

Safety Data Sheet: Nickel(II) Sulfamate Solution

1. Identification

Product	Nickel(II) Sulfamate Solution; CAS 13770-89-3; EC 237-396-1
Use	Industrial nickel electroplating and electroforming.
Company	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Telephone / email	+86-21-54265599 / sales@zxchem.com.cn
Emergency contact	ZXCHEM office number above, office hours, China time (UTC+8). For urgent medical assistance contact local emergency services.
Scope	Reference safety information for Nickel(II) Sulfamate Solution. The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazards Identification

Classification	Acute oral toxicity Category 4; respiratory and skin sensitization Category 1; mutagenicity Category 2; carcinogenicity Category 1A; reproductive toxicity Category 1B; STOT repeated exposure Category 1 (lungs).
Signal word / symbols	Danger; GHS07, GHS08, GHS09
Hazard statements	H302: harmful ingestion. H317/H334: skin and respiratory sensitization. H341: suspected genetic harm. H350i: inhalation cancer hazard. H360D: developmental harm. H372: repeated-exposure lung damage. Aquatic toxicity requires environmental controls.
Prevention	Use adequate ventilation; avoid inhaling mist. Prevent skin and eye contact. Wear suitable chemical-resistant gloves and eye protection. Wash after handling; keep food and drink out of the work area.
Response	After exposure, stop work and seek medical advice. For severe exposure obtain urgent medical care. Rinse contaminated skin or eyes with water; move an inhalation casualty to fresh air.
Environment	Prevent uncontrolled release to drains, soil or surface water. Collect spills for appropriate disposal.



3. Composition / Information on Ingredients

Reference ingredient	Selected reference: nickel sulfamate CAS 13770-89-3 at 50% w/w in water. Supply nickel concentration ≥ 180 g/L; the reference does not establish the exact delivered mass fraction.
Supply grade	Nickel ≥ 180 g/L
Applicability	The cited concentration or purity describes the reference material. It is not a certificate of analysis for the delivered batch; different solvents or dilutions require the matching supplier safety document.

4. First-Aid Measures

General	Protect the rescuer from exposure and show the product information to medical personnel. Obtain medical advice if symptoms occur or exposure is significant.
Inhalation	Move to fresh air and keep the person comfortable. Seek medical care for breathing difficulty or persistent symptoms. Avoid exposing rescuers to mist.
Skin	Remove contaminated clothing and rinse skin thoroughly with water. Seek medical advice for persistent irritation.
Eyes	Rinse gently with clean water for at least 15 minutes. Remove contact lenses when easy and continue rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse the mouth. Do not induce vomiting. Give nothing by mouth to an unconscious person. Obtain medical advice.
Effects / treatment	Sensitization, cancer and developmental hazards and repeated-exposure lung effects require strict exposure control. Treatment is symptomatic and directed by a clinician.

5. Fire-Fighting Measures

Extinguishing media	Use water spray, foam, dry chemical or carbon dioxide suited to the surrounding fire.
Hazards	Fire or strong heating can generate nitrogen, sulfur and nickel oxides.
Protection	Firefighters require suitable protective clothing and self-contained breathing equipment. Prevent contaminated firefighting water entering drains.

6. Accidental Release Measures

Personnel	Isolate the spill and provide ventilation. Use chemical-resistant gloves and eye protection; avoid contact and mist exposure.
Environment	Contain the release and protect drains and waterways. Report significant environmental contamination to the responsible authority.
Cleanup	Stop the leak if safe. Absorb liquid with a compatible inert material and collect in closed labelled containers. Do not wash into drains.

7. Handling and Storage

Handling	Use closed liquid transfer and local extraction to prevent nickel aerosol exposure. Wear suitable chemical-resistant gloves, protective clothing and eye protection. Use respiratory protection where the exposure assessment requires it. Keep contaminated work clothing separate and prevent releases to drains.
Storage	Store tightly sealed in a cool, ventilated place with controlled access and secondary containment. Protect from contamination and excessive heat; keep separate from oxidizers, ammonia and incompatible acids.
Incompatibilities	Strong oxidizers; avoid incompatible ammonia and acid contamination of the bath feed.

8. Exposure Controls / Personal Protection

Exposure limits	Reference ACGIH TWA 0.1 mg/m ³ and NIOSH REL 0.015 mg/m ³ as nickel. Prevent mist and apply current local requirements.
Engineering controls	Use local extraction where mist can be generated. Maintain accessible eyewash and emergency washing facilities.
Personal protection	Wear chemical-resistant gloves selected for the task, suitable protective clothing and splash goggles. Add face protection for splash-prone tasks.
Respiratory protection	Use a properly selected respirator under a respiratory-protection program where engineering controls do not adequately limit airborne exposure.
Hygiene	Wash after handling, remove contaminated clothing promptly and do not eat, drink or smoke in the work area.

9. Physical and Chemical Properties

Appearance	Dark green, clear aqueous solution
State	Dark green aqueous liquid
Water solubility	Miscible
Supply relative density at 20/4°C	≥1.538
Solute formula / molecular weight	Ni(NH ₂ SO ₃) ₂ / 250.88 g/mol

10. Stability and Reactivity

Stability	Handle and store under the recommended conditions. Prevent contamination and unnecessary heating.
Incompatibilities	Strong oxidizers; avoid incompatible ammonia and acid contamination of the bath feed.
Decomposition	Fire or strong heating can generate nitrogen, sulfur and nickel oxides.

11. Toxicological Information

Exposure effects	Sensitization, cancer and developmental hazards and repeated-exposure lung effects require strict exposure control.
Reference classification	Acute oral toxicity Category 4; respiratory and skin sensitization Category 1; mutagenicity Category 2; carcinogenicity Category 1A; reproductive toxicity Category 1B; STOT repeated exposure Category 1 (lungs).
Toxicological data	The matched solution reference classifies oral toxicity, sensitization, mutagenicity, carcinogenicity, developmental toxicity and repeated-exposure lung injury. No safe exposure is inferred from nickel concentration.

12. Ecological Information

Environmental effects	Nickel-bearing solution is hazardous to aquatic organisms. Use secondary containment and collect spent solution, rinses and contaminated absorbents through an authorized route.
Controls	Prevent uncontrolled release, collect spills and dispose of contaminated material through an authorized route.
Assessment	No product-specific PBT/vPvB assessment is claimed. Absence of data does not establish absence of environmental effects.

13. Disposal Considerations

Product	Collect surplus product and contaminated cleanup material for disposal by an authorized chemical-waste contractor in accordance with local requirements.
Packaging	Containers may retain product residues. Do not reuse contaminated packaging without an approved cleaning process; use an authorized disposal route.

14. Transport Information

Classification	Class 9 — Environmentally hazardous
UN number	UN 3082
Shipping name	Environmentally hazardous substance, liquid, n.o.s. (nickel sulfamate)
Class / packing group	DOT, TDG, IMDG and IATA: Class 9, packing group III.
Transport precautions	Protect packaging and closures from damage, secure loads and prevent releases. This reference is not a shipping declaration for a specific consignment.

15. Regulatory Information

Identity	Nickel(II) Sulfamate Solution; CAS 13770-89-3; EC 237-396-1
HS reference	284290; reference heading rather than a destination customs ruling.
Compliance	Apply applicable workplace, environmental and transport rules. A raw-material listing does not establish finished-product authorization.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H302: harmful ingestion. H317/H334: skin and respiratory sensitization. H341: suspected genetic harm. H350i: inhalation cancer hazard. H360D: developmental harm. H372: repeated-exposure lung damage. Aquatic toxicity requires environmental controls.
Limitations	Prepared as reference safety information for the identified material. It is not a batch analytical certificate or safety assessment of a different solvent-containing formulation.
Revision	2026.2; prepared 2026-10-06. Customer-document branding and title corrected; technical safety data retained.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

Revision: 2026.2 | Revision date: 2026-10-06