Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Nickel(II) nitrate hexahydrate
Product Number: 72952
Brand: Sigma-Aldrich
Supplier: Sigma-Aldrich
3050 Spruce Street
ST. LOUIS, MO 63103
USA
Telephone: +1 800-325-8883
Fax: +1 800-325-0520
Emergency Phone # (For both supplier and manufacturer): (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8558

2. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards: Oxidizing, Carcinogen, Target Organ Effect, Toxic by Inhalation, Harmful by Ingestion, Skin and respiratory sensitizer, Irritant, Teratogen

Target Organ
Lungs
GHS Classification
Oxidizing solids (Category 3)
Acute toxicity, Oral (Category 4)
Acute toxicity, inhalation (Category 4)
Skin irritation (Category 2)
Serious eye damage (Category 1)
Respiratory sensitation (Category 1)
Skin sensitation (Category 1)
Reproductive toxicity (Category 1B)
Specific target organ toxicity - repeated exposure, Inhalation (Category 1)
Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram
Signal word: Danger
Hazard statement(s)
H272: May intensify fire; oxidizer.
H302: Harmful if swallowed;
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Form/Concentration: 

4. 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
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self-contained breathing apparatus for fire fighting if necessary.

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

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

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

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
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

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. Keep away from sources of ignition. - No smoking. Keep away from host and sources of ignition.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel nitrate hydrate</td>
<td>13478-00-7</td>
<td>TWA 1 mg/m³</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 0.1 mg/m³</td>
<td>USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000</td>
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<tr>
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</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form: crystalline
Colour: dark green

Safety data
pH: no data available
Melting point/freezing point: no data available
Boiling point: no data available
Flash point: not applicable
Ignition temperature: no data available
Autoignition temperature: no data available
This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

IARC:
1 - Group 1: Carcinogenic to humans (Nickel nitrate hexahydrate)
1 - Group 1: Carcinogenic to humans (Nickel nitrate hexahydrate)
2A - Group 2A: Probably carcinogenic to humans (Nickel nitrate hexahydrate)

OSHA:
Known to be human carcinogen (Nickel nitrate hexahydrate)

Reproductive toxicity

no data available

Teratogenicity

Presumed human reproductive toxicant

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 1,620 mg/kg

Inhalation LC50

Dermal LD50

no data available

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

May cause allergic respiratory and skin reactions

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

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

Aspiration hazard

no data available

Potential health effects

Inhalation: Toxic if inhaled. Causes respiratory tract irritation.
Ingestion: Harmful if swallowed.
Skin: Harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes eye irritation.

Signs and Symptoms of Exposure

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

Synergistic effects

no data available

Additional Information

RTECS: CRF200800

12. ECOLOGICAL INFORMATION

Toxicity

no data available
Persistence and degradability
no data available
Bioaccumulative potential
no data available
Mobility in soil
no data available
PBT and vPvB assessment
no data available
Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
no data available

13. DISPOSAL CONSIDERATIONS
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber; but exert extra care in igniting as this material is highly flammable. 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
Disposal as an unused product.

14. TRANSPORT INFORMATION
DOT (US)
UN number: 2725  Class: 5.1
Proper shipping name: Nickel nitrate
Packing group: III
Reportable Quantity (RQ):
Marine pollutant: No
Peloton Inflammation Hazard: No
IMDG
UN number: 2725  Class: 5.1
Proper shipping name: NICKEL NITRATE
Marine pollutant: No
Packing group: III
EMS-No: F-A, S-Q
IATA
UN number: 2725  Class: 5.1
Proper shipping name: Nickel nitrate
Packing group: III

15. REGULATORY INFORMATION
OSHA Hazards
Oxidizer, Carcinogen, Target Organ Effect, Toxic by inhalation, Harmful by ingestion, Skin and respiratory sensitizer, Irritant, Teratogen
SARA 302 Components
SARA 302: 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 II, Section 313:

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<tr>
<td>CAS-No. 13478-00-7</td>
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<td>Revision Date 1993-04-24</td>
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SARA 311/312 Hazards
Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
Nickel nitrate hexahydrate
CAS-No. 13478-00-7
Revision Date 1993-04-24

Pennsylvania Right To Know Components
Nickel nitrate hexahydrate
CAS-No. 13478-00-7
Revision Date 1993-04-24

New Jersey Right To Know Components
Nickel nitrate hexahydrate
CAS-No. 13478-00-7
Revision Date 1993-04-24

California Prop. 65 Components
WARNING! This product contains a chemical known to the State of California to cause cancer.
Nickel nitrate hexahydrate
CAS-No. 13478-00-7
Revision Date 2004-05-07

16. OTHER INFORMATION
Further Information
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