

## Chemical Safety Data Sheet MSDS / SDS

**nickel(ii) formate dihydrate**

Revision Date:2026-06-20 Revision Number:1

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : nickel(ii) formate dihydrate  
CBnumber : CB8875044  
CAS : 15694-70-9  
EINECS Number : 222-101-0  
Synonyms : Nicke(II)formate dihydrate;Nickel( II ) forMate dihydrate

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

**Precautionary statements**

P405 Store locked up.  
P284 Wear respiratory protection.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P201 Obtain special instructions before use.

**Hazard statements**

H410 Very toxic to aquatic life with long lasting effects  
H400 Very toxic to aquatic life  
H372 Causes damage to organs through prolonged or repeated exposure  
H360 May damage fertility or the unborn child

H350 May cause cancer

H341 Suspected of causing genetic defects

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

H317 May cause an allergic skin reaction

---

## SECTION 3: Composition/information on ingredients

### Substance

Product name : nickel(ii) formate dihydrate  
Synonyms : Nicke(II)formate dihydrate;Nickel( II ) forMate dihydrate  
CAS : 15694-70-9  
EC number : 222-101-0  
MF : Ni(HCO<sub>2</sub>)<sub>2</sub>·2H<sub>2</sub>O

---

## SECTION 4: First aid measures

### First Aid Measures

#### General advice

Immediate medical attention is required.

#### Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.

#### Skin Contact

Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash off immediately with soap and plenty of water. Consult a physician if necessary.

#### Inhalation

Remove to fresh air Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation Immediate medical attention is required If not breathing, give artificial respiration Oxygen or artificial respiration if needed Call a physician

#### Ingestion

Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

#### Self-protection of the first aider

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

### Most important symptoms and effects, both acute and delayed

#### Symptoms

No information available.

### Indication of any immediate medical attention and special treatment needed

#### Note to physicians

May cause sensitization of susceptible persons.

---

## SECTION 5: Firefighting measures

### Suitable Extinguishing Media

#### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable Extinguishing Media

None.

### Specific hazards arising from the chemical

#### Specific hazards arising from the chemical

In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

#### Hazardous combustion products

Carbon oxides.

### Explosion data

#### Sensitivity to Mechanical Impact

No information available.

#### Sensitivity to Static Discharge

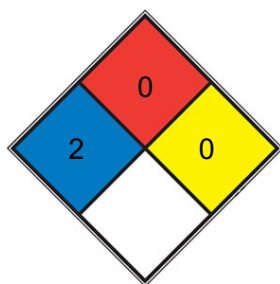
No information available.

### Protective equipment and precautions for firefighters

#### Protective equipment and precautions for firefighters

As in any fire, wear self contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### NFPA 704



■ HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

■ FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

■ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

□ SPEC.  
□ HAZ.

## SECTION 6: Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

#### **Personal precautions**

Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

#### **Environmental precautions**

##### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional

Ecological Information.

### **Methods and material for containment and cleaning up**

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

#### **Methods for cleaning up**

Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly. Soak up with inert absorbent material.

---

## SECTION 7: Handling and storage

### **Precautions for safe handling**

#### **Advice on safe handling**

Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

### **Conditions for safe storage, including any incompatibilities**

#### **Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Store at room temperature.

#### **Incompatible materials**

None known based on information supplied.

---

## SECTION 8: Exposure controls/personal protection

### **Control parameters**

#### **Exposure Guidelines**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

## Appropriate engineering controls

### Engineering Controls

Showers

Eyewash stations

Ventilation systems

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Tight sealing safety goggles.

#### Skin and Body Protection

Wear protective gloves and protective clothing.

#### Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

#### General Hygiene Considerations

When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

---

## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical State	Solid
Appearance	powder
Odor	No information available
pH	No information available
Melting point/freezing point	130 °C
Boiling point	No information available
Flash point	No information available
Density	2.15 g/cm <sup>3</sup>
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	In the range 180-200° decomposes to Ni, CO, CO{2}, H{2}, H{2}O, CH{4}. Partially soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available

Explosive properties No information available

Oxidizing properties No information available

Colour Green

---

## SECTION 10: Stability and reactivity

### Reactivity

Not applicable

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous polymerization

No information available.

### Conditions to avoid

Extremes of temperature and direct sunlight.

### Incompatible materials

Strong oxidizing agents.

### Hazardous Decomposition Products

Carbon oxides.

---

## SECTION 11: Toxicological information

### Information on likely routes of exposure

#### Inhalation

Classified based on available data. For more details, see section 2.

#### Eye contact

Classified based on available data. For more details, see section 2.

#### Skin Contact

Classified based on available data. For more details, see section 2.

#### Ingestion

Classified based on available data. For more details, see section 2.

### Information on toxicological effects

#### Symptoms

Classified based on available data. For more details, see section 2.

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

### Chronic Toxicity

Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

### Numerical measures of toxicity - Product Information

#### Unknown acute toxicity

Classified based on available data. For more details, see section 2

---

## SECTION 12: Ecological information

### Ecotoxicity

May cause long lasting harmful effects to aquatic life

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

### Persistence and degradability

No information available.

### Bioaccumulation

No information available.

### Mobility

No information available.

---

## SECTION 13: Disposal considerations

### Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

### Contaminated packaging

Do not reuse container.

### Other Information

Waste codes should be assigned by the user based on the application for which the product was used.

---

## SECTION 14: Transport information

### DOT

#### UN/ID no

UN3077

#### Hazard Class

9

#### Packing Group

III

**Proper shipping name**

Environmentally hazardous substance, solid, n.o.s.

**Description**

UN3077, Environmentally hazardous substance, solid, n.o.s. (Nickel(II) formate dihydrate), 9, III

**Emergency Response Guide Number**

171

**IMDG**

**UN/ID no**

UN3077

**Hazard Class**

9

**Packing Group**

III

**Proper shipping name**

Environmentally hazardous substance, solid, n.o.s.

**Description**

UN3077, Environmentally hazardous substance, solid, n.o.s. (Nickel(II) formate dihydrate), 9, III

**Special Provisions**

274, 335, 966, 967

**EmS-No**

F-A, S-F

**IATA**

**UN/ID no**

UN3077

**Hazard Class**

9

**Packing Group**

III

**Proper shipping name**

Environmentally hazardous substance, solid, n.o.s.

**Description**

UN3077, Environmentally hazardous substance, solid, n.o.s. (Nickel(II) formate dihydrate), 9, III

---

## SECTION 15: Regulatory information

### International Inventories

All of the components in the product are on the following Inventory lists

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

## **US Federal Regulations**

### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

### **SARA 311/312 Hazard Categories**

#### **Acute health hazard**

Yes

#### **Chronic Health Hazard**

Yes

#### **Fire hazard**

No

#### **Sudden release of pressure hazard**

No

#### **Reactive hazard**

No

### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

## **US State Regulations**

### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

### **U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated by state right-to-know regulations

---

## **SECTION 16: Other information**

### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.