

Nickel Plating Solution



Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 05/15/2021

SECTION 1. IDENTIFICATION

Product Name: Bright Nickel Plate

Recommended use: Electroplating bath

Supplier:

BEST Inc

Current SDS preparation date: July 1, 2019

3603 Edison Place Rolling Meadows IL 60008

Telephone no: 847-797-9250

Emergency no: P.E.R.S. 800-633-8253, Outside the USA and Canada 801-629-0667

SECTION 2. HAZARD IDENTIFICATION

Classification:

Acute Toxicity - Oral, Category 4

Sensitization - Skin, Category 1A

Carcinogenicity, Category 1A

Toxic to Reproduction, Category 1B

Specific Target Organ Toxicity (Repeated Exposure), Category 1

Acute Aquatic Toxicity, Category 1

Chronic Aquatic Toxicity, Category 1

Label elements and precautionary statements:

Signal word: Danger

Pictogram(s):



Hazards not otherwise classified: None

Hazard statement(s):

Harmful if swallowed

May cause an allergic skin reaction

May cause cancer

May damage fertility or the unborn child

Causes damage to organs through prolonged or repeated exposure

Very toxic to aquatic life with long lasting effects

Precautionary statement(s):

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid breathing dust, fume, gas, mist, vapors or spray.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves, clothing and eye and face protection.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust, fume, gas, mist, vapors or spray.
Avoid release to the environment.
Call a poison center or doctor/physician if you feel unwell.
Collect spillage.
If swallowed: Call a poison center or doctor/physician if you feel unwell.
Rinse mouth, do not swallow.
If on skin: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
If exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
Dispose of contents and container in accordance with local, state and federal regulations.

SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical name	CAS Number	EINECS Number	Concentration
Nickel sulfate hexahydrate	10101-97-0*	232-104-9	24%
Nickel chloride hexahydrate	7791-20-0*	231-743-0	5%
Boric acid	10043-35-3	233-139-2	5%

*Under the Toxic Substance Control Act (TSCA), hydrates are considered as mixtures of their anhydrous form and water. Accordingly, for the purposes of TSCA the CAS Numbers 7786-81-4 and 7718-54-9 for the anhydrous forms of nickel sulfate and nickel chloride, respectively.

SECTION 4. FIRST AID MEASURES

Inhalation:

Remove patient to fresh air. Support breathing if required. Obtain medical treatment for dizziness, unconsciousness or irritation or difficulty in breathing.

Skin contact:

Remove contaminated clothing and wash affected area thoroughly with soap and water. Launder clothing before re-wearing. Seek medical attention for prolonged skin irritation.

Eye contact:

Flush with water, including under lids, for fifteen minutes. Obtain immediate medical attention.

Ingestion:

If patient is conscious, rinse mouth and drink at least two large glasses of water. DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Obtain immediate medical attention

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use media appropriate for surrounding fire such as foam, extinguishing powder, carbon dioxide or water fog. In case of fire, cool endangered containers with water fog.

Unsuitable extinguishing media: High pressure water jet.

Specific hazards in case of fire: None reported.

Special protective equipment and precaution for fire fighters: For fires in enclosed areas, wear self-contained breathing apparatus and full protective gear. Do not inhale combustion gases.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear appropriate skin, eye and respiratory protection. Do not eat, drink or smoke while cleaning up. Ensure adequate ventilation.

Methods and materials for containment and cleaning up:

Wear appropriate personal protective gear including eye, skin and respiratory protection. Contain spilled material and collect by absorption or other suitable method. Flush spill area with water. Do not allow this material or its rinsing's to enter storm or sanitary sewers or other waterways. (See also Section 13).

Environmental precautions:

Prevent spills and rinsing's from entering storm or sanitary sewers or other waterways and contact with soil.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid contact with eyes. Avoid prolonged repeated skin contact and breathing mists or vapors. Use in well-ventilated area. Do not empty waste into sanitary drains.

Conditions for safe storage, including incompatibilities:

Store in a cool, dry area. Use with adequate ventilation. Keep container tightly closed when not in use. Store only in the original container.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

<u>Ingredient</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>Other Limits</u>
Nickel sulfate	0.1 mg/m ³ (Ni)(TWA)	1 mg/m ³ (Ni)	0.015 mg/m ³ (Ni) NIOSH REL
Nickel chloride	0.1 mg/m ³ (Ni)(TWA)	1 mg/m ³ (Ni)	0.015 mg/m ³ (Ni) NIOSH REL
Boric acid	2 mg/m ³ (TWA)	None established	1 mg/m ³ NIOSH REL

Appropriate engineering controls:

Use in well-ventilated area with local exhaust.

Respiratory protection:

Wear appropriate, approved respirator when ventilation is inadequate to meet exposure limits.

Eye protection:

Chemical splash goggles or safety glasses with side shields must be worn.

Skin protection:

Wear rubber or neoprene gloves. Wear rubber apron and long sleeves to prevent skin contact. Wash hands thoroughly with soap and water after handling and before eating or smoking.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid

Color: Clear, green

Odor: None

Odor threshold: Not available

pH: 3.5–4.5

Melting/freezing point: Not determined

Initial boiling point: > 100 °C (> 212 °F)

Flash point: Not applicable

Evaporation rate: Not available

Flammability (solid, gas): Not applicable

Upper/lower explosion limits: Non-explosive

Vapor pressure: Not determined

Vapor density: Not determined

Relative density (H₂O = 1) @25 °C: 1.23+/-0.05

Solubility: Completely soluble in water at 20 °C

Partition coefficient octanol/water: Not determined

Auto-ignition temperature: Not applicable

Decomposition temperature: Not available

Viscosity: Similar to water

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Stable, non-reactive when stored and used according to recommendations.

Chemical stability: No decomposition if used according to specifications.

Possibility of hazardous reactions: None are known.

Conditions to avoid: None reported.

Incompatible materials: Strong acids and oxidizing agents.

Hazardous decomposition products: Oxides of nickel and sulfur.

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of Exposure and Symptoms

Inhalation: Vapor or mist may be slightly irritating to nasal and respiratory passages.

Ingestion: Causes irritation of gastrointestinal tract; may cause gastric upset with nausea, vomiting and diarrhea.

Skin Contact: Causes dermatitis (nickel itch) in sensitive individuals.

Eye Contact: Causes irritation and burns to eyes.

Acute and Chronic Effects from Short- and Long-term Exposure:

See Routes of Exposure and Symptoms above.

Acute Oral Toxicity: LD50: 275 mg/kg (rat, nickel sulfate hexahydrate)
LD50: 157 mg/kg (rat, nickel chloride hexahydrate)
LD50: 2660 mg/kg (rat, boric acid)

Acute Dermal Toxicity: No applicable information available.

Acute Inhalation Toxicity: No applicable information available.

Acute Eye Irritation: No applicable information available.

Dermal Irritation: No applicable information available.

Carcinogen Listings:

IARC: Yes (Group 1) Nickel sulfate

NTP: Yes

OSHA: No

Reproductive Effects: No applicable information available.

Target Organ Effects: No applicable information available.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity: Mortality LOEC: 4.9 mg/l – 216 hours (rainbow trout, nickel sulfate)
EC50: 2 mg/l – 48 hour (Daphnia magna, nickel sulfate)
Mortality NOEC: 4.9 mg/l – 96 hours (rainbow trout, nickel chloride anhydrous)
EC50: 0.51 mg/l – 48 hour (Daphnia magna, nickel chloride hexahydrate)
LC50: 150 mg/l – 24 days (rainbow trout, boric acid)
LC50: 133 mg/l – 48 hour (Daphnia magna, boric acid)

Persistence and degradability: There are no data reported for this material; however, this product is harmful to aquatic life.

Bio-accumulative potential: Bioaccumulation factor (BCF) 11.3 – 46.5 hours (carp, nickel sulfate)

Mobility in soil: Accidental spillage may lead to penetration in the soil and groundwater. Improper handling and disposal of this material may cause environmental damage.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal:

Disposal of this material is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

SECTION 14. TRANSPORT INFORMATION

Not regulated by DOT (road, rail), IMDG (sea) or IATA/ICAO (air)

Marine Pollutant: No

SECTION 15. REGULATORY INFORMATION

Inventory Status:

All components are on TSCA, EINECS/ELINCS, AICS, and DSL. **U.S.**

Regulations:

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III:

SARA (311/312) HAZARD CATEGORIES:

None Immediate Delayed Fire Reactive Pressure generating

SARA 313: This product contains the following SARA 313 Toxic Release Chemicals.

Chemical Name	CAS Number	Concentration
Nickel sulfate hexahydrate	10101-97-0	24 %
Nickel chloride hexahydrate	7791-20-0	5%

The following product components are cited on the lists below:

Chemical Name	CAS Number	List Citations
Nickel sulfate hexahydrate	10101-97-0	California Proposition 65 List
Nickel chloride hexahydrate	7791-20-0	California Proposition 65 List

SECTION 16. OTHER INFORMATION

VOC (Volatile Organic Compounds): None

HMIS Ratings:

Health: 2 Flammability: 0 Reactivity: 0 Personal Protection: C

Prepared by: Terry Darger

SDS Preparation date: February 15, 2016 Supersedes previous version: New SDS.

This SDS contains revisions in the following section(s): Not applicable. New SDS.

The information contained herein is accurate to the best of our knowledge. Gold Plating Services makes no warranty of any kind, express or implied, concerning the safe use of this material in any process or in combination with other substances.

End of Safety Data Sheet