilation at places where dust is formed. Wash thoroughly after use.

Conditions for Safe Storage:	Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. Protect from moisture.
Recommended Storage Temperature:	Room Temperature
Incompatibilities:	Strong oxidizing agents, strong acids, alkalis

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs): 1 mg/m^3

ACGIH's Threshold Limit Values (TLVs): 0.1 mg/m^3

Engineering Controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

Eye/Face Protection:	Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.
Skin Protection:	Protective gloves
Body Protection:	Lab coat
Respiratory Protection:	Wear appropriate respirator

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Bluish to greenish crystalline powder
pH (0.0001 g/L):	Under Developed (4.0 – 6.0 suspected range)
Solubility:	Soluble in Water
Melting Range:	Loses 5 water around 100 C; Forms anhydrous salt at 280 C
Vapor Density:	No data available
Vapor Pressure:	No data available
Specific Gravity:	2.03
Odor:	Odorless
Odor Threshold:	No data available
Viscosity:	No data available
Relative Density:	2.07 g/cm^3
Evaporation Rate:	No data available
Initial Boiling Point and Boiling Range:	No data available
Flammability (solid, gas):	No data available
Partition coefficient: n-octanol/water):	No data available
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Flash Point (Closed Cup):	No data available
Flammable Limits:	Upper (%) – No data available Lower (%) – No data available

10. STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions of use
Possibility of Hazard Reactions:	Will not occur
Conditions to Avoid:	Excessive heat, dust generation
Incompatibles Materials:	Strong oxidizing agents, strong acids, alkalis

Hazardous Decomposition Products: Sulfur oxides, nickel oxides

11. TOXICOLOGICAL INFORMATION

Toxicity:	LD_{50} (Oral-Rat)(mg/Kg):	361
	LD_{50} (Inhalation-Rat)(mg/L)(4h):	2.48
	LD_{50} (Oral-Mouse)(mg/Kg):	No data available

Carcinogenicity: Human carcinogen. May cause cancer by inhalation

NTP:	Group 2
IARC:	Group 1
Z List:	No data available
OSHA Reg:	+ (Proven)

Respiratory or skin sensitization:	May cause allergic skin reaction.
Germ cell mutagenicity:	In vitro tests showed mutagenic effects.
Reproductive Toxicity:	Presumed human reproductive toxicant. May damage the unborn child.
Symptoms Associated with Overexposure:	Irritation, itching, gastrointestinal upset, depression, changes in organ weight, possible mutagenic and tumorigenic effects, blood effects, weight gain/loss, hypo- or hyperglycemia, dermatitis, allergic reaction, kidney or liver impairment, changes in sense of smell, effects on reproduction.
Specific Target Organ Toxicity: Single Exposure:	No data available
Repeated Exposure:	Inhalation – causes damage to organs
Target Organs:	Kidney, liver, lungs, endocrine system
Medical Conditions Aggravated By Exposure:	Pre-existing conditions
Routes of Entry:	Ingestion, inhalation, skin and eye contact
NIOSH/RTECS NO:	QR9600000

The toxicological properties of this product have not been thoroughly investigated

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No data available
Persistence and Degradability:	No data available
Bioaccumulative Potential:	No data available
Mobility in Soil:	No data available
Other Adverse Effects:	Toxic to aquatic life

13. DISPOSAL CONSIDERATION

Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
EPA Hazardous Waste Number:	No data available

14. TRANSPORT INFORMATION

Domestic (D.O.T.):	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

International:

IMDG:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A
IATA:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

15. REGULATORY INFORMATION

TSCA:	No
SARA TITLE III:	
Section 302 (EHS) Ingredients:	No
Section 313 Ingredients:	Yes
Section 304 (EHS/CERCLA) Ingredients:	Yes – CAS No.: 10101-97-0 Nickel sulphate hexahydrate
Section 311/312 Hazard:	Acute Health Hazard, Chronic Health Hazard
Massachusetts Right to Know Components:	CAS No.: 10101-97-0 Nickel sulphate hexahydrate
Pennsylvania Right to Know Components:	CAS No.: 10101-97-0 Nickel sulphate hexahydrate
New Jersey Right to Know Components:	CAS No.: 10101-97-0 Nickel sulphate hexahydrate
California Prop. 65 Components:	CAS NO: 10101-97-0 Nickel sulphate hexahydrate WARNING: This product contains a chemical known to the State of California to cause cancer.

16. OTHER INFORMATION

HMIS Rating:	**Health Hazard**	**Chronic Health Hazard**	**Flammability**	**Physical Hazard**
	2	*	0	0
NFPA Rating:	**Health Hazard**	**Fire Hazard**	**Reactivity Hazard**	**Special Hazard**
	2	0	0	

*Chronic Hazard: Chronic (long-term) health effects may result from repeated overexposure.

***Phyto*Technology Laboratories® provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. The above information is intended to be used only as a guide to the appropriate precautionary handling of this material by a properly trained person. *Phyto*Technology Laboratories® shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.**

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