

# Material Safety Data Sheet

According to 91/155/EC

Printing date 07.03.2001

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## 1 Identification of substance

### • Product details

• Trade name Nickel (II) chloride

• Stock number: 53131

### • Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company  
Johnson Matthey Catalog Company, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Emergency Phone: (978) 521-6300  
CHEMTREC: (800) 424-9300  
Web Site: www.alfa.com

• Informing department: Product safety department.

### • Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

## 2 Composition/Data on components:

### • Chemical characterization:

Designation: (CAS#)

Nickel (II) chloride, hexahydrate (CAS# 7791-20-0), 100%

## 3 Hazards identification

• Hazard designation: T Toxic

### • Information pertaining to particular dangers for man and environment

R 45 May cause cancer.  
R 23/25 Toxic by inhalation and if swallowed.  
R 36/37/38 Irritating to eyes, respiratory system and skin.  
R 42/43 May cause sensitization by inhalation and skin contact.

• **4 First aid measures**

• **General information**

Instantly remove any clothing soiled by the product.  
Remove breathing apparatus only after soiled clothing has been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.

• **After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
Seek immediate medical advice.

• **After skin contact**

Instantly wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.

• **After eye contact**

Rinse opened eye for several minutes under running water. Then consult doctor.

• **After swallowing**

Do not induce vomiting; instantly call for medical help.  
Seek immediate medical advice.

• **Information for doctor**

• **The following symptoms may occur:** Gastric or intestinal trouble

• **5 Fire fighting measures**

• **Suitable extinguishing agents**

Use fire fighting measures that suit the environment.

• **Special hazards caused by the material, its products of combustion or**

**flue gases:**

Can be released in case of fire:  
Hydrogen chloride (HCl)  
Toxic metal oxide smoke

• **Protective equipment:**

Wear self-contained breathing apparatus.  
Wear full protective suit.

• **6 Accidental release measures**

• **Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation

• **Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

• **Measures for cleaning/collecting:**

Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.

• **Additional information:**

See Section 7 for information on safe handling  
See section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

• **7 Handling and storage**

• **Handling**

• **Information for safe handling:**

Keep containers tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle container with care.

• **Information about protection against explosions and fires:**

The product is not flammable

• **Storage**

• **Requirements to be met by storerooms and containers:**

No special requirements.

• **Information about storage in one common storage facility:**

Do not store together with acids.

• **Further information about storage conditions:**

This product is hygroscopic.  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.

8 Exposure controls and personal protection

- **Components with critical values that require monitoring at the**

**workplace:**

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Nickel and inorganic compounds, as Ni

mg/m<sup>3</sup>

ACGIH TLV	1.5, A5-inhalable particulate (metal)
	0.2, A1-inhalable particulate (insoluble compounds)
	0.1, A4-inhalable particulate (soluble compounds)
Belgium TWA	1; 1 (insoluble compounds)
Denmark TWA	0.05-carcinogen ; 0.5 (dust)
	1 (insoluble compounds)
Finland TWA	0.1-carcinogen
	0.1-skin-carcinogen (insoluble compounds)
France TWA	1
Hungary TWA	0.005-STEL-carcinogen
	0.005-STEL-carcinogen (insoluble compounds)
Ireland TWA	0.5 (metal and insoluble compounds)
	0.1 (soluble compounds)
Netherlands TWA	1 (metal); 0.1 (insoluble compounds)
Russia	0.05-STEL
Sweden TWA	0.5; 0.5 (dust)
Switzerland TWA	0.5-carcinogen; 0.5 (insoluble compounds)
United Kingdom TWA	0.5 (metal and soluble compounds)
	0.1 (insoluble compounds)
USA PEL	1 (metal and soluble compounds)

- **Additional information:** No data

- **Personal protective equipment**

- **General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Store protective clothing separately.

Avoid contact with the eyes and skin.

- **Eye protection:**

Safety glasses

Face protection

- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

• **Form:** Crystalline

• **Colour:** Green

• **Smell:** Odourless

Value/Range Unit Method

• **Change in condition**

• **Melting point/Melting range:** 973 ° C (sub)

• **Boiling point/Boiling range:** Not determined

• **Sublimation temperature / start:** Not determined

• **Flash point:** Not applicable

• **Inflammability (solid, gaseous)** Product is not inflammable.

• **Ignition temperature:** Not determined

• **Decomposition temperature:** Not determined

• **Danger of explosion:** Product is not explosive.

• **Critical values for explosion:**

• **Lower:** Not determined

• **Upper:** Not determined

• **Steam pressure:** Not determined

• **Density** Not determined

• **Solubility in / Miscibility with**

• **Water:** at 20 ° C 2540 g/l

• **10 Stability and reactivity**

• **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

• **Materials to be avoided:**

Acids  
Ammonia  
Alkali metals  
Alkaline earth metals  
Sulfur  
Water/moisture

• **Dangerous reactions:** Reacts with alkaline metals

• **Dangerous products of decomposition:**

Hydrogen chloride (HCl)  
Toxic metal oxide smoke

• **11 Toxicological information**

• **Acute toxicity:**

**LD/LC50 values that are relevant for classification:**

Nickel (II) chloride, hexahydrate (CAS# 7791-20-0), 100%  
Oral: LD50: 175 mg/kg (rat)

• **Primary irritant effect:**

• **on the skin:** Irritant for skin and mucous membranes.

• **on the eye:** Irritant effect.

• **Sensitization:**

Sensitization possible by inhalation.  
Sensitization possible by skin contact.

• **Other information (about experimental toxicology):**

Mutagenic effects have been observed on tests with laboratory animals.

• **Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.  
NTP-2: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.  
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

• **12 Ecological information:**

• **General notes:**

Do not allow material to be released to the environment without proper governmental permits.

• 13 Disposal considerations

• **Product:**

• **Recommendation**

Consult state, local or national regulations for proper disposal.  
Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.

• **Uncleaned packagings:**

• **Recommendation:**

Disposal must be made according to official regulations.

• 14 Transport information

• **Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

• **ADR/RID-GGVS/E Class:**                 None

• **Maritime transport IMDG/GGVSea:**

• **IMDG/GGVSea Class:**                 None

• **Air transport ICAO-TI and IATA-DGR:**

• **ICAO/IATA Class:**                 None

• **Transport/Additional information:**

Not dangerous according to the above specifications.

• **15 Regulatory information**

• **Designation according to EC guidelines:**

• **Code letter and hazard designation of product:** T Toxic

• **Risk phrases:**

45 May cause cancer.  
23/25 Toxic by inhalation and if swallowed.  
36/37/38 Irritating to eyes, respiratory system and skin.  
42/43 May cause sensitization by inhalation and skin contact.

• **Safety phrases:**

23 Do not breathe gas/fumes/vapour/spray.  
24 Avoid contact with skin.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
27 Take off immediately all contaminated clothing.  
28 After contact with skin, wash immediately with plenty of water.  
37/39 Wear suitable gloves and eye/face protection.  
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

• **National regulations**

• **Information about limitation of use:**

For use only by technically qualified individuals.  
Employment restrictions concerning young persons must be observed.

• **16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

• **Department issuing data specification sheet:**

Health, Safety and Environmental Department.

• **Contact:** Darrell R. Sanders