



[Ammonium Nickel\(II\) Sulfate
Hexahydrate](#)

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| | |
|-----------------------|--|
| Linear Formula | (NH ₄) ₂ Ni(SO ₄) ₂ • 6H ₂ O |
| Pubchem CID | 62669 |
| MDL Number | MFCD00150260 |
| EC No. | 239-793-5 |
| IUPAC Name | azane; hydrogen sulfate; nickel(2+); hexahydrate |
| SMILES | N.N.O.O.O.O.O.O.S(=O)(=O)[O-].[O-].OS(=O)(=O)[O-].[Ni+2] |
| Inchl Identifier | InChI=1S/2H3N.Ni.2H2O4S.6H2O/c;;;2*1-5(2,3)4;;;;/h2*1H3;;2*(H2,1,2,3,4);6*1H2/q;;+2;;;;;/p-2 |
| Inchl Key | ZZPAXHDZFDUTLY-UHFFFAOYSA-L |
| Signal Word | Danger |
| Hazard Statements | H302-H317-H332-H334-H341-H350i-H360D-H372-H410 |
| Hazard Codes | T |
| Risk Codes | 45-22-42/43 |
| Safety Statements | 53-22-36/37-45 |
| RTECS Number | WS6061000 |
| Transport Information | N/A |
| WGK Germany | 3 |
| GHS Pictograms | GHS09 Environment  GHS07 Exclamation Point  |

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SAFETY DATA SHEET

Date Accessed: 05/02/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #7785-20-8

Relevant identified uses of the substance:
Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

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
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(Category 1), H372
Acute aquatic toxicity(Category 1), H400
Chronic aquatic toxicity(Category 1), H410
GHS Label elements, including precautionary
statements
Pictogram



Signal word

Danger

Hazard statement(s)

H302 + H332

Harmful if swallowed or if inhaled

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.

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/ Vapors/ 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 or doctor/ physician if you feel unwell. 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 or doctor/ physician 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.

P363

Wash contaminated clothing before reuse.

P391

Collect spillage.

P405

Store locked up.

P501

Dispose of contents/ container to an approved waste disposal plant.

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Synonyms: Nickel ammonium sulfate

Formula: $\text{H}_8\text{N}_2\text{NiO}_8\text{S}_{26}\text{H}_{20}$

Molecular weight: 394.99 g/mol

CAS-No.: 7785-20-8

EC-No.: 239-793-5

Index-No.: 028-017-00-9

SECTION 4. FIRST AID MEASURES

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. Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

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

Special hazards arising from the substance or mixture
Nitrogen oxides (NO_x), Sulphur oxides, Nickel/nickel oxides

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas.

Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

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.

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.

Reference to other sections

For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.

Conditions for safe storage, including any incompatibilities

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

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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.

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 N100 (US) or type P3 (EN 143) 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 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Form: Crystals with lumps

Color: green

Odor

No data available

Odor Threshold

No data available

pH

No data available

Melting point/freezing point

Melting point/range: 85 -89 °C (185 -192 °F)-lit.

Initial boiling point and boiling range

No data available

Flash point

N/A

Evaporation rate

No data available

Flammability (solid, gas)
No data available
Upper/lower flammability or explosive limits
No data available
Vapor pressure
No data available
Vapor density
No data available
Relative density
No data available
Water solubility
No data available
Partition coefficient: n-octanol/water
No data available
Auto-ignition temperature
No data available
Decomposition temperature
No data available
Viscosity
No data available
Explosive properties
No data available
Oxidizing properties
No data available
Other safety information
No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
No data available
Chemical stability
Stable under recommended storage conditions.
Possibility of hazardous reactions
No data available
Conditions to avoid
No data available
Incompatible materials
Strong oxidizing agents
Hazardous decomposition products
Other decomposition products-No data available
In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity
LD50 Oral-Rat-399 mg/kg
Remarks:
Behavioral:Somnolence (general depressed activity).

Gastrointestinal: Changes in structure or function of salivary glands. Diarrhoea
Inhalation: No data available
Dermal: No data available
No data available
Skin corrosion/irritation
No data available
Serious eye damage/eye irritation
No data available
Respiratory or skin sensitisation
Germ cell mutagenicity
In vitro tests showed mutagenic effects
Carcinogenicity
Human carcinogen.
IARC:
1-Group 1: Carcinogenic to humans (Diammonium nickel bis(sulphate) hexahydrate)
ACGIH:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:
Known to be human carcinogen (Diammonium nickel bis(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
No data available
Presumed human reproductive toxicant
Specific target organ toxicity -single exposure
No data available
Specific target organ toxicity -repeated exposure
Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard
No data available
Additional Information
RTECS: WS6061000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Stomach-Irregularities-Based on Human Evidence
Stomach-Irregularities-Based on Human Evidence

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
No data available
Persistence and degradability
No data available
Bioaccumulative potential

No data available
Mobility in soil
No data available
Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical
safety assessment not required/not conducted
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.

SECTION 13. DISPOSAL CONSIDERATIONS

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 chemical incinerator equipped
with an afterburner and scrubber.
Contaminated packaging
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US)
UN number: 3077
Class: 9
Packing group: III
Proper shipping name:
Environmentally hazardous substances, solid,
n.o.s.(Diammonium nickel bis(sulphate)
hexahydrate)
Reportable Quantity
(RQ): 100 lbs
Poison Inhalation Hazard: No
IMDG
Not dangerous goods
IATA
Not dangerous goods

SECTION 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:

Diammonium nickel bis(sulphate) hexahydrate

CAS-No.

7785-20-8

Revision Date

1993-04-24

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Diammonium nickel bis(sulphate) hexahydrate

CAS-No.

7785-20-8

Revision Date

1993-04-24

Pennsylvania Right To Know Components

Diammonium nickel bis(sulphate) hexahydrate

CAS-No.

7785-20-8

Revision Date

1993-04-24

New Jersey Right To Know Components

Diammonium nickel bis(sulphate) hexahydrate

CAS-No.

7785-20-8

Revision Date

1993-04-24

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

Diammonium nickel bis(sulphate) hexahydrate

CAS-No.

7785-20-8

Revision Date

2007-09-28

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO

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