

## SAFETY DATA SHEET

Preparation Date: 2/26/2019

Revision date 2/26/2019

Revision Number: G1

### 1. IDENTIFICATION

**Product identifier**

**Product code:** N1040  
**Product Name:** NICKEL AMMONIUM SULFATE, CRYSTAL, REAGENT

**Other means of identification**

**Synonyms:** Ammonium nickel(2+) sulfate hexahydrate  
 Diammonium nickel disulfate hexahydrate  
 Nickel ammonium sulfate hexahydrate  
 Nickel diammonium disulfate hexahydrate  
 Sulfuric acid, ammonium nickel(2+) salt (2:2:1), hexahydrate

**CAS #:** 7785-20-8  
**RTECS #** WS6061000  
**Cl#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

|                                   |             |
|-----------------------------------|-------------|
| Acute toxicity - Oral             | Category 4  |
| Serious eye damage/eye irritation | Category 2B |
| Respiratory sensitization         | Category 1  |
| Skin sensitization                | Category 1  |
| Carcinogenicity                   | Category 1A |

**Label elements**

**Danger**

**Hazard statements**

Harmful if swallowed  
 Causes eye irritation  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 May cause an allergic skin reaction  
 May cause cancer

**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 In case of inadequate ventilation wear respiratory protection  
 Contaminated work clothing must not be allowed out of the workplace  
 Wear protective gloves  
 Wear eye/face protection

**Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
 IF ON SKIN: Wash with plenty of water  
 If skin irritation or rash occurs: Get medical advice/attention  
 Wash contaminated clothing before reuse  
 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component                            | CAS No    | Weight-% |
|--------------------------------------|-----------|----------|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | 100      |

### 4. FIRST AID MEASURES

**First aid measures**

**General Advice:** National Capital Poison Center in the United States can provide assistance if you

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have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention. If symptoms persist, call a physician.
- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

- Symptoms**
- May cause skin irritation
  - Causes eye irritation
  - May cause an allergic skin reaction
  - May cause allergy or asthma symptoms or breathing difficulties if inhaled
  - It may affect the kidneys

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

- Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

## 5. FIRE-FIGHTING MEASURES

**Extinguishing Media**

- Suitable Extinguishing Media:** The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

- Unsuitable Extinguishing Media:** No information available.

**Specific hazards arising from the chemical**

- Hazardous combustion products** No information available.

- Specific hazards** No information available.

**Special Protective Actions for Firefighters**

- Specific Methods:** No information available

- Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe dust. Do not ingest. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

#### **Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

#### **Incompatible Materials:**

Strong oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

| Component                            | CAS No    | OSHA                              | NIOSH                               | ACGIH   | AIHA WEEL |
|--------------------------------------|-----------|-----------------------------------|-------------------------------------|---|-----------|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | 0.1 mg/m <sup>3</sup> TWA (as Ni) | 0.015 mg/m <sup>3</sup> TWA (as Ni) | 0.1 mg/m <sup>3</sup> TWA (inhalable particulate matter, as Ni) | None      |

##### **Canada**

| Component                            | CAS No    | Canada - Alberta                  | Canada - British Columbia          | Canada - Ontario                             | Canada - Quebec                     |
|--------------------------------------|-----------|-----------------------------------|------------------------------------|--|-------------------------------------|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | 0.1 mg/m <sup>3</sup> TWA (as Ni) | 0.05 mg/m <sup>3</sup> TWA (as Ni) | 0.1 mg/m <sup>3</sup> TWA (inhalable, as Ni) | 0.1 mg/m <sup>3</sup> TWAEV (as Ni) |

## Australia and Mexico

| Component                            | CAS No    | Australia   | Mexico  |
|--------------------------------------|-----------|---|---|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | 0.1 mg/m <sup>3</sup> TWA (inhalable fraction, as Ni) | 0.1 mg/m <sup>3</sup> TWA (inhalable fraction, as Ni) |

### Appropriate engineering controls

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

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

#### Personal Protective Equipment

**Eye protection:** Safety glasses with side-shields. or Goggles

**Skin and body protection:** Gloves  
Chemical resistant apron  
Long sleeved clothing

**Respiratory protection:** Effective dust mask. Wear respirator with dust filter. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |  |  |
|--|--|--|
| <b>Physical state:</b><br>Solid                                | <b>Appearance:</b><br>Crystalline.                                   | <b>Color:</b><br>Green. Blue green.  |
| <b>Odor:</b><br>Odorless.                                      | <b>Taste</b><br>No information available.                            | <b>Formula</b><br>NiSO <sub>4</sub> (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> .6H <sub>2</sub> O |
| <b>Molecular/Formula weight (g/mole):</b><br>394.94            | <b>Flammability (solid, gas)</b><br>no data available                | <b>Flashpoint (°C/°F):</b><br>No information available   |
| <b>Flash Point Tested according to:</b><br>Not available       | <b>Autoignition Temperature (°C/°F):</b><br>No information available | <b>Lower Explosion Limit (%):</b><br>No information available  |
| <b>Upper Explosion Limit (%):</b><br>No information available  | <b>Melting point/range(°C/°F):</b><br>85-89 °C/185-192 °F            | <b>Decomposition temperature(°C/°F):</b><br>No information available                                   |
| <b>Boiling point/range(°C/°F):</b><br>No information available | <b>Bulk density:</b><br>No information available                     | <b>Density (g/cm<sup>3</sup>):</b><br>1.923  |
| <b>Specific gravity:</b><br>No information available           | <b>pH</b><br>No information available                                | <b>Vapor pressure @ 20°C (kPa):</b><br>No information available  |

**Evaporation rate:**  
No information available

**Vapor density:**  
No information available

**VOC content (g/L):**  
No information available

**Odor threshold (ppm):**  
No information available

**Partition coefficient  
(n-octanol/water):**  
No information available

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
Solubility in water: 10.4 g/100 ml water  
at 20 deg. C; 30 g/100 ml water at 80  
deg. C  
Insoluble in Alcohol

## 10. STABILITY AND REACTIVITY

**Reactivity**  
No information available

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Avoid dust formation. Incompatible materials.

**Incompatible Materials:** Strong oxidizing agents

**Hazardous decomposition  
products:** No information available.

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Ingestion. Inhalation. Skin.

### Acute Toxicity

### Component Information

Nickel Ammonium Sulfate, hexahydrate

CAS No 7785-20-8

**LD50/oral/rat** = 399 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

## Product Information

### LD50/oral/rat =

Value - Acute Tox = 399 mg/kg

### LD50/oral/mouse =

Value - Acute Tox Oral = No information available

### LD50/dermal/rabbit

Value - Acute Tox = No information available

### LD50/dermal/rat

VALUE - Acute Tox Dermal = No information available

### LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

### LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

## Symptoms

|                          |   |
|--------------------------|---|
| <b>Skin Contact:</b>     | May cause skin irritation. May cause sensitization by skin contact.                         |
| <b>Eye Contact:</b>      | Causes eye irritation.  |
| <b>Inhalation</b>        | May cause irritation of respiratory tract. May cause sensitization by inhalation.           |
| <b>Ingestion</b>         | Harmful if swallowed. May affect behavior/central nervous system (somnolence, convulsions). |
| <b>Aspiration hazard</b> | No information available.   |

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

**Chronic Toxicity** Skin: Sensitizer. May cause allergic skin reaction (allergic contact dermatitis). Prolonged or repeated inhalation may cause allergic reaction. Prolonged or repeated inhalation may cause asthma-like allergy and asthma attacks with shortness of breath, difficulty breathing, wheezing, coughing, and/or chest tightness. Chronic exposure may affect the kidneys and cause kidney damage.

**Sensitization:** May cause sensitization by inhalation and skin contact.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Carcinogenic.

| Component | CAS No | IARC | ACGIH - Carcinogens | NTP | OSHA HCS - Carcinogens | Australia - Notifiable Carcinogenic Substances | Australia - Prohibited Carcinogenic Substances |
|-----------|--------|------|---------------------|-----|------------------------|--|--|
|           |        |      |                     |     |                        |  |  |

|                                      |           |   |            |            |         |            |            |
|--------------------------------------|-----------|---|------------|------------|---------|------------|------------|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | Monograph 49 [1990] Nickel and nickel compounds | Not listed | Not listed | Present | Not listed | Not listed |
|--------------------------------------|-----------|---|------------|------------|---------|------------|------------|

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organs:** No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility in soil** No information available

**Other adverse effects** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

| Component                            | CAS No    | RCRA - F Series Wastes | RCRA - K Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|--------------------------------------|-----------|------------------------|------------------------|------------------------|------------------------|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | None                   | None                   | None                   | None                   |

**14. TRANSPORT INFORMATION**

**DOT**

**UN-No:** Not Regulated

**Product code:** N1040

**Product name:** NICKEL AMMONIUM SULFATE, CRYSTAL, REAGENT

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**Proper Shipping Name:** Not regulated (although listed Table 1 to Appendix A - Hazardous Substances Other  
 Than Radionuclides, it is not regulated for transport in sold quantities, which are below the Reportable Quantity (RQ))

**Hazard Class** No information available  
**Subsidiary Class** No information available  
**Packing group:** No information available  
**Emergency Response Guide Number** No information available  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** 100 lbs./45.5 kg  
**Special Provisions** No Information available  
**Symbol(s):** No information available  
**Description:** No information available

**TDG (Canada)**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant** No Information available  
**Description:** No information available

**ADR**

**UN Number** Not regulated  
**Proper Shipping Name:** No information available  
**Transport hazard class(es)** No information available  
**Packing group** No information available  
**Subsidiary Risk:** No information available

**IMDG**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant** No information available

**RID**

**UN Number** Not Regulated  
**Proper Shipping Name:** No information available  
**Transport hazard class(es)** No information available  
**Subsidiary Risk:** No information available  
**Packing group** No information available

**ICAO (air)**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available

**IATA**

**UN Number** Not Regulated  
**Proper Shipping Name:** No information available  
**Transport hazard class(es)** No information available  
**Subsidiary Risk:** No information available

Packing group No information available  
 Precautionary Statements - IF exposed or concerned  
 Response  
 Special Provisions No information available

**15. REGULATORY INFORMATION**

**International Inventories**

| Component                            | CAS No    | U.S. TSCA   | KOREA KECL  | Philippines (PICCS) | Japan ENCS  | China IECSC | Australia AICS | EINECS-No.  |
|--------------------------------------|-----------|---|-------------|---------------------|-------------|-------------|----------------|-------------|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | Exempt from listing since it is a hydrate. However, the anhydrous form (CAS no. 15699-18-0 is listed on the TSCA 8(b) Inventory as ACTIVE | Not present | Present             | Not present | Present     | Present        | Not present |


**U.S. Regulations**

Nickel Ammonium Sulfate, hexahydrate


- New Jersey RTK Hazardous Substance List:** sn 2366 (nickel compounds)
- New Jersey (EHS) List:** SN 2366 500lb TPQ (nickel compounds)
- New Jersey - Discharge Prevention - List of Hazardous Substances:** Present(nickel compounds)
- Pennsylvania RTK:** Environmental Hazard (nickel compounds)
- Pennsylvania RTK - Environmental Hazard List** Present
- Minnesota - Hazardous Substance List:** Carcinogen (as Ni)(nickel soluble compounds)
- Louisiana Reportable Quantity List for Pollutants:** Listed
- California Directors List of Hazardous Substances:** Present (as Nickel compounds)

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

 **WARNING:** This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause cancer. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

 **WARNING:** This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

| Component                            | CAS No    | Carcinogen                    | Developmental Toxicity                             | Male Reproductive Toxicity | Female Reproductive Toxicity: |
|--------------------------------------|-----------|-------------------------------|--|----------------------------|-------------------------------|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | carcinogen (nickel compounds) | developmental toxicity (nickel, soluble compounds) | Not Listed                 | Not Listed                    |

**CERCLA/SARA**

| Component                            | CAS No    | CERCLA - Hazardous Substances and their Reportable Quantities | Section 302 Extremely Hazardous Substances and TPQs | Section 302 Extremely Hazardous Substances and RQs | Section 313 - Chemical Category | Section 313 - Reporting de minimis |
|--------------------------------------|-----------|---|---|--|---------------------------------|------------------------------------|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | None  | None  | None   | Nickel compounds                | 0.1% de minimis concentration      |

## U.S. TSCA

| Component                            | CAS No    | TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS) | TSCA 8(d) -Health and Safety Reporting |
|--------------------------------------|-----------|---|--|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | Not Applicable  | Not Applicable                         |

## Canada

### WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component  
Nickel Ammonium Sulfate, hexahydrate  
7785-20-8 ( 100 )

WHMIS 2015 Hazard Classification  
Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.; Respiratory sensitizers - Category 1: H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled. (due to lack of data, this classification was established by analogy to Nickel sulfate (soluble Nickel compound)); Skin sensitizers - Category 1: H317 May cause allergic skin reaction. (due to lack of data, this classification was established by analogy to Nickel sulfate (soluble Nickel compound)); Carcinogenicity - Category 1A: H350 May cause cancer.; Reproductive Toxicity - Category 1B: H360 May damage fertility or the unborn child. (due to lack of data, this classification was established by analogy to Nickel sulfate (soluble Nickel compound)); Reproductive Toxicity - Category 2: H361 Suspected of damaging fertility or the unborn child. (due to lack of data, this classification was established by analogy to Nickel sulfate (soluble Nickel compound)); Specific target organ toxicity - Repeated exposure - Category 1: H372 Causes damage to organs through prolonged or repeated exposure. (due to lack of data, this classification was established by analogy to Nickel sulfate (soluble Nickel compound))

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

### DSL/NDSL

| Component                            | CAS No    | Canada (DSL) | Canada (NDSL) |
|--------------------------------------|-----------|--------------|---------------|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | Not Listed   | Not Listed    |

| Component                            | CAS No    | CEPA Schedule I - Toxic Substances                          |
|--------------------------------------|-----------|---|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | Not listed  |
| Component                            | CAS No    | CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting |
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | Not listed  |

### EU Classification

#### EU GHS - SV - CLP 1272/2008

| Component                            | CAS No    | EU GHS - SV - CLP (1272/2008)  |
|--------------------------------------|-----------|--|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | For Nickel Ammonium Sulfate, anhydrous:<br>Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Acute toxicity - |

|  |  |   |
|--|--|---|
|  |  | <p>Inhalation - Acute Tox. 4: H332 Harmful if inhaled. (Minimum classification); Respiratory sensitizers - Resp. Sens. 1: H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.; Skin sensitizers - Skin Sens. 1: H317 May cause allergic skin reaction.; Germ cell mutagenicity - Muta. 2: H341 Suspected of causing genetic defects.; Carcinogenicity - Inhalation - Carc. 1A: H350 May cause cancer by inhalation.; Reproductive Toxicity - Repr. 1B: H360D May damage the unborn child. (Hazard statements H360 and H361 indicate a general concern for effects on both fertility and development: May damage/Suspected of damaging fertility or the unborn child; According to the criteria, the general hazard statement can be replaced by the hazard statement indicating the specific effect of concern in accordance with section 1.1.2.1.2; When the other differentiation is not mentioned, this is due to evidence proving no such effect, inconclusive data or no data and the obligations in Article 4(3) shall apply for that differentiation); Specific target organ toxicity - Repeated exposure - STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure. (No information to prove exclusion of certain routes of exposure); Hazardous to aquatic environment - acute hazard - Aquatic Acute 1: H400 Very toxic to aquatic life. (M Factor: 1); Hazardous to aquatic environment - chronic hazard - Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects. (M Factor: 1)028-017-00-9</p> <p>Skin sensitizers - Skin Sens. 1: H317 May cause allergic skin reaction. (C &gt;= 0.01 %); Specific target organ toxicity - Repeated exposure - STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure. (C &gt;= 1 %); Specific target organ toxicity - Repeated exposure - STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (0.1 % &lt;= C &lt;1 %)028-017-00-9</p> |
|--|--|---|

EU - CLP (1272/2008)

**R-phrase(s)**

R49 - May cause cancer by inhalation

R61 - May cause harm to the unborn child

R68 - Possible risk of irreversible effects

R50 - Very toxic to aquatic organisms

R53 - May cause long-term adverse effects in the aquatic environment

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R20/22 - Harmful by inhalation and if swallowed  
 R42/43 - May cause sensitization by inhalation and skin contact  
 R48/23 - Toxic: danger of serious damage to health by prolonged exposure through inhalation

**S -phrase(s)**

S53 - Avoid exposure - obtain special instructions before use  
 S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)  
 S60 - This material and its container must be disposed of as hazardous waste  
 S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

| Component                            | CAS No    | Classification   | Concentration Limits:   | Safety Phrases  |
|--------------------------------------|-----------|--|---|---|
| Nickel Ammonium Sulfate, hexahydrate | 7785-20-8 | For Nickel Ammonium Sulfate, anhydrous:<br>Xn; R20/22<br>R42/43<br>T; R48/23<br>Carc.Cat.1; R49<br>N; R50-53<br>Repr.Cat.2; R61<br>Muta.Cat.3; R68 | For Nickel Ammonium Sulfate, anhydrous:<br>1%<=C T; R48/23<br>0.1%<=C<1% Xn;<br>R48/20<br>0.01%<=C R43<br>25%<=C N; R50-53<br>2.5%<=C<25% N;<br>R51-53<br>0.25%<=C<2.5%<br>R52-53 | For Nickel Ammonium Sulfate, anhydrous:<br>S: 53-45-60-61 |

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

T - Toxic  
 Xn - Harmful  
 N - Dangerous for the environment

**16. OTHER INFORMATION**

**Preparation Date:** 2/26/2019  
**Revision date** 2/26/2019  
**Prepared by:** Sonia Owen

**Disclaimer:**

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**End of Safety Data Sheet**