



Preparing for the New Era of Laboratories

# MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

## NICKEL CHLORIDE HEXAHYDRATE 98% AR

PRODUCT CODE : O-5125

CAS No : 7791-20-0

FORMULA :  $\text{NiCl}_2 \cdot 6 \text{H}_2\text{O}$

UN No : 3288

# MATERIAL SAFETY DATA SHEET (SDS/MSDS)

## NICKEL CHLORIDE HEXAHYDRATE 98% AR



MSDS Number : 0241

Date : Aug 26<sup>th</sup>, 2024

Version : 1.0

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

- 1.1 Product Name** : NICKEL CHLORIDE HEXAHYDRATE 98% AR
- Synonyms** : Nickelous chloride
- CAS No.** : 7791-20-0
- HS Code** : 2827 35 00
- Chemical Formula** :  $\text{NiCl}_2 \cdot 6 \text{H}_2\text{O}$
- Molecular Weight** : 237.69 g/mol
- Product Code** : O-5125
- Brand** : Labotiq
- 1.2 Manufacturer** : Labotiq
- Address** : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
- Website** : [www.labotiq.net](http://www.labotiq.net)
- Email** : [labotiq.id@gmail.com](mailto:labotiq.id@gmail.com)
- For information** : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
- Emergency number** : +6281316894650
- 1.3 Application** : Laboratory chemicals, Manufacture of substances, General Chemical reagent

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 3), H331

Skin irritation (Category 2), H315

Respiratory sensitization (Category 1), H334

Skin sensitization (Category 1), H317

Germ cell mutagenicity (Category 2), H341

Carcinogenicity, Inhalation (Category 1A), H350i

Reproductive toxicity (Category 1B), H360D

Specific target organ toxicity - repeated exposure, Inhalation (Category 1), Lungs, H372

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16

#### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H301 + H331

Toxic if swallowed or if inhaled.

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H334

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

H341

Suspected of causing genetic defects.

H350i

May cause cancer by inhalation.

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|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| H360D                          | May damage the unborn child.                                                                             |
| H372                           | Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.                       |
| H410                           | Very toxic to aquatic life with long lasting effects.                                                    |
| Precautionary statement(s)     |                                                                                                          |
| P202                           | Do not handle until all safety precautions have been read and understood.                                |
| P273                           | Avoid release to the environment.                                                                        |
| P280                           | Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.        |
| P301 + P310                    | IF SWALLOWED: Immediately call a POISON CENTER/ doctor.                                                  |
| P302 + P352                    | IF ON SKIN: Wash with plenty of water.                                                                   |
| P304 + P340 + P311             | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor. |
| Supplemental Hazard Statements | none                                                                                                     |

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |                                              |
|------------------|----------------------------------------------|
| Synonyms         | : NICKEL CHLORIDE HEXAHYDRATE                |
| Formula          | : $\text{NiCl}_2 \cdot 6 \text{H}_2\text{O}$ |
| Molecular weight | : 237.69 g/mol                               |
| CAS-No.          | : 7791-20-0                                  |
| EC-No.           | : 231-743-0                                  |
| Index-No.        | : 080-002-00-6                               |

### 3.2 Mixture

Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component                                            | Classification                                                                                                                                                                                                                                                                                                                                                                                                           | Concentration |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Nickel(II) chloride hexahydrate<br>CAS-No. 7791-20-0 | Acute Tox. 3; Skin Irrit. 2; Resp. Sens. 1; Skin Sens. 1; Muta. 2; Carc. 1A; Repr. 1B; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H301, H331, H315, H334, H317, H341, H350i, H360D, H372, H400, H410<br>Concentration limits: $\geq 1\%$ : STOT RE 1, H372; $0.1 - < 1\%$ : STOT RE 2, H373; $\geq 20\%$ : Skin Irrit. 2, H315; $\geq 0.01\%$ : Skin Sens. 1, H317; M-Factor - Aquatic Acute: 1 - Aquatic Chronic: 1 | $\leq 100\%$  |

For the full text of the H-Statements mentioned in this Section, see Section 16.

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**SECTION 4: First aid measures****4.1 Description of first aid measures****General advice**

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

**If inhaled**

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

**If swallowed**

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

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

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Hydrogen chloride gas, Nickel/nickel oxides, Not combustible. Ambient fire may liberate hazardous vapours.

**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information**

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system

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### **SECTION 6: Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

#### **6.2 Environmental precautions**

Do not let product enter drains.

#### **6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

#### **6.4 Reference to other sections**

For disposal see section 13.

### **SECTION 7: Handling and storage**

#### **7.1 Precautions for safe handling**

##### **Advice on safe handling**

Work under hood. Do not inhale substance/mixture.

##### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

#### **7.2 Conditions for safe storage, including any incompatibilities**

##### **Storage conditions**

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Hygroscopic.

##### **Storage class**

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

#### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated in section 1.2 no other specific uses are stipulated

### **SECTION 8: Exposure controls/personal protection**

#### **8.1 Control parameters**

#### **8.2 Exposure controls**

##### **Appropriate engineering controls**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

##### **Personal protective equipment**

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**Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Full contact**

Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: Dermatrill® (KCL 740, Size M)

**Splash contact**

Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: Dermatrill® (KCL 740, Size M)

**Body Protection**

protective clothing

**Respiratory protection**

required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P3 The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

|                                         |                                                             |
|-----------------------------------------|-------------------------------------------------------------|
| Appearance                              | Form: crystalline                                           |
| Odour                                   | Colour: green                                               |
| Odour Threshold                         | odorless                                                    |
| pH                                      | Not applicable                                              |
| Melting point/freezingpoint             | 4,9 at 100 at 20 °C                                         |
| Initial boiling point and boiling range | Melting point: 1.001 °C - (anhydrous substance), decomposes |
| Flash point                             | No data available                                           |
| Evaporation rate                        | Not applicable                                              |
|                                         | No data available                                           |

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|                                              |                                         |
|----------------------------------------------|-----------------------------------------|
| Flammability (solid, gas)                    | The product is not flammable            |
| Upper/lower flammability or explosive limits | No data available                       |
| Vapour pressure                              | No data available                       |
| Vapour density                               | No data available                       |
| Relative density                             | 1,92 g/cm <sup>3</sup>                  |
| Water solubility                             | 2.540 g/l at 20 °C - soluble            |
| Partition coefficient: noctanol/water        | Not applicable for inorganic substances |
| Auto-ignition temperature                    | No data available                       |
| Decomposition temperature                    | No data available                       |
| Viscosity                                    | No data available                       |
| Explosive properties                         | No data available                       |
| Oxidizing properties                         | none                                    |

**9.2 Other safety information**

No data available

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No data available

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

Violent reactions possible with: Alkali metals.

**10.4 Conditions to avoid**

Avoid moisture.

**10.5 Incompatible materials**

Strong oxidizing agents, Peroxides

**10.6 Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Nickel/nickel oxides Other decomposition products - No data available In the event of fire: see section 5

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

LD50 Oral - Rat - female - 175 mg/kg (OECD Test Guideline 401)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: nickel(II) chloride

LC50 Inhalation - Rat - male - 4 h - 0,593 mg/l (OECD Test Guideline 403)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: nickel(II) chloride

Dermal: No data available

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### Skin corrosion/irritation

Causes skin irritation. (anhydrous substance)

### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 168 h (OECD Test Guideline 405)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: nickel(II) chloride slight irritation

### Respiratory or skin sensitisation

May cause allergic respiratory and skin reactions (anhydrous substance)

### Germ cell mutagenicity

Suspected of causing genetic defects.

Test Type: gene mutation test

Test system: mammalian cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: positive

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Remarks: (Lit.)

Test Type: Chromosome aberration test

Species: Mouse

Application Route: Intraperitoneal

Result: positive

Remarks: (ECHA)

### Carcinogenicity

No data available

### Reproductive toxicity

May damage the unborn child.

### Specific target organ toxicity - single exposure

No data available

### Specific target organ toxicity - repeated exposure

Inhalation - Causes damage to organs through prolonged or repeated exposure. - Lungs

The value is given in analogy to the following substances: nickel(II) chloride

### Aspiration hazard

No data available

### Additional Information

RTECS: QR6480000

Gastrointestinal disturbance To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

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**12.1 Toxicity****Toxicity to fish**

semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 15,3 mg/l - 96 h

Remarks: (ECHA) (anhydrous substance)

The value is given in analogy to the following substances: nickel(II) chloride

**Toxicity to daphnia and other aquatic invertebrates**

static test LC50 - Ceriodaphnia dubia (water flea) - 0,013 mg/l - 48 h

Remarks: (ECHA) (anhydrous substance)

The value is given in analogy to the following substances: nickel(II) chloride

**Toxicity to algae**

static test ErC50 - green algae - 0,243 mg/l - 72 h (OECD Test Guideline 201)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: nickel(II) chloride

**12.2 Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available(Nickel(II) chloride hexahydrate)

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects**

Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information****14.1 UN number**

ADR/RID: 3288

IMDG: 3288

IATA: 3288

**14.2 UN proper shipping name**

ADR/RID: TOXIC SOLID, INORGANIC, N.O.S. (Nickel(II) chloride hexahydrate)

IMDG: TOXIC SOLID, INORGANIC, N.O.S. (Nickel(II) chloride hexahydrate)

IATA: Toxic solid, inorganic, n.o.s. (Nickel(II) chloride hexahydrate)

**14.3 Transport hazard class(es)**

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

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**14.4 Packaging group**

ADR/RID: III

IMDG: III

IATA: III

**14.5 Environmental hazards**

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

**14.6 Special precautions for user**

No data available

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.2 Chemical safety assessment**

For this product a chemical safety assessment was not carried out

**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3.**

|             |                                                                            |
|-------------|----------------------------------------------------------------------------|
| H301        | Toxic if swallowed.                                                        |
| H301 + H331 | Toxic if swallowed or if inhaled                                           |
| H315        | Causes skin irritation.                                                    |
| H317        | May cause an allergic skin reaction.                                       |
| H331        | Toxic if inhaled.                                                          |
| H334        | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H341        | Suspected of causing genetic defects.                                      |
| H350i       | May cause cancer by inhalation.                                            |
| H360D       | May damage the unborn child.                                               |
| H372        | Causes damage to organs through prolonged or repeated exposure.            |
| H373        | May cause damage to organs through prolonged or repeated exposure.         |
| H400        | Very toxic to aquatic life.                                                |
| H410        | Very toxic to aquatic life with long lasting effects.                      |

**National Fire Protection Association (U.S.A.):**

Health: 3

Flammability: 0

Reactivity: 0

**Further information**

*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. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.*

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