SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Nickel(II) chloride hexahydrate
CAS number	7791-20-0
Synonyms	Nickel dichloride; Nickelous chloride

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute Oral Toxicity	Category 3
Acute Inhalation Toxicity	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 Organ(s) - Respiratory system	

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word: Danger

Hazard statements:
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.
Toxic if swallowed or if inhaled.

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.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.

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.

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.

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.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Very toxic to aquatic life with long lasting effects.
WARNING: Cancer and Reproductive Harm - https://www.p65warnings.ca.gov/.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Nickel(II) chloride hexahydrate	Nickel dichloride; Nickelous chloride	7791-20-0	>95%
Nickel(II) chloride	-	7718-54-9	-

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention.

In case of skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention.

In case of eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

If swallowed Do NOT induce vomiting. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

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.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Non-combustible; substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Do not allow run-off from fire-fighting to enter drains or water courses.
Hazardous Combustion Products: Chlorine. Burning produces obnoxious and toxic fumes. Hydrogen chloride gas.

5.3 Special 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.

5.4 Further information

Flash Point 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.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool, and well-ventilated place.

Incompatibilities

Strong acids. Peroxides. Metals.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Nickel(II) chloride hexahydrate	(Vacated) TWA	0.1 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value

Nickel(II) chloride hexahydrate	TWA	0.1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Nickel(II) chloride hexahydrate	IDLH	10 mg/m3
	TWA	0.015 mg/m3

Biological occupational exposure limits
No information available.

8.2 Exposure controls

Appropriate engineering controls
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 protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

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.

Control of environmental exposure
No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic 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	1001 °C
Boiling Point/Range	No information available
Evaporation Rate	Not applicable
Flammability (solid)	No information available
Flammability or explosive limit	No data available
Upper	
Lower	
Vapor Pressure	1 mmHg @ 615.6 °C
Vapor Density	Not applicable
Density	No information available
Solubility	2540 g/l water (20°C)
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	> 140°C
Viscosity	Not applicable
Molecular Formula	Cl2 Ni . 6 H2 O
Molecular Weight	237.71 g/mol
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information
No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No information available.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
None under normal processing.

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

10.5 Incompatible materials
Strong acids, Peroxides, Metals.

10.6 Hazardous decomposition products
Chlorine, Burning produces obnoxious and toxic fumes, Hydrogen chloride gas.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nickel(II) chloride hexahydrate	105 mg/kg (Rat)	-	-
Nickel(II) chloride	175 mg/kg (Rat)	-	-

Skin corrosion/irritation
Irritating to skin.

Serious eye damage/eye irritation
Irritating to eyes.

Respiratory or skin sensitization
May cause sensitization by skin contact.

Germ cell mutagenicity
Possible risk of irreversible effects.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Nickel(II) chloride hexahydrate	7791-20-0	Group 1	Known	Not listed	X	Not listed
Nickel(II) chloride	7718-54-9	Group 1	Known	Not listed	X	Not listed

Specific target organ toxicity - single exposure
None known.

Specific target organ toxicity - repeated exposure
Respiratory system.

Reproductive toxicity
May cause harm to the unborn child.

Chronic effects
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.

11.2 Additional Information
The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Product		Species	Test Results
Nickel(II) chloride	EC50	Pseudokirchneriella subcapitata	0.66 mg/L, 72h 0.0063-0.0125 mg/L, 96h static
	LC50	Cyprinus carpio	6.9 mg/L, 96h static 1.3 mg/L, 96h semi-static
	LC50	Brachydanio rerio	> 100 mg/L, 96h static
	LC50	Poecilia reticulata	2.83-5.99 mg/L, 96h static 9.65 mg/L, 96h flow-through 29.76-43.57 mg/L, 96h semi-static
	LC50	Pimephales promelas	1.9-4 mg/L, 96h 2.02-6.88 mg/L, 96h static 25 mg/L, 96h flow-through
	LC50	Oncorhynchus mykiss	6.63-9.15 mg/L, 96h static 6.7-9.7 mg/L, 96h flow-through
	LC50	Lepomis macrochirus	2.02-6.88 mg/L, 96h static 18.1-25.5 mg/L, 96h flow-through
	EC50	Daphnia magna	0.51 mg/L, 48h static 6.68 mg/L, 48h

12.2 Persistence and degradability

Soluble in water. Persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 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.

SECTION 14: Transport information

DOT (US)

UN-no	UN3288
Proper Shipping Name	Toxic solid, inorganic, n.o.s.
Hazard Class	6.1
Packing Group	III

IMDG

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

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed, Nickel (II) chloride (CAS #7718-54-9), RQ: 100 lb.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See Section 2 for more information.

SARA 313 (TRI reporting)

Listed, Nickel (II) chloride hexahydrate (CAS #7791-20-0).
Listed, Nickel (II) chloride (CAS #7718-54-9).

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Listed, Nickel (II) chloride hexahydrate (CAS #7791-20-0).
Listed, Nickel (II) chloride (CAS #7718-54-9).

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA)

Listed, Nickel (II) chloride hexahydrate (CAS #7791-20-0).
Listed, Nickel (II) chloride (CAS #7718-54-9).

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed, Nickel (II) chloride (CAS #7718-54-9).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Nickel (II) chloride hexahydrate (CAS #7791-20-0).
Listed, Nickel (II) chloride (CAS #7718-54-9).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Nickel (II) chloride hexahydrate (CAS #7791-20-0).
Listed, Nickel (II) chloride (CAS #7718-54-9).

California Proposition 65

Listed, Nickel (II) chloride hexahydrate (CAS #7791-20-0).
Listed, Nickel (II) chloride (CAS #7718-54-9).

SECTION 16: Other information

Issue date: 08/10/2023
Revision 1: 02/26/2025

SECTION 17: 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.