

SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

Product Name: *Nickel Nitrate Solution (14% Ni)*

CAS #: 13478-00-7

Trade Names/Synonyms: Nickel Nitrate, Hexahydrate; Nickelous Nitrate, Aqueous Solution.

EPA Reg. No.: Not applicable

Use of substance/mixture: For laboratory and manufacturing use only.

Restricted Use: Not for food, drug, or household use.

Manufacturer: Catalytic Innovations, LLC
10027 County Road 2020
Rolla, MO 65401

Emergency Contact Number: **573-578-1368**

SDS CREATION DATE: April 14th, 2023

SDS REVISION DATE: N/A

2. HAZARD IDENTIFICATION

GHS CLASSIFICATION: Acute toxicity, oral (Category 5); Skin sensitization (Category 1); Eye irritation (Category 2A); Acute toxicity, inhalation (Category 5); Respiratory sensitization (Category 1); Mutagenicity (Category 2); Carcinogenicity (Category 1A); Reproductive toxicity (Category 1B); STOT-RE (Category 1); Aquatic toxicity, acute (Category 1); Aquatic toxicity, chronic (Category 1).

SIGNAL WORD: DANGER!

HAZARD STATEMENTS:

H303: May be harmful if swallowed.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H333: May be harmful if inhaled.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H341: Suspected of causing genetic defects.

H350: May cause cancer (by inhalation).

H360D: May damage the unborn child.

H372: Causes damage to organs through prolonged or repeated exposure.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

Prevention Measures:

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read



and understood.

P261: Avoid breathing mist/vapors/spray.

P264: Wash hands thoroughly after handling.

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P284: Wear respiratory protection.

P391: Collect spillage.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Response Measures:

P302+P352: IF ON SKIN: Wash with plenty of water and soap.

P333+P313: If skin irritation or rash occurs: Get medical attention.

P362+P364: Take off contaminated clothing and wash it before reuse.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical attention.

HEALTH COMMENTS: Read all precautions of products being handled and follow the most restrictive language for all products to provide the safest work environment.

COMMENTS: KEEP OUT OF REACH OF CHILDREN

3. COMPOSITION

<u>Chemical Ingredients:</u>	<u>Percentage by Weight</u>	<u>CAS No.</u>	<u>GHS-US</u>
Water	<97.09%	7732-18-5	See Section 2
Nickel Nitrate, Hexahydrate	>2.91%	13478-00-7	

4. FIRST AID MEASURES

EYES: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first minutes then continue rinsing eyes. Call a poison control center or doctor for treatment advice if pain, blinking, or redness persists.

SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water and mild soap for 15-20 minutes followed by a rinse with warm water. Call a POISON CENTER or doctor for treatment advice.

INGESTION: Immediately call a poison control center or doctor. Rinse the mouth. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. Allow the victim to rest. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Symptoms: Causes serious eye irritation. May be harmful if inhaled and may cause allergy or asthma symptoms/breathing difficulty if inhaled. May Cause an allergic reaction. May be harmful if swallowed.

Chronic Symptoms: No information available.

5. FIRE FIGHTING MEASURES

Flash Point (°F/Test Method): Data unavailable.
Flammable Limits (LFL & UFL): Not flammable.

Extinguishing Media: Water spray. Foam. Dry Foam. Carbon Dioxide. **DO NOT** use heavy water stream.

Specific Hazards Arising from Chemical: In fire conditions, the water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fumes.

Hazardous Combustion Products: No information available.

Precautionary Measures for Fire-Fighters: Exercise caution when fighting any chemical fire. Prevent fire-fighting water that may be contaminated by chemical from entering the environment. Do not enter without personal protective equipment, including respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

Environmental Caution: Keep spills and cleaning runoff out of municipal sewers and open bodies of water. Notify the authorities if liquid enters the sewers or public waters.

7. HANDLING/STORAGE INFORMATION

Precautions for Safe Handling: Use in a well-ventilated area. Avoid eye and skin contact and do not breathe in dust, mist, or vapors. Use PPE (Personal Protective Equipment) as required. Do not handle until all safety precautions have been read and understood.

Precautions for Storage: Keep container tightly closed when in use. Do not store the product with highly reactive substances and strong reducing agents. Keep in a dry, cool, and well-ventilated place.

Other Comments: No information available.

Observe all federal, state and local regulations when storing this product. It is recommended that storage and transfers of this product be done on an impervious surface to prevent contamination of waterways.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Parameters:

Component: Nickel Nitrate Hexahydrate		
Agency	Parameters	Values
ACGIH	TLV (TWA)	0.1 mg/m ³ (A4) (inhalable fraction)
OSHA	PEL (TWA)	1 mg/m ³
NIOSH	REL (TWA)	0.015 mg/m ³ as Ni

Engineering Controls: Emergency eye wash fountains and showers should be made available in the immediate vicinity of the chemical or where exposure can occur. Ensure adequate ventilation.

Hygiene Measures: Wash hands and other exposed areas with mild soap and water before eating,

drinking, smoking, or when leaving work. Wash contaminated clothing before re-use. Do not allow contaminated clothing out of the workplace.

Respiratory Protection: Avoid breathing dust or mist. Use NIOSH approved respiratory protection equipment when air borne exposure is excessive.

Skin/Body Protection: Wear chemically protective gloves. Wear chemically protective boots, aprons, and gauntlets to prevent prolonged or repeated contact with skin.

Eye/Face Protection: Wear safety goggles when handling this product. Use a face shield for additional protection. Contact lenses are not eye protective devices.

For Firefighting and Other Immediately Harmful Conditions: Any self-contained breathing apparatus or supplied air apparatus that has a full face piece and is operated in a positive-pressure mode is suitable.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Appearance: Clear/Green

Odor: No data available.

pH: 5 (in aqueous solution: 50 g/l, 20 0C)

Evaporation Rate: <1.

Flammability: Non-combustible (Nickel Nitrate Hexahydrate)

Melting Point: No data available.

Freezing Point: 567 0C (Nickel Nitrate Hexahydrate)

Boiling Point: 136.7 0C (Nickel Nitrate Hexahydrate)

Flash Point: No data available

Relative Density: 2.05 g/cm³ at 0 0C

Water Solubility: Complete in water.

Specific Gravity (water = 1.0): No data available.

Percent Volatile (by volume): No data available.

Vapor Pressure: 2.05 G/CM³ AT 0 0C (Nickel Nitrate Hexahydrate)

Vapor Density: No data available

Viscosity: No data available.

Partition Coefficient: N-Octanol/Water : No data available.

10. STABILITY AND REACTIVITY

Reactivity: No information available

Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Excessive temperature which may cause evaporation. Decomposition can occur above >137 0C (for Nickel Nitrate Hexahydrate).

Incompatible Materials: Strong reducing materials, aluminum, boron phosphide, cyanides, esters and other combustibles, phospham, phosphorous, sodium hypochlorite, stannous chloride and thiocyanates.

Hazardous Decomposition Products: Nitrogen oxides. Nickel metal dust or fumes.

11. TOXICOLOGICAL INFORMATION

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

Acute Toxicity Effects:

Component: Nickel Nitrate, Hexahydrate	
Test	Results

LD50 Oral Rat	1620 mg/kg
LDLo Intravenous Mouse	9 mg/kg

Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Eye Irritation: Causes serious eye damage

Skin Irritation: Causes skin irritation.

Respiratory Irritation: No information available.

Reproductive Toxicity: May damage unborn child.

Developmental Toxicity: No information available.

STOT Single Exposure: No information available.

STOT Repeated Exposure:

Carcinogenicity: May cause cancer by inhalation of dust.

Component	CAS No.	IARC	NTP	ACGIH	OSHA
Nickel Nitrate	1313-27-5	Group 1	X	Not listed	No Data

Acute Symptoms: May cause an allergic skin reaction; causes serious eye irritation; harmful if swallowed; harmful if inhaled. May cause allergy or asthma symptoms/breathing difficulty if inhaled.

Chronic Effects: Suspected of causing genetic defects. May cause cancer. May damage the unborn child. Causes damage to organs through prolonged or repeated exposure

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY EFFECTS:

Component: Nickel Nitrate, Hexahydrate	
Test	Results
LC50 Fish	0.003-0.1 mg/l (96 hours)
EC50 Crustacea	0.001-0.432 mg/l (48 hours)

PERSISTENCE AND DEGRADABILITY: No information available.

BIOACCUMULATIVE POTENTIAL: No information available.

Do not contaminate water supplies. Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Evaluation is required by the user at the time of disposal. In all cases, disposal should be in accordance with all local, state, and federal laws and regulations. For recycling options please contact product manufacturer.

14. TRANSPORTATION INFORMATION

Not Regulated under DOT - 49 CFR 172.101

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

Product	Nickel Nitrate
SARA Section 311/312 Hazard Classes	Delayed (chronic) Health Hazard
SARA 313 (TRI Reporting)	YES
TSCA	YES
CERLCA	YES (RQ 100 lbs)

16. OTHER INFORMATION

Prepared by: ESH Department
SDS Preparation Date: April 14th, 2023
Last Revision Date: April 14th, 2023
Revision Summary: N/A

NFPA CODES



FOR ADDITIONAL NON-EMERGENCY INFORMATION CONTACT:

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Rolla, MO 65401
573-578-1368

Note: This SDS was prepared for and shall only be used for this product. The information and recommendations on this SDS are presented in good faith and based on data which is believed to be accurate. Catalytic Innovations, however, makes no guarantees or warranty, either expressed or implied, on the accuracy of this information. The conditions or methods of handling, storage, use, and disposal of this is beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, disposal of this product. If this product is used as a component of another product, the information contained in this SDS may no longer be applicable.

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