

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name : Nickel(II) sulfate hexahydrate

Product Number : NS1001

CAS-No. : 10101-97-0

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : Gojira Fine Chemicals  
5386 Majestic Parkway,  
Suite 7 Bedford Heights,  
OH 44146

Telephone : 440-252-5397

Email : docsupport@gojiraafc.com

Fax : 888-211-5523

#### 1.4 Emergency telephone number

Emergency Phone # : 800-255-3924 (ChemTel, Contract # MIS7318160)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Skin irritation (Category 2), H315

Respiratory sensitisation (Category 1), H334

Skin sensitisation (Category 1), H317

Germ cell mutagenicity (Category 2), H341

Carcinogenicity (Category 1A), H350

Reproductive toxicity (Category 1B), H360

Specific target organ toxicity - repeated exposure, Inhalation (Category 1), H372

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

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

Pictogram



Signal word

Danger

|                            |  |
|----------------------------|--|
| Hazard statement(s)        |  |
| H302 + H332                | Harmful if swallowed or if inhaled   |
| H315                       | Causes skin irritation.  |
| H317                       | May cause an allergic skin reaction.   |
| H334                       | May cause allergy or asthma symptoms or breathing difficulties if inhaled.   |
| H341                       | Suspected of causing genetic defects.  |
| H350                       | May cause cancer.  |
| H360                       | May damage fertility or the unborn child.  |
| H372                       | Causes damage to organs through prolonged or repeated exposure if inhaled.   |
| H410                       | Very toxic to aquatic life with long lasting effects.  |
| Precautionary statement(s) |  |
| 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/ protective clothing/ eye protection/ face protection.  |
| P285                       | In case of inadequate ventilation wear respiratory protection.   |
| P301 + P312 + P330         | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.<br>Rinse mouth.  |
| P302 + P352                | IF ON SKIN: Wash with plenty of soap and water.  |
| P304 + P340 + P312         | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. |
| P308 + P313                | IF exposed or concerned: Get medical advice/ attention.  |
| P333 + P313                | If skin irritation or rash occurs: Get medical advice/ attention.  |
| P362                       | Take off contaminated clothing and wash before reuse.  |
| P391                       | Collect spillage.  |
| P405                       | Store locked up.   |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.  |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

|                  |  |
|------------------|--|
| Formula          | : $\text{NiO}_4\text{S} \cdot 6\text{H}_2\text{O}$ |
| 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 |
|------------------------------------|--|---------------|
| <b>Nickel sulphate hexahydrate</b> |  |               |
|                                    | Acute Tox. 4; Skin Irrit. 2;<br>Resp. Sens. 1; Skin Sens. 1;<br>Muta. 2; Carc. 1A; Repr. 1B;<br>STOT RE 1; Aquatic Acute 1;<br>Aquatic Chronic 1; H302 +<br>H332, H315, H317, H334,<br>H341, H350, H360, H372,<br>H410 | <= 100 %      |

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## 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. Move out of dangerous area.

#### 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

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## 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

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## 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.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combu formation should be taken into consideration before additional processing

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 | TWA   | 1.000000 mg/m3     | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|                             |            | TWA   | 0.100000 mg/m3     | USA. ACGIH Threshold Limit Values (TLV)  |
|                             | Remarks    | Lung damage<br>Nasal cancer<br>Not classifiable as a human carcinogen<br>varies |                    |  |
|                             |            | TWA   | 0.015000 mg/m3     | USA. NIOSH Recommended Exposure Limits   |
|                             |            | Potential Occupational Carcinogen<br>See Appendix A                             |                    |  |
|                             |            | TWA   | 1 mg/m3            | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|                             |            | TWA   | 0.1 mg/m3          | USA. ACGIH Threshold Limit Values (TLV)  |
|                             |            | Lung damage<br>Nasal cancer<br>Not classifiable as a human carcinogen<br>varies |                    |  |
|                             |            | TWA   | 0.015 mg/m3        | USA. NIOSH Recommended Exposure Limits   |
|                             |            | Potential Occupational Carcinogen<br>See Appendix A                             |                    |  |

## 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 such as NIOSH (US) or EN 166(EU).

#### 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.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industria situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **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 (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **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.

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

|   |                                   |
|---|-----------------------------------|
| a) Appearance                                   | Form: crystalline<br>Colour: blue |
| b) Odour  | No data available                 |
| c) Odour Threshold                              | No data available                 |
| d) pH   | No data available                 |
| e) Melting point/freezing point                 | No data available                 |
| f) Initial boiling point and boiling range      | No data available                 |
| g) Flash point                                  | ( )No data available              |
| h) Evaporation rate                             | No data available                 |
| i) Flammability (solid, gas)                    | No data available                 |
| j) Upper/lower flammability or explosive limits | No data available                 |
| k) Vapour pressure                              | No data available                 |
| l) Vapour density                               | No data available                 |
| m) Relative density                             | 2.07 g/cm3                        |
| n) Water solubility                             | No data available                 |
| o) Partition coefficient: n-octanol/water       | No data available                 |
| p) Auto-ignition temperature                    | No data available                 |
| q) Decomposition temperature                    | No data available                 |
| r) Viscosity                                    | No data available                 |
| s) Explosive properties                         | No data available                 |
| t) Oxidizing properties                         | No data available                 |

## 9.2 Other safety information

No data available

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## 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

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 361 mg/kg(Nickel sulphate hexahydrate)

(OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - 2.48 mg/l(Nickel sulphate hexahydrate)

(OECD Test Guideline 403)

Dermal: No data available(Nickel sulphate hexahydrate)

No data available(Nickel sulphate hexahydrate)

#### Skin corrosion/irritation

No data available(Nickel sulphate hexahydrate)

#### Serious eye damage/eye irritation

No data available(Nickel sulphate hexahydrate)

#### Respiratory or skin sensitisation

Maximisation Test - Guinea pig(Nickel sulphate hexahydrate)

May cause allergic skin reaction.

#### Germ cell mutagenicity

In vitro tests showed mutagenic effects(Nickel sulphate hexahydrate)

Human(Nickel sulphate hexahydrate)

lymphocyte

Cytogenetic analysis

Human(Nickel sulphate hexahydrate)

lymphocyte

Sister chromatid exchange

Mouse(Nickel sulphate hexahydrate)

lymphocyte

Mutation in mammalian somatic cells.

Hamster(Nickel sulphate hexahydrate)

Embryo

Morphological transformation.

#### Carcinogenicity

Human carcinogen. May cause cancer by inhalation.(Nickel sulphate hexahydrate)

(Nickel sulphate hexahydrate)

IARC: 1 - Group 1: Carcinogenic to humans (Nickel sulphate hexahydrate)

NTP: Known to be human carcinogen (Nickel sulphate hexahydrate)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

Presumed human reproductive toxicant May damage the unborn child.(Nickel sulphate hexahydrate)

No data available(Nickel sulphate hexahydrate)

**Specific target organ toxicity - single exposure**

No data available(Nickel sulphate hexahydrate)

**Specific target organ toxicity - repeated exposure**

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

**Aspiration hazard**

No data available(Nickel sulphate hexahydrate)

**Additional Information**

RTECS: QR9600000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(Nickel sulphate hexahydrate)

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## 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(Nickel sulphate hexahydrate)

### 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

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

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

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

**Contaminated packaging**

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

**DOT (US)**

UN number: 3077

Class: 9

Packing group: III

Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Nickel sulphate hexahydrate)  
Reportable Quantity (RQ) : 100 lbs

no  
Poison Inhalation Hazard: No

#### IMDG

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Nickel sulphate hexahydrate)  
Marine pollutant : yes

#### IATA

UN number: 3077 Class: 9 Packing group: III  
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Nickel sulphate hexahydrate)

#### Further information

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

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### 15. REGULATORY INFORMATION

#### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

|                             | CAS-No.    | Revision Date |
|-----------------------------|------------|---------------|
| Nickel sulphate hexahydrate | 10101-97-0 | 1993-04-24    |

#### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

#### Massachusetts Right To Know Components

|                             | CAS-No.    | Revision Date |
|-----------------------------|------------|---------------|
| Nickel sulphate hexahydrate | 10101-97-0 | 1993-04-24    |

#### Pennsylvania Right To Know Components

|                             | CAS-No.    | Revision Date |
|-----------------------------|------------|---------------|
| Nickel sulphate hexahydrate | 10101-97-0 | 1993-04-24    |

#### New Jersey Right To Know Components

|                             | CAS-No.    | Revision Date |
|-----------------------------|------------|---------------|
| Nickel sulphate hexahydrate | 10101-97-0 | 1993-04-24    |

#### California Prop. 65 Components

|  | CAS-No.    | Revision Date |
|--|------------|---------------|
| WARNING! This product contains a chemical known to the State of California to cause cancer.<br>Nickel sulphate hexahydrate | 10101-97-0 | 2007-09-28    |

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### 16. OTHER INFORMATION

#### Full text of H-Statements referred to under sections 2 and 3.

|             |  |
|-------------|--|
| H302        | Harmful if swallowed.  |
| H302 + H332 | Harmful if swallowed or if inhaled   |
| 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. |



|      |  |
|------|--|
| H341 | Suspected of causing genetic defects.                                      |
| H350 | May cause 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.  |
| H410 | Very toxic to aquatic life with long lasting effects.                      |

**HMIS Rating**

|                        |   |
|------------------------|---|
| Health hazard:         | 2 |
| Chronic Health Hazard: | * |
| Flammability:          | 0 |
| Physical Hazard        | 0 |

**NFPA Rating**

|                    |   |
|--------------------|---|
| Health hazard:     | 2 |
| Fire Hazard:       | 0 |
| Reactivity Hazard: | 0 |

**Further information**

The above information is believed to be accurate and represents the best information currently available to Gojira Fine Chemicals. However, we make no warranty or merchantability or any other warranty, express or Implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Gojira Fine Chemicals 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 Gojira Fine Chemicals has been advised of the possibility of such damages.

1-800-521-8956

Version: 6.1

Revision Date: 05/28/2017

Print Date: 10/04/2019