

**SAFETY DATA SHEET**

Creation Date 06-Oct-2014

Revision Date 14-Feb-2020

Revision Number 3

**1. Identification**

**Product Name** Nickel ammonium sulfate hexahydrate

**Cat No. :** A18441

**CAS-No** 7785-20-8

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

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

**2. Hazard(s) identification****Classification**

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

|                                                      |             |
|------------------------------------------------------|-------------|
| Acute oral toxicity                                  | Category 4  |
| Acute Inhalation Toxicity - Dusts and Mists          | Category 4  |
| Respiratory Sensitization                            | Category 1  |
| Skin Sensitization                                   | Category 1  |
| Germ Cell Mutagenicity                               | Category 2  |
| Carcinogenicity                                      | Category 1A |
| Reproductive Toxicity                                | Category 1B |
| Specific target organ toxicity - (repeated exposure) | Category 1  |
| Target Organs - Respiratory system.                  |             |

**Label Elements****Signal Word**

Danger

**Hazard Statements**

May cause an allergic skin reaction  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
Suspected of causing genetic defects  
May cause cancer by inhalation  
May damage the unborn child  
Causes damage to organs through prolonged or repeated exposure  
Harmful if swallowed or if inhaled

**Precautionary Statements****Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Use only outdoors or in a well-ventilated area  
In case of inadequate ventilation wear respiratory protection  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves  
Do not breathe dust/fume/gas/mist/vapors/spray

**Response**

IF exposed or concerned: Get medical attention/advice

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Storage**

Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Very toxic to aquatic life with long lasting effects  
WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

### 3. Composition/Information on Ingredients

| Component                               | CAS-No    | Weight % |
|-----------------------------------------|-----------|----------|
| Ammonium nickel(II) sulfate hexahydrate | 7785-20-8 | 100      |

### 4. First-aid measures

**General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

|                                            |                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.                                                                                                                                     |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.                                                                                                                                                                                                                    |
| <b>Inhalation</b>                          | Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Call a physician or poison control center immediately.                                                                                                                                                                                                                                                 |
| <b>Most important symptoms and effects</b> | May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing                             |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                                                                                                                                                                                                                          |

## 5. Fire-fighting measures

|                                         |                          |
|-----------------------------------------|--------------------------|
| <b>Unsuitable Extinguishing Media</b>   | No information available |
| <b>Flash Point</b>                      | Not applicable           |
| <b>Method -</b>                         | No information available |
| <b>Autoignition Temperature</b>         | No information available |
| <b>Explosion Limits</b>                 |                          |
| <b>Upper</b>                            | No data available        |
| <b>Lower</b>                            | No data available        |
| <b>Sensitivity to Mechanical Impact</b> | No information available |
| <b>Sensitivity to Static Discharge</b>  | No information available |

### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Do not allow run-off from fire-fighting to enter drains or water courses.

### Hazardous Combustion Products

Sulfur oxides. Nickel oxides. Ammonia.

### 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. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

**Health**  
2

**Flammability**  
1

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

|                                  |                                                                                                                                                                                                                                                                                          |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>      | Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.                                                                                                      |
| <b>Environmental Precautions</b> | Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Do not flush into surface water or sanitary sewer system. Should not be released into the environment. |

**Methods for Containment and Clean** Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Up

## 7. Handling and storage

**Handling** Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component                               | ACGIH TLV                  | OSHA PEL                             | NIOSH IDLH                                                 | Mexico OEL (TWA)           |
|-----------------------------------------|----------------------------|--------------------------------------|------------------------------------------------------------|----------------------------|
| Ammonium nickel(II) sulfate hexahydrate | TWA: 0.1 mg/m <sup>3</sup> | (Vacated) TWA: 0.1 mg/m <sup>3</sup> | IDLH: 10 mg/m <sup>3</sup><br>TWA: 0.015 mg/m <sup>3</sup> | TWA: 0.1 mg/m <sup>3</sup> |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures** Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** When using do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes or clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

## 9. Physical and chemical properties

|                                  |                          |
|----------------------------------|--------------------------|
| Physical State                   | Solid                    |
| Appearance                       | Greenish-blue            |
| Odor                             | No information available |
| Odor Threshold                   | No information available |
| pH                               | 4.6 (0.1M)               |
| Melting Point/Range              | No data available        |
| Boiling Point/Range              | Not applicable           |
| Flash Point                      | Not applicable           |
| Evaporation Rate                 | Not applicable           |
| Flammability (solid,gas)         | No information available |
| Flammability or explosive limits |                          |
| Upper                            | No data available        |
| Lower                            | No data available        |
| Vapor Pressure                   | No information available |
| Vapor Density                    | Not applicable           |

|                                        |                          |
|----------------------------------------|--------------------------|
| Specific Gravity                       | 1.9                      |
| Solubility                             | Partially soluble        |
| Partition coefficient; n-octanol/water | No data available        |
| Autoignition Temperature               | No information available |
| Decomposition Temperature              | No information available |
| Viscosity                              | Not applicable           |
| Molecular Formula                      | H8N2NiO8S.6H2O           |
| Molecular Weight                       | 395                      |

## 10. Stability and reactivity

|                                  |                                                           |
|----------------------------------|-----------------------------------------------------------|
| Reactive Hazard                  | None known, based on information available                |
| Stability                        | Stable under normal conditions.                           |
| Conditions to Avoid              | Avoid dust formation. Incompatible products. Excess heat. |
| Incompatible Materials           | Strong oxidizing agents                                   |
| Hazardous Decomposition Products | Sulfur oxides, Nickel oxides, Ammonia                     |
| Hazardous Polymerization         | Hazardous polymerization does not occur.                  |
| Hazardous Reactions              | None under normal processing.                             |

## 11. Toxicological information

### Acute Toxicity

#### Product Information

#### Component Information

| Component                               | LD50 Oral                | LD50 Dermal | LC50 Inhalation |
|-----------------------------------------|--------------------------|-------------|-----------------|
| Ammonium nickel(II) sulfate hexahydrate | LD50 = 399 mg/kg ( Rat ) | Not listed  | Not listed      |

**Toxicologically Synergistic Products** No information available

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

|                 |                                                                                          |
|-----------------|------------------------------------------------------------------------------------------|
| Irritation      | No information available                                                                 |
| Sensitization   | No information available                                                                 |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component                               | CAS-No    | IARC    | NTP   | ACGIH      | OSHA | Mexico     |
|-----------------------------------------|-----------|---------|-------|------------|------|------------|
| Ammonium nickel(II) sulfate hexahydrate | 7785-20-8 | Group 1 | Known | Not listed | X    | Not listed |

*IARC (International Agency for Research on Cancer)*

*IARC (International Agency for Research on Cancer)*

*Group 1 - Carcinogenic to Humans*

*Group 2A - Probably Carcinogenic to Humans*

*Group 2B - Possibly Carcinogenic to Humans*

*NTP: (National Toxicity Program)*

*Known - Known Carcinogen*

*Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen*

*NTP: (National Toxicity Program)*

|                       |                                       |
|-----------------------|---------------------------------------|
| Mutagenic Effects     | Possible risk of irreversible effects |
| Reproductive Effects  | May cause harm to the unborn child.   |
| Developmental Effects | May cause harm to the unborn child.   |
| Teratogenicity        | No information available.             |

|                                                   |                                                                                                                                                                                       |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STOT - single exposure</b>                     | None known                                                                                                                                                                            |
| <b>STOT - repeated exposure</b>                   | Respiratory system                                                                                                                                                                    |
| <b>Aspiration hazard</b>                          | No information available                                                                                                                                                              |
| <b>Symptoms / effects, both acute and delayed</b> | Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing |
| <b>Endocrine Disruptor Information</b>            | No information available                                                                                                                                                              |
| <b>Other Adverse Effects</b>                      | The toxicological properties have not been fully investigated.                                                                                                                        |

## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

|                                      |                           |
|--------------------------------------|---------------------------|
| <b>Persistence and Degradability</b> | May persist               |
| <b>Bioaccumulation/ Accumulation</b> | No information available. |
| <b>Mobility</b>                      | No information available. |

## 13. Disposal considerations

|                               |                                                                                                                                                                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Waste Disposal Methods</b> | Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification. |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 14. Transport information

### DOT

|                             |                                                     |
|-----------------------------|-----------------------------------------------------|
| <b>UN-No</b>                | UN3077                                              |
| <b>Proper Shipping Name</b> | Environmentally hazardous substances, solid, n.o.s. |
| <b>Hazard Class</b>         | 9                                                   |
| <b>Packing Group</b>        | III                                                 |

### TDG

|                             |                                                     |
|-----------------------------|-----------------------------------------------------|
| <b>UN-No</b>                | UN3077                                              |
| <b>Proper Shipping Name</b> | Environmentally hazardous substances, solid, n.o.s. |
| <b>Hazard Class</b>         | 9                                                   |
| <b>Packing Group</b>        | III                                                 |

### IATA

|                             |                                                     |
|-----------------------------|-----------------------------------------------------|
| <b>UN-No</b>                | UN3077                                              |
| <b>Proper Shipping Name</b> | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.* |
| <b>Hazard Class</b>         | 9                                                   |
| <b>Packing Group</b>        | III                                                 |

### IMDG/IMO

|                             |                                                     |
|-----------------------------|-----------------------------------------------------|
| <b>UN-No</b>                | UN3077                                              |
| <b>Proper Shipping Name</b> | Environmentally hazardous substances, solid, n.o.s. |
| <b>Hazard Class</b>         | 9                                                   |
| <b>Packing Group</b>        | III                                                 |

## 15. Regulatory information

### United States of America Inventory

| Component                   | CAS-No    | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|-----------------------------|-----------|------|-----------------------------------------------|-----------------------------|
| Ammonium nickel(II) sulfate | 7785-20-8 | -    | -                                             | -                           |

|             |  |  |  |  |
|-------------|--|--|--|--|
| hexahydrate |  |  |  |  |
|-------------|--|--|--|--|

**Legend:**

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component                               | CAS-No    | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|-----------------------------------------|-----------|-----|------|--------|-------|------|------|-------|------|
| Ammonium nickel(II) sulfate hexahydrate | 7785-20-8 | -   | -    | -      | X     | -    | X    | -     | -    |

**U.S. Federal Regulations****SARA 313**

| Component                               | CAS-No    | Weight % | SARA 313 - Threshold Values % |
|-----------------------------------------|-----------|----------|-------------------------------|
| Ammonium nickel(II) sulfate hexahydrate | 7785-20-8 | 100      | 0.1 1.0                       |

SARA 311/312 Hazard Categories See section 2 for more information

**CWA (Clean Water Act)**

| Component                               | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|-----------------------------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Ammonium nickel(II) sulfate hexahydrate | -                          | -                           | X                      | -                         |

**Clean Air Act**

| Component                               | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|-----------------------------------------|-----------|-------------------------|-------------------------|
| Ammonium nickel(II) sulfate hexahydrate | X         |                         | -                       |

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product contains the following Proposition 65 chemicals.

| Component                               | CAS-No    | California Prop. 65                              | Prop 65 NSRL | Category                    |
|-----------------------------------------|-----------|--------------------------------------------------|--------------|-----------------------------|
| Ammonium nickel(II) sulfate hexahydrate | 7785-20-8 | Carcinogen<br>Developmental<br>Male Reproductive | -            | Developmental<br>Carcinogen |

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

| Component                               | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------------------------------|---------------|------------|--------------|----------|--------------|
| Ammonium nickel(II) sulfate hexahydrate | -             | X          | X            | X        | X            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

**Other International Regulations**

Mexico - Grade No information available

**16. Other information**

|                         |                                                                                     |
|-------------------------|-------------------------------------------------------------------------------------|
| <b>Prepared By</b>      | Health, Safety and Environmental Department<br>Email: tech@alfa.com<br>www.alfa.com |
| <b>Creation Date</b>    | 06-Oct-2014                                                                         |
| <b>Revision Date</b>    | 14-Feb-2020                                                                         |
| <b>Print Date</b>       | 14-Feb-2020                                                                         |
| <b>Revision Summary</b> | SDS authoring systems update, replaces ChemGes SDS No. 7785-20-8.                   |

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**