




<a href="#">Nickel(II) Chloride Hexahydrate</a>		<a href="#">Pricing &gt;</a>
Linear Formula	NiCl <sub>2</sub> • 6H <sub>2</sub> O	
Pubchem CID	11791229	
MDL Number	MFCD00149809	
EC No.	N/A	
IUPAC Name	dichloronickel; hexahydrate	
Beilstein/Reaxys No.	N/A	
SMILES	[Ni+2].[Cl-].[Cl-].O.O.O.O.O.O	
Inchl Identifier	InChI=1S/2ClH.Ni.6H2O/h2*1H;;6*1H2/q;;+2;;;;;/p-2	
Inchl Key	LAIZPRYFQUWUBN-UHFFFAOYSA-L	
Signal Word	Danger	
Hazard Statements	H301 + H331-H315-H317-H334-H341-H350i-H360D-H372-H410	
Hazard Codes	T,N	
Precautionary Statements	P201-P261-P280-P284-P301 + P310 + P330-P304 + P340 + P312-P308 + P313-P403 + P233	
Flash Point	Not applicable	
Risk Codes	49-61-23/25-38-42/43-48/23-50/53-68	
Safety Statements	53-45-60-61	
RTECS Number	QR6480000	
Transport Information	UN3288 - class 6.1 - PG 3	
WGK Germany	3	
GHS Pictograms	<a href="#">GHS06 Skull and Crossbones</a>  <a href="#">GHS08 Health Hazard</a>  <a href="#">GHS09 Environment</a> 	

[Create Printable PDF](#)

## SAFETY DATA SHEET

Date Accessed: 05/06/2024

Date Revised: 01/15/2022

### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American

Elements product codes for CAS #7791-20-0

**Relevant identified uses of the substance:**

Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:

Domestic, North America +1 800-424-9300

International +1 703-527-3887

---

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in  
accordance with 29 CFR 1910 (OSHA HCS)

GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma  
symptoms or breathing difficulties if inhaled.

Muta. 2

H341 Suspected of causing genetic defects.

Carc. 1A

H350 May cause cancer.

Repr. 1B

H360 May damage fertility or the unborn child.

STOT RE 1

H372 Causes damage to the digestive system and the  
brain through prolonged or repeated exposure. Route  
of exposure: Oral.

GHS07

Acute Tox. 4

H302 Harmful if swallowed.

Skin Irrit. 2

H315 Causes skin irritation.

Skin Sens. 1

H317 May cause an allergic skin reaction.

Hazards not otherwise classified

No data available

GHS label elements

GHS label elements, including precautionary  
statements

Hazard pictograms



GHS07 GHS08

Signal word

Danger

Hazard-determining components of labeling:  
Nickel(II) chloride hexahydrate  
Hazard statements  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H317 May cause an allergic skin reaction.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.  
H360 May damage fertility or the unborn child.  
H372 Causes damage to the digestive system and the brain through prolonged or repeated exposure. Route of exposure: Oral.  
Precautionary statements  
P260  
Do not breathe dust/fume/gas/mist/vapors/spray.  
P284  
In case of inadequate ventilation wear respiratory protection.  
P261  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...  
P405  
Store locked up.  
P501  
Dispose of contents/container in accordance with local/regional/national/international regulations.  
WHMIS classification  
D2A - Very toxic material causing other toxic effects  
Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
Health (acute effects) = 2  
Flammability = 0  
Physical Hazard = 1  
Other hazards  
Results of PBT and vPvB assessment  
PBT:  
N/A  
vPvB:  
N/A

---

### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical characterization: Mixtures  
Dangerous components:  
7791-20-0 Nickel(II) chloride hexahydrate  
Acute Tox. 3, H301; Acute Tox. 3, H331;  
Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1A, H350;  
Repr. 1B, H360; STOT RE 1, H372;

Skin Irrit. 2, H315; Skin Sens. 1, H317  
Additional information  
None known.  
Non-Hazardous Ingredients 7732-18-5 Water

---

## **SECTION 4. FIRST AID MEASURES**

Description of first aid measures

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

No data available

Indication of any immediate medical attention and special treatment needed

No data available

---

## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing agents

Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Hydrogen chloride (HCl)

Nickel oxides

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

---

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Environmental precautions:  
Do not allow product to enter drains, sewage systems, or other water courses.  
Methods and materials for containment and cleanup:  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Prevention of secondary hazards:  
No special measures required.  
Reference to other sections  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

---

## **SECTION 7. HANDLING AND STORAGE**

Handling  
Precautions for safe handling  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.  
Open and handle container with care.  
Information about protection against explosions and fires:  
The product is not flammable  
Conditions for safe storage, including any incompatibilities  
Requirements to be met by storerooms and receptacles:  
No special requirements.  
Information about storage in one common storage facility:  
Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.  
Further information about storage conditions:  
Keep container tightly sealed.  
Store in cool, dry conditions in well-sealed containers.  
Specific end use(s)  
No data available

---

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Additional information about design of technical

systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

7791-20-0 Nickel(II) chloride hexahydrate (11.9%)

PEL (USA) Long-term value: 1 mg/m<sup>3</sup>  
as Ni

TLV (USA) Long-term value: 0.1 mg/m<sup>3</sup>  
as Ni

Additional information:

No data

Exposure controls

Personal protective equipment

Follow typical protective and hygienic practices for handling chemicals.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Do not inhale dust / smoke / mist.

Maintain an ergonomically appropriate working environment.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Inspect gloves prior to use.

Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.

Penetration time of glove material (in minutes)

No data available

Eye protection:

Safety glasses

Body protection:

Protective work clothing.

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Liquid

Color: Green

Odor: Odorless

Odor threshold: No data available.

pH: No data available.

Melting point/Melting range: No data available  
Boiling point/Boiling range: No data available  
Sublimation temperature / start: No data available  
Flammability (solid, gas)  
No data available.  
Ignition temperature: No data available  
Decomposition temperature: No data available  
Autoignition: Product is not selfigniting.  
Danger of explosion: No data available.  
Explosion limits:  
Lower: No data available  
Upper: No data available  
Vapor pressure at 20 °C (68 °F): 23 hPa (17 mm Hg)  
Density: No data available  
Relative density  
No data available.  
Vapor density  
No data available.  
Evaporation rate  
No data available.  
Solubility in Water (H<sub>2</sub>O): Fully miscible  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: No data available.  
Kinematic: No data available.  
Solvent content:  
Organic solvents: 0.0 %  
Solids content: 11.9 %  
Other information  
No data available

---

## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity  
No data available  
Chemical stability  
Stable under recommended storage conditions.  
Thermal decomposition / conditions to be avoided:  
Decomposition will not occur if used and stored according to specifications.  
Possibility of hazardous reactions  
Water reacts violently with alkali metals.  
Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.  
Conditions to avoid  
No data available  
Incompatible materials:  
No data available  
Hazardous decomposition products:  
Hydrogen chloride (HCl)  
Nickel oxides

---

## SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

Harmful if inhaled.

Harmful if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

LD/LC50 values that are relevant for classification:

7791-20-0 Nickel(II) chloride hexahydrate

Oral LD50 105 mg/kg (rat)

Skin irritation or corrosion:

May cause irritation

Eye irritation or corrosion:

May cause irritation

Sensitization:

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Germ cell mutagenicity:

Suspected of causing genetic defects.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for components in this product.

Carcinogenicity:

May cause cancer.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity:

May damage fertility or the unborn child.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product.

Specific target organ system toxicity - repeated exposure:

Causes damage to the digestive system and the brain through prolonged or repeated exposure. Route of exposure: Oral.

Specific target organ system toxicity - single exposure:

No effects known.

Aspiration hazard:

No effects known.

Subacute to chronic toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.



The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant  
Carcinogenic if inhaled.  
May cause harm to the unborn child.

---

## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity  
Aquatic toxicity:  
No data available  
Persistence and degradability  
No data available  
Bioaccumulative potential  
No data available  
Mobility in soil  
No data available  
Additional ecological information:  
Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Toxic to aquatic life.  
May cause long lasting harmful effects to aquatic life.  
Avoid transfer into the environment.  
Results of PBT and vPvB assessment  
PBT:  
N/A  
vPvB:  
N/A  
Other adverse effects  
No data available

---

## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods  
Recommendation  
Consult official regulations to ensure proper disposal.  
Uncleaned packagings:  
Recommendation:  
Disposal must be made according to official regulations.  
Recommended cleansing agent:  
Water, if necessary with cleansing agents.

---

## SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA

UN3082

UN proper shipping name

DOT

Environmentally hazardous substances, liquid, n.o.s.  
(Nickel(II) chloride hexahydrate)

IMDG

ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
LIQUID, N.O.S. (Nickel(II) chloride hexahydrate),  
MARINE POLLUTANT

IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
LIQUID, N.O.S. (Nickel(II) chloride hexahydrate)

Transport hazard class(es)

DOT, IMDG, IATA

Class

9 Miscellaneous dangerous substances and articles.

Label

9

Class

9 (M6) Miscellaneous dangerous substances and  
articles

Label

9

Packing group

DOT, IMDG, IATA

III

Environmental hazards:

Marine pollutant (IMDG):

Symbol (fish and tree)

Special marking (ADR):

Symbol (fish and tree)

Special marking (IATA):

Symbol (fish and tree)

Special precautions for user

Warning: Miscellaneous dangerous substances and  
articles

EMS Number: F-A,S-F

Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code

N/A

Transport/Additional information:

DOT

Marine Pollutant (DOT):

No

Remarks:

Special marking with the symbol (fish and tree).

UN "Model Regulation":

UN3082, Environmentally hazardous substances,  
liquid, n.o.s. (Nickel(II) chloride hexahydrate), 9, III

---

## SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

GHS GHS label elements, including precautionary statements

Hazard pictograms

GHS07

GHS08

Signal word

Danger

Hazard-determining components of labeling:

Nickel(II) chloride hexahydrate

Hazard statements

H302 Harmful if swallowed.

H315 Causes skin irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H372 Causes damage to the digestive system and the brain through prolonged or repeated exposure. Route of exposure: Oral.

Precautionary statements

P260

Do not breathe dust/fume/gas/mist/vapors/spray.

P284

In case of inadequate ventilation wear respiratory protection.

P261

Avoid breathing dust/fume/gas/mist/vapors/spray.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)

7791-20-0 Nickel(II) chloride hexahydrate

11.9%

California Proposition 65

Prop 65 - Chemicals known to cause cancer

7791-20-0 Nickel(II) chloride hexahydrate

11.9%

Prop 65 - Developmental toxicity

None of the ingredients are listed.

Prop 65 - Developmental toxicity, female

None of the ingredients are listed.

Prop 65 - Developmental toxicity, male

None of the ingredients are listed.

Information about limitation of use:

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

None of the ingredients are listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

None of the ingredients is listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

None of the ingredients is listed.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

---

## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

---