

## Nickel Chloride, Hexahydrate, Crystal Reagent

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Nickel Chloride, Hexahydrate, Crystal Reagent

**Synonyms/Generic Names:** Not Available

**Product Number:** 3720

**Product Use:** Industrial, Manufacturing or Laboratory use

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Call:** 920-623-2140 (Monday-Friday 8:00-4:30)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**OSHA Hazards:** Carcinogen, Target Organ effect, Toxic by ingestion, Respiratory sensitizer, Irritant

**Target Organs:** Lungs, Sense organs and special senses (nose, eye, ear, and taste)

**Signal Words:** Danger

**Pictograms:**



#### GHS Classification

|                            |             |
|----------------------------|-------------|
| Acute toxicity, Oral       | Category 3  |
| Acute toxicity, Inhalation | Category 3  |
| Skin irritation            | Category 2  |
| Respiratory sensitization  | Category 1  |
| Skin sensitization         | Category 1  |
| Carcinogenicity            | Category 1B |
| Reproductive toxicity      | Category 1  |
| Acute aquatic toxicity     | Category 1  |
| Chronic aquatic toxicity   | Category 1  |

#### GHS Label Elements, including precautionary statements:

##### Hazard Statements:

|           |                                                                            |
|-----------|----------------------------------------------------------------------------|
| H301+H331 | Toxic if swallowed or if inhaled.                                          |
| H315      | Causes skin irritation.                                                    |
| H334      | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H350      | May cause cancer.                                                          |
| H361      | May damage fertility or the unborn child.                                  |

|      |                             |
|------|-----------------------------|
| H400 | Very toxic to aquatic life. |
|------|-----------------------------|

#### Precautionary Statements:

|           |                                                                            |
|-----------|----------------------------------------------------------------------------|
| P201      | Obtain special instructions before use.                                    |
| P202      | Do not handle until all safety precautions have been read and understood.  |
| P261      | Avoid breathing dust/fume/gas/mist/vapors/spray.                           |
| P264      | Wash hands thoroughly after handling.                                      |
| P270      | Do not eat, drink or smoke when using this product.                        |
| P271      | Use only outdoors or in a well-ventilated area.                            |
| P273      | Avoid release to the environment.                                          |
| P284      | In case of inadequate ventilation, wear respiratory protection.            |
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.           |
| P302+P352 | IF ON SKIN: Wash with plenty of water.                                     |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P330      | Rinse mouth.                                                               |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention.           |
| P362+P364 | Take off contaminated clothing and wash it before reuse.                   |
| P391      | Collect spillage.                                                          |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed.           |
| P405      | Store locked up.                                                           |
| P501      | Dispose of contents/container in accordance with local regulations.        |

#### Potential Health Effects

|                   |                                                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eyes</b>       | Causes eye irritation.                                                                                                                                             |
| <b>Inhalation</b> | May be harmful if inhaled. Can cause corrosive action on mucous membranes. May cause delayed pulmonary edema. May cause spasms and inflammation. Toxic if inhaled. |
| <b>Skin</b>       | May be harmful if absorbed through skin. Cause skin irritation.                                                                                                    |
| <b>Ingestion</b>  | Material may be fatal if swallowed.                                                                                                                                |

#### NFPA Ratings

|                        |               |
|------------------------|---------------|
| <b>Health</b>          | 3             |
| <b>Flammability</b>    | 0             |
| <b>Reactivity</b>      | 0             |
| <b>Specific hazard</b> | Not Available |

#### HMIS Ratings

|                   |               |
|-------------------|---------------|
| <b>Health</b>     | 3             |
| <b>Fire</b>       | 0             |
| <b>Reactivity</b> | 0             |
| <b>Personal</b>   | Not Available |

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component                   | Weight % | CAS #     | EINECS# / ELINCS# | Formula                              | Molecular Weight |
|-----------------------------|----------|-----------|-------------------|--------------------------------------|------------------|
| Nickel Chloride Hexahydrate | >95      | 7791-20-0 | 231-743-0         | Cl <sub>2</sub> Ni·6H <sub>2</sub> O | 237.69 g/mol     |

### 4. FIRST-AID MEASURES

|                   |                                                                                                                                                            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eyes</b>       | Rinse with plenty of water for at least 15 minutes and seek medical attention.                                                                             |
| <b>Inhalation</b> | Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention. |
| <b>Skin</b>       | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.            |
| <b>Ingestion</b>  | <b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.      |

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## 5. FIREFIGHTING MEASURES

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|                                                                      |                                                                                                                                |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable (and unsuitable) extinguishing media</b>                 | Product is not flammable. Use appropriate media for adjacent fire. Use flooding quantities of water to cool containers.        |
| <b>Special protective equipment and precautions for firefighters</b> | Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.            |
| <b>Specific hazards arising from the chemical</b>                    | Emits toxic fumes (hydrogen chloride gas and nickel oxides) under fire conditions. (See also Stability and Reactivity section) |

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## 6. ACCIDENTAL RELEASE MEASURES

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|                                                                            |                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions, protective equipment and emergency procedures</b> | See section 8 for recommendations on the use of personal protective equipment.                                                                                                                                                                                            |
| <b>Environmental precautions</b>                                           | Prevent spillage from entering drains. Any release to the environment may be subject to a federal/national or local reporting requirements.                                                                                                                               |
| <b>Methods and materials for containment and cleaning up</b>               | Pick up and arrange disposal without creating dust. Sweep up and keep in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste or cleanup materials in accordance with local regulations. |

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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

### Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### Occupational exposure controls:

| Component       | Exposure Limits                 | Basis | Entity |
|-----------------|---------------------------------|-------|--------|
| Nickel Chloride | 1 mg/m <sup>3</sup> (as Ni)     | PEL   | OSHA   |
|                 | 0.1 mg/m <sup>3</sup> (as Ni)   | TLV   | ACGIH  |
|                 | 0.015 mg/m <sup>3</sup> (as Ni) | REL   | NIOSH  |

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

|                   |                                                                                                             |
|-------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Eyes</b>       | Wear chemical safety glasses.                                                                               |
| <b>Inhalation</b> | Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator. |
| <b>Skin</b>       | Wear neoprene or nitrile gloves, full body (synthetic) protective clothing appropriate to                   |

|              |                       |
|--------------|-----------------------|
|              | the risk of exposure. |
| <b>Other</b> | Not Available         |

#### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                             |                             |
|---------------------------------------------|-----------------------------|
| Appearance (physical state, color, etc.)    | Blue-green crystals. Solid  |
| Odor                                        | No odor                     |
| Odor threshold                              | Not Available               |
| pH                                          | Not Available               |
| Melting point/freezing point                | Not Available               |
| Initial boiling point and boiling range     | Not Available               |
| Flash point                                 | Not Flammable               |
| Evaporation rate                            | Not Available               |
| Flammability (solid, gas)                   | Not Flammable               |
| Upper/lower flammability or explosive limit | Not Explosive               |
| Vapor pressure                              | Not Available               |
| Vapor density                               | Not Available               |
| Relative density                            | Not Available               |
| Solubility (ies)                            | Completely soluble in water |
| Partition coefficient: n-octanol/water      | Not Available               |
| Auto-ignition temperature                   | Not Available               |
| Decomposition temperature                   | Not Available               |

## 10. STABILITY AND REACTIVITY

|                                           |                                   |
|-------------------------------------------|-----------------------------------|
| <b>Chemical Stability</b>                 | Stable                            |
| <b>Possibility of Hazardous Reactions</b> | Will not occur.                   |
| <b>Conditions to Avoid</b>                | Moisture                          |
| <b>Incompatible Materials</b>             | Strong oxidizers, peroxides       |
| <b>Hazardous Decomposition Products</b>   | Hydrogen chloride, nickel oxides. |

## 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity

*Nickel Chloride, Hexahydrate*

|                    |                            |
|--------------------|----------------------------|
| <b>Skin</b>        | Not Available              |
| <b>Eyes</b>        | Not Available              |
| <b>Respiratory</b> | Not Available              |
| <b>Ingestion</b>   | LD50 Oral – rat- 105 mg/kg |

#### Carcinogenicity

|              |                                                                                                                                              |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IARC</b>  | 1: Carcinogenic to humans (nickel chloride, hexahydrate).                                                                                    |
| <b>ACGIH</b> | A4: Not classifiable as a human carcinogen (nickel chloride, hexahydrate).                                                                   |
| <b>NTP</b>   | K: Known carcinogen (nickel chloride, hexahydrate).                                                                                          |
| <b>OSHA</b>  | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |

### Signs & Symptoms of Exposure

|                    |                                                                                                                                     |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Skin</b>        | Irritation. Material is absorbed through skin.                                                                                      |
| <b>Eyes</b>        | Eye irritation.                                                                                                                     |
| <b>Respiratory</b> | Burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea. May cause spasm, inflammation and edema. |
| <b>Ingestion</b>   | Salivation, nausea, vomiting, abdominal pain and labored breathing.                                                                 |

|                                       |                                                    |
|---------------------------------------|----------------------------------------------------|
| <b>Chronic Toxicity</b>               | Known carcinogen                                   |
| <b>Teratogenicity</b>                 | Not Available                                      |
| <b>Mutagenicity</b>                   | Genotoxicity in vitro- Human- HeLa cell DNA damage |
| <b>Embryotoxicity</b>                 | Not Available                                      |
| <b>Specific Target Organ Toxicity</b> | Not Available                                      |
| <b>Reproductive Toxicity</b>          | Not Available                                      |
| <b>Respiratory/Skin Sensitization</b> | Not Available                                      |

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

*Nickel Chloride, Hexahydrate*

|                             |                                                   |
|-----------------------------|---------------------------------------------------|
| <b>Aquatic Vertebrate</b>   | Not Available                                     |
| <b>Aquatic Invertebrate</b> | EC50-Daphnia Magna (water flea)- 0.51 mg/l – 48 h |
| <b>Terrestrial</b>          | Not Available                                     |

|                                      |                                                                                                  |
|--------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Persistence and Degradability</b> | Not Available                                                                                    |
| <b>Bioaccumulative Potential</b>     | Not Available                                                                                    |
| <b>Mobility in Soil</b>              | Not Available                                                                                    |
| <b>PBT and vPvB Assessment</b>       | Not Available                                                                                    |
| <b>Other Adverse Effects</b>         | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

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## 13. DISPOSAL CONSIDERATIONS

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|                                  |                                                                                                                                                                                                                   |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Waste Product or Residues</b> | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue. |
| <b>Product Containers</b>        | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.  |

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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## 14. TRANSPORTATION INFORMATION

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|                  |                                                                        |
|------------------|------------------------------------------------------------------------|
| US DOT           | UN3288, Toxic solid, inorganic, n.o.s., (Nickel Chloride), 6.1, pg III |
| TDG              | UN3288, TOXIC SOLID, INORGANIC, N.O.S., (NICKEL CHLORIDE), 6.1, PG III |
| IDMG             | UN3288, TOXIC SOLID, INORGANIC, N.O.S., (NICKEL CHLORIDE), 6.1, PG III |
| Marine Pollutant | Yes                                                                    |
| IATA/ICAO        | UN3288, Toxic solid, inorganic, n.o.s., (Nickel Chloride), 6.1, pg III |

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## 15. REGULATORY INFORMATION

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|                           |                                                                                                                                                                      |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TSCA Inventory Status     | All ingredients are listed on the TSCA inventory.                                                                                                                    |
| DSCL (EEC)                | All ingredients are listed on the DSCL inventory.                                                                                                                    |
| California Proposition 65 | Listed: Nickel (II) Chloride Hexahydrate                                                                                                                             |
| SARA 302                  | Not Listed                                                                                                                                                           |
| SARA 304                  | Not Listed                                                                                                                                                           |
| SARA 311                  | Acute Health Hazard, Chronic Health Hazard                                                                                                                           |
| SARA 312                  | Acute Health Hazard, Chronic Health Hazard                                                                                                                           |
| SARA 313                  | Listed: Nickel (II) Chloride Hexahydrate                                                                                                                             |
| WHMIS Canada              | Class D-1A: Poisonous and infectious material- Immediate and serious effects- Very toxic<br>Class D-2A: Poisonous and infectious material- Other effects- Very toxic |

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## 16. OTHER INFORMATION

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| Revision   | Date       |
|------------|------------|
| Revision 1 | 08/10/2011 |
| Revision 2 | 10/21/2015 |
| Revision 3 | 09/06/2016 |

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