

MATERIAL SAFETY DATA SHEET

Print date: 25-May-2012

Version 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: NICKEL CHLORIDE-6-HYDRATE
Product code: 1665037-0025-1-000
Synonyms: No information available

Supplier:

ATOTECH USA INC 1750 OVERVIEW DRIVE ROCK HILL, SC 29730 TELEPHONE: 803-817-3500 MONDAY - FRIDAY HOURS: 8:00am - 5:00pm EST	ATOTECH CANADA LTD. 1180 CORPORATE DRIVE BURLINGTON, ON., L7L 5R6 TELEPHONE: 905-332-0111 MONDAY - FRIDAY HOURS: 8:00am - 4:30pm EST
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Emergency telephone numbers:

SPILLS AND TRANSPORT	CHEMTREC (USA): 800-424-9300 CANUTEC (CANADA): 613-996-6666
TRANSPORT MEDICAL	ROCKY MOUNTAIN POISON CONTROL CENTER: 303-623-5716

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Danger
Toxic
Sensitizer
Carcinogenic

This material is considered to be hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
This material is a controlled product under WHMIS.

Potential health & environmental effects

Properties affecting health: Harmful by inhalation. Harmful in contact with skin. Harmful if swallowed. Possible carcinogen.

Principle routes of exposure: Eyes. Skin. Inhalation. Ingestion.

Skin contact: May be absorbed through the skin in harmful amounts. May be fatal if absorbed through skin. May cause sensitization by skin contact. May cause allergic skin reaction. Contact causes skin irritation.

Eye contact: Contact with eyes may cause irritation.

Inhalation: May be harmful if inhaled. May be fatal if inhaled. May cause sensitization by inhalation. May cause irritation of respiratory tract. May cause allergic respiratory reaction.

Ingestion: May be harmful if swallowed. May be fatal if swallowed. Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance.

Physico-chemical properties: Incompatible with bases. Gives off hydrogen by reaction with metals.

Potential environmental effects: Dangerous for the environment

3. COMPOSITION/INFORMATION ON INGREDIENTS

Description Substance

INGREDIENTS (BY WEIGHT PERCENT)

Components	CAS-No	Weight %
Nickel(II) chloride hexahydrate	7791-20-0	60 - 100

This product may contain component (s) that are not listed under disclosure. All components not listed, do not contain hazardous materials above de minimus disclosure limits as defined by OSHA, NIOSH, ACGIH or Canadian WHMIS regulations and or guidelines. Please refer to other sections of the MSDS for information on safety, health and environmental guidelines and precautions.

4. FIRST AID MEASURES

General advice: Call a physician immediately.

Skin contact: Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Call a physician immediately.

Inhalation: Move to fresh air. Artificial respiration and/or oxygen may be necessary. Call a physician immediately.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Ingestion: Call a physician or Poison Control Center immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Notes to physician: Treat symptomatically.

Protection of first-aiders: Use personal protective equipment.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons: No information available

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

Special hazards arising from the substance or mixture: In case of fire hazardous decomposition products may be produced such as, Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides.

Unusual hazards: Run off water may be corrosive and / or toxic.

Specific methods: Water mist may be used to cool closed containers. Dike and collect water used to fight fire. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Flash Point: The product is not flammable

Flash point test method: Not applicable.

Autoignition temperature: Not applicable

Flammability Limits in Air:

Lower: Not applicable.
Upper: Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid contact with skin, eyes and clothing. Prevent unauthorized access. For personal protection see section 8.
Environmental precautions:	Should not be released into the environment.
Methods for containment:	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up:	Avoid formation of aerosol. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Handling

Technical measures/precautions:	Use only in area provided with appropriate exhaust ventilation.
Safe handling advice:	Do not breathe vapors/dust. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Do not ingest. For personal protection see section 8.

Storage

Technical measures/storage conditions:	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep locked-up.
Incompatible products:	Bases. Cyanides.
Shelf Life (days):	730

Storage Temperature

Keep above: 23 °F / -5 °C
Keep below: 104 °F / 40 °C

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:	Ensure adequate ventilation, especially in confined areas
Individual protection measures	
Respiratory protection:	In case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators..
Hand protection:	Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Skin and body protection:	Long sleeved clothing. Boots.
Eye protection:	Tightly fitting safety goggles. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures:

Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.



Exposure limits	ACGIH			OSHA			NIOSH		
	TWA	STEL	Ceilings	TWA	STEL	Ceilings	TWA	STEL	Ceilings
Nickel(II) chloride hexahydrate 7791-20-0	-	-	-	1 mg/m ³	-	-	0.015 mg/m ³	-	-

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Solid	Color:	Green
Odor:	Odourless	Specific gravity:	Not determined 1.90 - 1.95
pH:	@ 20% in H ₂ O = 4 - 5	Boiling point:	> 212 °F (> 100 °C)
Melting point:	1834 °F / 1001 °C	Evaporation rate:	Not applicable.
Vapor density:	Not applicable.	Vapor pressure:	ca. 23 hPa
Water solubility:	Soluble	Solubility in other solvents:	No information available

Flash Point:	The product is not flammable	Flash point test method:	Not applicable.
Autoignition temperature:	Not applicable	Decomposition temperature:	Not determined

Explosion limits:

Upper: Not applicable

Lower: Not applicable

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Materials to avoid:	Acids. Sulfuric acid. Cyanides. Sulfur. Potassium. Selenium.
Conditions to avoid:	To avoid thermal decomposition, do not overheat.
Hazardous decomposition products:	See chapter: 5.
Hazardous reactions:	None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute toxicity**Component Information**

Components	LD50/oral/rat	LC50/inhalation/rat	LD50/dermal/rabbit
Nickel(II) chloride hexahydrate - 7791-20-0	105 mg/kg	No information available	No information available

Product Information

LC50/inhalation/rat = No information available

LD50/dermal/rabbit = No information available

LD50/oral/rat = No information available

Local effects

- Skin contact:** May be absorbed through the skin in harmful amounts. May be fatal if absorbed through skin.
- Eye contact:** Contact with eyes may cause irritation.
- Inhalation:** May be fatal if inhaled.
- Ingestion:** May be fatal if swallowed.
- Sensitization** May cause sensitization by inhalation and skin contact.

Chronic effects:

This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Specific effects

- Carcinogenic effects:** Known carcinogen.
- mutagenic effects** Suspected of causing genetic defects Mutagenic Category 2
- Reproductive toxicity:** May cause heritable genetic damage
- Target organ effects:** Skeletal system. Kidney. Central nervous system.

Carcinogenic substances

Components	NTP:	IARC:	OSHA	ACGIH
Nickel(II) chloride hexahydrate	Known Carcinogen	1	X	-

12. ECOLOGICAL INFORMATION

Environmental hazard

- Toxicity:** No data is available on the product itself
- Aquatic toxicity:** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- Mobility:** No information available
- Bioaccumulative potential:** Not determined.

Components	Freshwater Algae	Freshwater Fish Species
Nickel(II) chloride hexahydrate - 7791-20-0	-	-

Components	Microtoxicity	Water Flea
Nickel(II) chloride hexahydrate 7791-20-0	-	-

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Dispose of in accordance with local regulations.

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

14. TRANSPORT INFORMATION

DOT (USA)

UN-No (DOT): UN3288
Proper shipping name DOT: TOXIC SOLID, INORGANIC, N.O.S.
Technical Name (DOT): (NICKEL CHLORIDE)
Hazard Class (DOT): 6.1
Packing group (DOT): III
ERG No: 151
Description (DOT): TOXIC SOLID, INORGANIC, N.O.S., (NICKEL CHLORIDE) , 6.1, UN3288, PGIII

TDG (Canada)

UN-No (TDG): UN3288
Proper shipping name TDG: TOXIC SOLID, INORGANIC, N.O.S.
Technical Name (TDG): (NICKEL CHLORIDE)
Hazard Class (TDG): 6.1
Packing group (TDG): III
Description (TDG): TOXIC SOLID, INORGANIC, N.O.S., (NICKEL CHLORIDE) , 6.1, UN3288, PGIII

15. REGULATORY INFORMATION

International Inventories**All of the components in this product are on or exempt from the following inventories:**

USA (TSCA), CANADA (DSL / NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (ECL), China (IECSC), Japan (ENCS), Philippines (PICCS).

International Inventory Legend

TSCA: US - Toxic Substance Control Act
 DSL: Canada - Domestic Substance List
 NDSL: Canada - Non-Domestic Substance List
 IECSC: China - Inventory of Existing Chemical Substances China
 EINECS: EU Inventory of Existing Commercial Chemical Substances
 ELINCS: EU List of Notified Chemical Substances
 ECL: Korea - Existing Chemicals List
 AICS: Australia - Inventory of Chemical Substances
 ENCS: Japan - Existing and New Chemical Substances
 PICCS: Philippines - Inventory of Chemicals and Chemical Substances

U.S. Regulations:**HAZARDOUS COMPONENTS**

Components	CA PROP 65	SARA 302	SARA 313	CERCLA RQ	TSCA 12(b)	CWC	DEA
Nickel(II) chloride hexahydrate	1	-	X	-	-	-	-

U.S. Regulations Legend

CA PROP 65: California Proposition 65 - Carcinogens List
 TSCA 12(b): TSCA Section 12(b) - Export Notification
 SARA 302: CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs and TPQs
 SARA 313: CERCLA/SARA - Section 313 - Emission Reporting
 CERCLA RQ: CERCLA/SARA - Hazardous Substances and Their Reportable Quantities
 CWC: Chemical Weapons Convention - Annex on Chemicals
 DEA LISTED: DEA (Drug Enforcement Administration) - DEA Controlled, Precursors, and / or Essential Chemicals

SARA 311	
Acute Health Hazard	YES
Chronic Health Hazard	NO
Fire Hazard	NO
Sudden Release of Pressure Hazard	NO
Reactive Hazard	NO

Canada

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS Controlled List

HAZARDOUS COMPONENTS

Components	CAS-No	WHMIS Call out threshold
Nickel(II) chloride hexahydrate	7791-20-0	1.0

WHMIS hazard class:

- D1B Toxic materials
- D2A Very toxic materials



Substances currently restricted by WEEE/RoHS (European Directive 2002/96/EC , 2002/95/EC) or ELV (European Directive 2000/53/EC):

PBDE

-

PBB

-

Cr(VI)

-

Hg

-

Pb

-

Cd

-

16. OTHER INFORMATION



NFPA: Health: 3Flammability: 0Instability: 0

CAREFULLY READ THE FOLLOWING: The identification of ingredients in this document meets or exceeds the requirements set forth in 29 CFR, 40 CFR, TDG et al. at the date of publication. Ingredients present in a mixture or solution which are generically identified or not referenced in this document are not regulatorily required to be specifically identified or referenced. The information contained herein should be provided to all those who will use, handle, store, transport, or may otherwise be exposed to this product.

Product name: NICKEL CHLORIDE-6-HYDRATE

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Prepared by: H.E.S. Department