

Material Safety Data Sheet

Nickel (II) Chloride Hexahydrate

ACC# 16310

Section 1 - Chemical Product and Company Identification

MSDS Name: Nickel (II) Chloride Hexahydrate
Catalog Numbers: S80104, S801041, N53-500, N54-10, N54-250, N54-3, N54-500
Synonyms: Nickelous Chloride; Nickel Dichloride.
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

| CAS# | Chemical Name | Percent | EINECS/ELINCS |
|-----------|---------------------------------|---------|---------------|
| 7791-20-0 | NICKEL(II) CHLORIDE HEXAHYDRATE | >97% | unlisted |

Hazard Symbols: T
Risk Phrases: 25 20

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: green solid. **Warning!** Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause severe skin irritation and possible burns. May cause respiratory and digestive tract irritation. May cause allergic skin reaction. May cause cancer based on animal studies. Toxic. Harmful if swallowed. Potential cancer hazard.
Target Organs: Respiratory system.

Potential Health Effects

Eye: May cause eye irritation and possible burns.
Skin: Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause severe irritation and possible burns. May cause dermatitis. Causes "nickel itch" which is a dermatitis resulting from sensitization to nickel, which is characterized by skin eruptions, followed by discrete ulcers that may discharge and become crusted, or by eczema.
Ingestion: Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea.
Inhalation: Inhalation of a mist of this material may cause respiratory tract irritation.
Chronic: Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. May cause respiratory tract cancer. Symptoms of overexposure to nickel can cause sensitization, dermatitis, allergic asthma and pneumonitis.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Flash Point: Noncombustible.

Autoignition Temperature: Noncombustible.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Reduce airborne dust and prevent scattering by moistening with water. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Carefully scoop up and place into appropriate disposal container.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|------------------------------------|-------------|-------------|-------------------|
| NICKEL(II) CHLORIDE HEXAHYDRATE | none listed | none listed | none listed |

OSHA Vacated PELs: NICKEL(II) CHLORIDE HEXAHYDRATE: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: 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: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: green

Odor: odorless

pH: 4.0 (aqueous sol)

Vapor Pressure: 1 mm Hg @1140F

Vapor Density: Not available.

Evaporation Rate: Negligible

Viscosity: Not available.

Boiling Point: 1783 deg F

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 3.55 (water=1)

Molecular Formula: NiCl₂.6H₂O

Molecular Weight: 237.6764

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, dust generation, excess heat.

Incompatibilities with Other Materials: Strong acids, peroxides, potassium.

Hazardous Decomposition Products: Hydrogen chloride, nickel oxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:**CAS#** 7791-20-0: QR6480000**LD50/LC50:**

CAS# 7791-20-0:

Oral, rat: LD50 = 105 mg/kg;

Carcinogenicity:

CAS# 7791-20-0:

NIOSH: potential occupational carcinogen (listed as Nickel compounds)**NTP:** Known carcinogen (listed as Nickel compounds).**OSHA:** Select carcinogen (listed as Nickel compounds).**IARC:** Group 1 carcinogen (listed as Nickel compounds).**Epidemiology:** IARC Group 2B: Proven animal carcinogenic substance of potential relevance to humans. IARC Group 2B: No data available on human carcinogenicity, however sufficient evidence of carcinogenicity in animals. Epidemiological studies have shown an increased incidence of cancers among nickel refinery workers. An increased incidence of lung and nasal cavity cancers has been noted among women in nickel smelters and refineries.**Teratogenicity:** No information available.**Reproductive Effects:** No information available.**Neurotoxicity:** No information available.**Mutagenicity:** Cytogenetic Analysis: mouse mammary gland 800umol/L. Sister Chromatid Exchange: hamster fibroblast 32mg/L.**Other Studies:** See actual entry in RTECS for complete information.

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| Section 12 - Ecological Information |
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Ecotoxicity: No data available. No information available.**Environmental:** No information reported.**Physical:** No information available.**Other:** None.

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| Section 13 - Disposal Considerations |
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Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:** None listed.

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| Section 14 - Transport Information |
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| | US DOT | IATA | RID/ADR | IMO | Canada TDG |
|-----------------------|--------------------------------------|------|---------|-----|---|
| Shipping Name: | TOXIC SOLID, INORGANIC, N.O.S. | | | | TOXIC SOLID INORGANIC NOS (NICKELOUS) |

| | | | |
|-----------------------|--------|--|-----------|
| | | | CHLORIDE) |
| Hazard Class: | 6.1 | | 6.1 |
| UN Number: | UN3288 | | UN3288 |
| Packing Group: | III | | III |

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7791-20-0 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7791-20-0: acute, chronic.

Section 313

This material contains NICKEL(II) CHLORIDE HEXAHYDRATE (listed as Nickel compounds), 97%, (CAS# 7791-20-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7791-20-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T

Risk Phrases:

R 25 Toxic if swallowed.
R 20 Harmful by inhalation.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 7791-20-0: No information available.

Canada - DSL/NDSL

None of the chemicals in this product are listed on the DSL or NDSL list. **Canada - WHMIS**
This product has a WHMIS classification of D1B, D2A.

Canadian Ingredient Disclosure List

CAS# 7791-20-0 (listed as Nickel soluble compounds) is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 7791-20-0: OEL-ARAB Republic of Egypt:TWA 0.1 mg(Ni)/m3 OEL-AUSTRALIA:TWA 1 mg(Ni)/m3 OEL-BELGIUM:TWA 1 mg(Ni)/m3 (insoluble compounds) OEL-BELGIUM:TWA 1 mg(Ni)/m3 OEL-CZECHOSLOVAKIA:TWA 0.05 mg(Ni)/m3;STEL 0.25 mg(Ni)/m3 OEL-DENMARK:TWA 0.05 mg(Ni)/m3;Carcinogen OEL-DENMARK:TWA 1 mg(Ni)/m3 (insoluble compounds) OEL-FINLAND:TWA 0.1 mg(Ni)/m3;Carcinogen OEL-FINLAND:TWA 0.1 mg(Ni)/m3;Skin;CAR (insoluble compounds) OEL-FRANCE:TWA 1 mg(Ni)/m3 OEL-GERMANY;Carcinogen OEL-HUNGARY:STEL 0.005 mg(Ni)/m3;CAR (insoluble compounds) OEL-HUNGARY:STEL 0.005 mg(Ni)/m3;Carcinogen OEL-JAPAN:TWA 1 mg(Ni)/m3;Carcinogen OEL-THE NETHERLANDS:TWA 0.1 mg(Ni)/m3 OEL-THE NETHERLANDS:TWA 1 mg(Ni)/m3 (insoluble compounds) OEL-THE PHILIPPINES:TWA 1 mg(Ni)/m3 OEL-RUSSIA:STEL 0.05 mg(Ni)/m3 OEL-SWEDEN:TWA 0.5 mg(Ni)/m3 OEL-SWITZERLAND:TWA 0.5 mg(Ni)/m3 (insoluble compounds) OEL-SWITZERLAND:TWA 0.5 mg(Ni)/m3;Carcinogen JAN9 OEL-THAILAND:TWA 1 mg(Ni)/m3 OEL-UNITED KINGDOM:TWA 0.5 mg(Ni)/m3 (insoluble compounds) OEL-UNITED KINGDOM:TWA 1 mg(Ni)/m3 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

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| Section 16 - Additional Information |
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MSDS Creation Date: 12/12/1997

Revision #4 Date: 3/18/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of 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 Fisher 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 Fisher has been advised of the possibility of such damages.