



## Safety Data Sheet

Date of Issue: 01.09.2020

Date of Expiry: 01.09.2025

### 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name: : **ECP Limited**  
Address: : PO Box 34125, Birkenhead, Auckland 0746  
Telephone: : +64 9 480 4386  
Facsimile: : +64 9 480 4385  
Emergency phone number: : 0800 243 622 (24 hours)

Product	Nickel (II) Sulfate Hexahydrate			Code	3420
CAS#	HSNO#	UN #	DG Class/es	Packing group #	
10101-97-0	HSR003932	3077	9	III	

Recommended use : Laboratory Investigations

### 2: Hazards identification

#### 2.1 GHS Classification

Acute toxicity, Oral (Category C), H301  
Acute toxicity, Inhalation (Category D), H332  
Skin irritation (Category A), H315  
Respiratory sensitisation (Category A), H334  
Skin sensitisation (Category B), H317  
Carcinogenicity (Category B), H351  
Toxic to Reproduction (Category A), H360  
Specific Target Organ Toxicity, Inhalation (Category A), H372  
Aquatic toxicity (Acute or Chronic) (Category A), H400

#### 2.2 GHS Label elements, including precautionary statements

##### Hazard Pictogram



Signal Word : **Danger**

##### Hazard statement(s)

H301 : Toxic if swallowed.  
H315 : Causes skin irritation.  
H317 : May cause an allergic skin reaction.  
H332 : Harmful if inhaled.  
H334 : May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H351 : Suspected of causing cancer.  
H360 : May damage fertility or the unborn child.  
H372 : Causes damage to organs through prolonged or repeated exposure if inhaled.  
H400 : Very toxic to aquatic life.

##### Precautionary statement(s)

###### Prevention

P201 : Obtain special instructions before use.  
P202 : Do not handle until all safety precautions have been read and understood.  
P260 : Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

- P264 : Wash skin thoroughly after handling.  
P270 : Do not eat, drink or smoke when using this product.  
P271 : Use only outdoors or in a well-ventilated area.  
P272 : Contaminated work clothing should not be allowed out of the workplace.  
P273 : Avoid release to the environment.  
P280 : Wear protective gloves.

### Response

- P301 + P310 : IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.  
P302 + P352 : IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P308 + P313 : IF exposed or concerned: Get medical advice/ attention.  
P321 : Specific treatment (see supplemental first aid instructions on this label).  
P330 : Rinse mouth.  
P333 + P313 : If skin irritation or rash occurs: Get medical advice/ attention.  
P362 : Take off contaminated clothing and wash before reuse.  
P391 : Collect spillage.

### Storage

- P405 : Store locked up.

### Disposal

- P501 : Dispose of contents/ container to an approved waste disposal plant.  
Restricted to professional users.

## 2.3 Other hazards - none

### 3: Composition/information on ingredients

Substance / Mixture : Substance

#### 3.1 Substances

Formula : NiO4S · 6H2O  
Molecular weight : 262.85 g/mol  
CAS-No. : 10101-97-0  
EC-No. : 232-104-9  
Index-No. : 028-009-00-5

#### Hazardous Components

Component	Classification	Concentration
Nickel sulphate hexahydrate	6.1 D; 6.5 B; 6.6 B; 6.7 A; 6.8 A; 6.9 A; 9.1 A; H302, H332, H317, H341, H350, H360, H372, H410	<= 100 %

### 4: First aid measures

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.  
Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

**5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Sulphur oxides, Nickel/nickel oxides

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available

**6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

**7: Handling and storage****7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Components with workplace control parameters

Component	CAS No.	Value	Control parameters	Basis
Nickel sulphate Hexahydrate	10101-97-0	WES-TWA	0.1 mg/m <sup>3</sup>	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
	Remarks	Currently under review Sensitiser		

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

##### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	: Solid
Appearance	: Alpha-form: Blue to blue-green tetragonal crystals. Beta-form (transition at 53.3°): Green transparent monoclinic crystals; stable at 40 °C; somewhat efflorescent - becomes blue and opaque at room temperature.
Odour	: Odourless. Slight acidic odour if wet.
Decomposition Temperature	: > 280 °C.
Melting Point	: 53.3 °C (transition pt); loses 5 H <sub>2</sub> O @ about 100 °C.
Solubility in Water	: Very soluble (65.52 g/100 cm <sup>3</sup> (0 °C); 75.6 g/100 cm <sup>3</sup> (15.5 °C); 625 g/L (20 °C); 340.7 g/100 cm <sup>3</sup> (100°C).

Solubility in Organic solvents : " Very soluble in alcohol, ammonium hydroxide. Solubility in methanol: 12.5 g/100 cm<sup>3</sup>.  
Specific Gravity : 2.03; 2.07.  
pH : 4.3 - 4.7 (100 g/l H<sub>2</sub>O, 20 °C).  
Vapour Pressure : Negligible.  
Volatile Component : 0 %vol @ 21 °C  
Flammability : Non-combustible material.  
Explosion Properties : Not considered to be an explosion hazard.  
Molecular Weight : 262.86

## 9.2 Other Information

Taste : Sweet astringent taste.  
Index of Refraction : 1.581, 1.487.

## 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Nickel/nickel oxides

Other decomposition products - No data available

In the event of fire: see section 5

## 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD<sub>50</sub> Oral - Rat - 361.9 mg/kg  
(OECD Test Guideline 425)

Remarks: anhydrous substance

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitisation

Maximisation Test - Guinea pig

May cause allergic skin reaction.

#### Germ cell mutagenicity

In vitro tests showed mutagenic effects Suspected of causing genetic defects.

Mutagenicity (mammal cell test):

Result: positive

(National Toxicology Program)  
Ames test  
Salmonella typhimurium  
Result: negative  
(National Toxicology Program)

### **Carcinogenicity**

Human carcinogen. May cause cancer by inhalation.  
IARC: 1 - Group 1: Carcinogenic to humans (Nickel sulphate hexahydrate)

### **Reproductive toxicity**

Presumed human reproductive toxicant May damage the unborn child.

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

Inhalation - Causes damage to organs through prolonged or repeated exposure. -  
Respiratory Tract

### **Aspiration hazard**

No data available

### **Additional Information**

RTECS: QR9600000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## **12: Ecological information**

### **12.1 Toxicity**

No data available

### **12.2 Persistence and degradability**

No data available

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

Very toxic to aquatic life with long lasting effects.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Discharge into the environment must be avoided.

## **13: Disposal considerations**

### **13.1 Waste treatment methods**

#### **Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### Contaminated packaging

Dispose of as unused product.

#### 14: Transport Information Table

		<b>ADR/RID – European packaging certification</b>	<b>IMDG International Maritime Dangerous Goods Code</b>	<b>IATA – DGR International Air Travel Association – Dangerous Goods Regulations</b>
14.1	<b>UN Number</b>	3077	3077	3077
14.2	<b>UN Proper Shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Nickel sulphate hexahydrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Nickel sulphate hexahydrate)	Environmentally hazardous substance, solid, n.o.s. (Nickel sulphate hexahydrate)
14.3	<b>Transport Hazard Class</b>	9	9	9
14.4	<b>Packaging group</b>	III	III	III
14.5	<b>Environmental Hazards</b>	Yes	Yes	Yes
14.6	<b>Special precautions for user</b>			
14.7	<b>Incompatible materials</b>	Strong Oxidizing agent		

#### Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packaging's and combination packaging's containing inner packaging's with Dangerous Goods > 5L for liquids or > 5kg for solids.

#### 15: Regulatory information

##### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

###### National regulatory information

HSNO Approval Code: HSR003932

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits

Group Standard 2006

Tracking Required: not required

Approved Handler Cert.: not required

#### 16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

\*\*\*\*END\*\*\*\*\*END\*\*\*\*\*END\*\*\*\*\*END\*\*\*\*\*END\*\*\*\*