Fisher Scientific

Part of Thermo Fisher Scientific

SAFETY DATA SHEET

Creation Date 04-Apr-2014 **Revision Date** 04-Apr-2014 **Revision Number** 1

1. Identification

Product Name **Nickel Chloride Hexahydrate (Technical)**

Cat No. : **N53-500**

Synonyms Nickel dichloride.; Nickelous chloride

Recommended Use Laboratory chemicals

Uses advised against No Information available

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

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

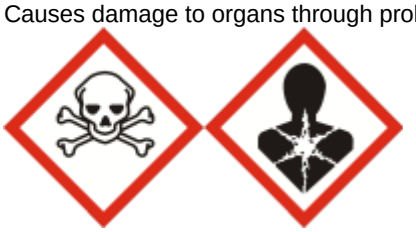
Acute oral toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 3
Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1A
Reproductive Toxicity	Category 1B
Specific target organ toxicity - (repeated exposure)	Category 1
Target Organs - Respiratory system.	

Label Elements

Signal Word
Danger

Hazard Statements

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



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
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
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
Call a POISON CENTER or doctor/physician
Skin
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention.
Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
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
Other hazards
WARNING! This product contains a chemical known in the State of California to cause cancer.

3. Composition / information on ingredients

Haz/Non-haz

Component	CAS-No	Weight %
Nickel(II) chloride hexahydrate (1:2:6)	7791-20-0	>95
Nickel(II) chloride	7718-54-9	-

4. First-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Obtain medical attention.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms/effects 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.

Notes to Physician Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Substance is nonflammable; use agent most appropriate to extinguish surrounding fire..

Unsuitable Extinguishing Media No information available.

Flash Point No information available.
Method - No information available

Autoignition Temperature No information available.

Explosion Limits
Upper No data available
Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous Combustion Products Hydrogen chloride gas, Chlorine, Burning produces obnoxious and toxic fumes.

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.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	0	N/A

6. Accidental release measures

Personal Precautions Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing.

Environmental Precautions Should not be released into the environment. See Section 12 for additional ecological Information.

Methods for Containment and Clean Up Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

7. Handling and storage

Handling Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest.

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
Nickel(II) chloride hexahydrate (1:2:6)	TWA: 0.1 mg/m^3	(Vacated) TWA: 0.1 mg/m^3	IDLH: 10 mg/m^3 TWA: 0.015 mg/m^3
Nickel(II) chloride	TWA: 0.1 mg/m^3	(Vacated) TWA: 0.1 mg/m^3	IDLH: 10 mg/m^3 TWA: 0.015 mg/m^3

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Nickel(II) chloride hexahydrate (1:2:6)	TWA: 0.1 mg/m^3	TWA: 0.1 mg/m^3 STEL: 0.3 mg/m^3	TWA: 0.1 mg/m^3
Nickel(II) chloride	TWA: 0.1 mg/m^3	TWA: 0.1 mg/m^3 STEL: 0.3 mg/m^3	TWA: 0.1 mg/m^3

Legend
ACGIH *- American Conference of Governmental Hygienists*
OSHA *- Occupational Safety and Health Administration*
NIOSH IDLH: *The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health*

Engineering Measures Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. 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 Handle in accordance with good industrial hygiene and safety practice

9. Physical and chemical properties

Physical State	Solid
Appearance	Green
Odor	Odorless
Odor Threshold	No information available.
pH	4-6 5% aq.sol.
Melting Point/Range	No data available
Boiling Point/Range	No information available.
Flash Point	No information available.
Evaporation Rate	No information available.
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	1 mmHg @ 615.6 °C
Vapor Density	No information available.
Relative Density	3.55 (H2O=1)
Solubility	No information available.
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available.
Decomposition temperature	> 140°C
Viscosity	No information available.
Molecular Formula	Cl2 Ni . 6 H2 O
Molecular Weight	237.71

10. Stability and reactivity

Reactive Hazard None known, based on information available.

Stability Stable under normal conditions.

Conditions to Avoid Avoid dust formation. Excess heat. Incompatible products.

Incompatible Materials Strong acids, Peroxides, Metals

Hazardous Decomposition Products Hydrogen chloride gas, Chlorine, Burning produces obnoxious and toxic fumes

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing

11. Toxicological information

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nickel(II) chloride hexahydrate (1:2:6)	105 mg/kg (Rat)	Not listed	Not listed
Nickel(II) chloride	105 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 Irritating to eyes and skin

Sensitization May cause sensitization by inhalation and skin contact

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. May cause cancer by inhalation.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Nickel(II) chloride hexahydrate (1:2:6)	7791-20-0	Group 1	Not listed	Not listed	X	Not listed
Nickel(II) chloride	7718-54-9	Group 1	Not listed	Not listed	X	Not listed

Mutagenic Effects Possible risk of irreversible effects

Reproductive Effects May cause harm to the unborn child.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known.

STOT - repeated exposure Respiratory system.

Aspiration hazard No information available.

Symptoms / effects, both acute and delayed 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.

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Nickel(II) chloride	0.0063 - 0.0125 mg/L EC50 96 h 0.66 mg/L EC50 = 72 h	9.65 mg/L LC50 96 h 100 mg/L LC50 96 h 1.9 - 4 mg/L LC50 96 h 18.1 - 25.5 mg/L LC50 96 h 2.02 - 6.88 mg/L LC50 96 h 2.83 - 5.99 mg/L LC50 96 h 29.76 - 43.57 mg/L LC50 96 h 6.63 - 9.15 mg/L LC50 96 h 6.7 - 9.7 mg/L LC50 96 h 6.9 mg/L LC50 96 h 25 mg/L LC50 96 h 1.3 mg/L LC50 96 h	Not listed	0.51 mg/L EC50 = 48 h 6.68 mg/L EC50 = 48 h

Persistence and Degradability No information available.

Bioaccumulation/ Accumulation No information available

Mobility No information available

13. Disposal considerations

Waste Disposal Methods 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

UN-No	UN3288
Proper Shipping Name	TOXIC SOLID, INORGANIC, N.O.S.
Proper technical name	(NICKEL(II) CHLORIDE HEXAHYDRATE)
Hazard Class	6.1
Packing Group	III

TDG

UN-No	UN3288
Proper Shipping Name	TOXIC SOLID, INORGANIC, N.O.S.
Hazard Class	6.1
Packing Group	III

IATA

UN-No	UN3288
Proper Shipping Name	TOXIC SOLID, INORGANIC, N.O.S.
Hazard Class	6.1
Packing Group	III

IMDG/IMO

UN-No	UN3288
Proper Shipping Name	TOXIC SOLID, INORGANIC, N.O.S.
Hazard Class	6.1
Packing Group	III

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Nickel(II) chloride hexahydrate (1:2:6)	-	-	-	-	-		X	-	X	X	-
Nickel(II) chloride	X	X	-	231-743-0	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Nickel(II) chloride hexahydrate (1:2:6)	7791-20-0	>95	0.1
Nickel(II) chloride	7718-54-9	-	0.1

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Nickel(II) chloride hexahydrate (1:2:6)	-	-	X	-
Nickel(II) chloride	X	-	X	-

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Nickel(II) chloride hexahydrate (1:2:6)	X		-
Nickel(II) chloride	X		-

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Nickel(II) chloride	100 lb	-

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

Component	CAS-No	California Prop. 65	Prop 65 NSRL
Nickel(II) chloride hexahydrate (1:2:6)	7791-20-0	Carcinogen	-
Nickel(II) chloride	7718-54-9	Carcinogen	-

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Nickel(II) chloride hexahydrate (1:2:6)	-	X	X	X	X
Nickel(II) chloride	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

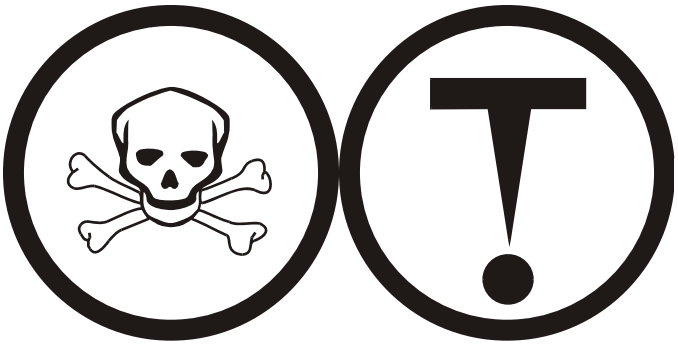
U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

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

WHMIS Hazard Class
D1B Toxic materials
D2A Very toxic materials
D2B Toxic materials



16. Other information

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of SDS