# SAFETY DATA SHEET

# 1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Product name : Nickel Sulfamate

Manufacturer/supplier identification

Company : <u>Zenith Chemical Corporation</u> Contact for information : Tel 886-4-26811521; FAX 886-4-26816523

Emergency telephone No. : Tel. 886-4-26811521

# 2. Hazards identification

Inhalation of nickel sulfamate dust or mist can cause irritation of the upper respiratory tract. Skin contact may be irritating and can cause allergic dermatitis ("nickel itch") characterized by itching, erythematic, and skin eruption. Eye contact with dust pr solutions may cause irritation. Ingestion of nickel salts can cause nausea, vomiting, and giddiness. The NTP and IARC list "nickel and certain nickel compounds" as suspected carcinogens. This is based in part on epidemiological evidence of excess incidences of nasal and lung cancer in populations of workers exposed to nickel or nickel compounds. The specific nickel compounds responsible have not been identified.



# 3. Composition/information on ingredients

CAS No. : 13770-89-3 Molar mass : 322.7 Molecular formula : Ni(NH<sub>2</sub>SO<sub>3</sub>)<sub>2</sub>.4H<sub>2</sub>O Synonyms : Nickel Sulfamate Solution; Liquid Nickel Sulfamate

## 4. First aid measures

After inhalation : fresh air. Summon doctor.

After skin contact : Wash off with plenty of water. Remove contaminated clothing.

After eye contact : Rinse out with plenty of water for at least 10 minutes with the eyelid held wide open

After swallowing : Make victim drink plenty of water, induce vomiting. Immediately summon doctor.

Raw eggs mixed into milk.

#### 5. Fire-fighting measures

S Nickel sulfate is nonflammable. Use extinguishing agents that are appropriate for the surrounding fire. If water is use, minimize runoff to sewers and waterways. No unusual fire or explosion hazards are associated with this material.

Fire fighters should wear self-contained breathing apparatus and fully protective gear for protection against dust, mist, and fumes generated during fire-fighting activities. Special risks : none

### 6. Accidental release measures

Procedures for cleaning / absorption :

Take up dry. Forward for disposal. Clean up affected area. Avoid generation of dusts.

### 7. Handling and storage

Handling : No further requirements.

Storage : Tightly closed. Dry. In a well-ventilated place. Accessible only for authorized person.

### 8. Exposure controls/personal protection

Personal protective equipment :

Respiratory protection : Required when dusts are generated.

Eye protection : Required

Hand protection : Required

Industrial hygiene : Immediately change contaminated clothing. Apply skin-protective barrier cream. Wash hands and face after working with subatance.

#### 9. Physical and chemical properties

Form : Liquid Colour : Clear, bluish-green liquid Odour : Odorless PH value :  $4.4 \sim 4.7$ Melting temperature : NA Boiling temperature : >100°C same as water Ignition temperature : NA Flash point : NA Explosion limits : NA Relative vapour density : NA Density : >1.54 Solubility in water : 100%

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# **10.** Stability and reactivity

Conditions to be avoided : No information available. Do not evaporate to dryness. Substances to be avoided : Strong acids. Hazardous decomposition products : No information available Hazardous polymerization : Cannot occur Stability : stable

## **11.** Toxicological information

Actual toxicity: LD50 (oral, rat):105mg/kg (anhydrous substance)

Further toxicological information:

The following applies to soluble nickel compounds in general: inorganic nickel has an astringent effect on mucous membranes. Sensitization with allergic manifestations is possible in predisposed persons. In some cases nickel dermatitis may manifast itself. Depending on the water-solubility, nickel and its compounds display a more or less distinct carcinogenicity, with the readily soluble nickel compounds obviously entailing the lesser risk.

# **12.** Ecological information

Ecotoxic effects :

the following applies to nickel salts in general: Biological effects: dissolved Ni toxic for aquatic organisms. Fish: L. idus L50: 570mg/l; lethal concentration for fish 1mg/l in soft water; in hard water P. promelas LD50 27mg/l; bacteria: Ps. Putida toxic from 0.0025 mg/l up; algae: Sc. quadricauda toxic from 1.3mg/l up;M. aeruginosa toxic from 0.005mg/l up; E. sulcatum toxic from 0.14mg/l up; U. pardcczi toxic from 0.042 mg/l up; arthropods: D. magna LC50: 11mg/l (all values referring to dissolved Ni)

Further ecologic data : Do not allow to enter waters, waste water, or soil.

## 13. Disposal considerations

Product :

Chemical residues generally count as special waste. The disposal of the latter is regulated in the country through corresponding laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

Packaging :

Disposal **in compliance with** official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

## **14.** Transport information

Classified as dangerous goods for all makes of transport.

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International Maritime Dangerous Goods Code	UN 3082, ENVIRONMENTALLY HAZARODOUS SUBSTANCE,Liquid, N.O.S. (nickel sulfamate), Class 9, MARINE POLLUTANT
International Civil Aviation Organization Technical Instructions for the Carriage of Dangerous Goods by Air	UN 3082, ENVIRONMENTALLY HAZARODOUS SUBSTANCE,Liquid, N.O.S. (nickel sulfamate), Class 9,
U.S. Dept. of Transportation Regulations	UN 3082, ENVIRONMENTALLY HAZARODOUS SUBSTANCE,Liquid, N.O.S. (nickel sulfamate), Class 9
Canadian Transportation of Dangerous Goods Act	UN 3082, ENVIRONMENTALLY HAZARODOUS SUBSTANCE,Liquid, N.O.S. (nickel sulfamate), Class 9, MARINE POLLUTANT
European Agreement Concerning the International Carriage of Dangerous Goods by Road	Drivers are required to carry Travel Emergency (TREM) Card. UN 3082, ENVIRONMENTALLY HAZARODOUS SUBSTANCE,Liquid, N.O.S. (nickel sulfamate), Class 9
AIR Transportation (IATA)	Drivers are required to carry Travel Emergency (TREM) Card. UN 3082, ENVIRONMENTALLY HAZARODOUS SUBSTANCE,Liquid, N.O.S. (nickel sulfamate), Class 9

## 15. Regulatory information

Labeling according to directives symbol : T Toxic R-phrases : 25-43 Toxic if swallowed. May cause sensitization by skin contact. S-phrases: : 24-37-45 Avoid contact with skin. Wear suitable gloves. On case of accident or if you feel unwell, seek medical advice immediately.(show the label where possible)

## **16.** Other information

Produced by : Zenith Chemical Corporation Address : No.9, Youe-6 Rd., Youth Industrial District, Tachia City, 437, Taiwan, R.O.C. Issued date : Jan, 02, 2021 Revised date : Dec, 09, 2024 Reference : none

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product. Recipients are advised to confirm in advance of need that the information it current, applicability suitable to their current circumstances.