SAFETY DATA SHEET

according to EC Directive 1907/2006/EC

Print Date: 09.05.2011 *Version 1*

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier:

Product code: 1665037

Product name: **NICKEL CHLORIDE-6-HYDRATE**

Index-Nr.: 028-011-00-6

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

Identified uses
Chemical plating of metals

Uses advised against
No information available

Details of the supplier of the safety data sheet:

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008:

Acute oral toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 3
Skin corrosion/irritation	Category 2
Respiratory sensitisation	Category 1
Skin sensitisation	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1B

2. HAZARDS IDENTIFICATION

Specific Target Organ Toxicity (Repeated Exposure)	Category 1
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Physical hazards:
None

Label elements:

Hazard Pictograms

Signal word: **Danger**

contains: nickel(II)chloride hexahydrate

Index-Nr.: 028-011-00-6

Hazard statements
H301 - Toxic if swallowed
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
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements
P201 - Obtain special instructions before use
P273 - Avoid release to the environment
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P309 + P311 - IF exposed or if you feel unwell: Call a POISON centre or doctor/ physician

Classification according to EU Directives 67/548/EEC or 1999/45/EC:

2. HAZARDS IDENTIFICATION

Classification and labelling according to Directive 67/548/EEC
T - Toxic
N - Dangerous for the environment.

Symbol(s)

T

N

Contains: nickel(II)chloride hexahydrate (EINECS-Nr.: 231-743-0)

R-phrase(s)
R49 - May cause cancer by inhalation
R61 - May cause harm to the unborn child
R38 - Irritating to skin
R68 - Possible risk of irreversible effects
R23/25 - Also toxic by inhalation and if swallowed
R42/43 - May cause sensitization by inhalation and skin contact
R48/23 - Also toxic: danger of serious damage to health by prolonged exposure through inhalation
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S-phrase(s)
S22 - Do not breathe dust
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S53 - Avoid exposure - obtain special instructions before use
S57 - Use appropriate container to avoid environmental contamination
S60 - This material and its container must be disposed of as hazardous waste
S61 - Avoid release to the environment. Refer to special instructions/safety data sheets
S36/37 - Wear suitable protective clothing and gloves

Labelling:
Restricted to professional users

Other hazards
None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Description Substance

Components	Weight %	CAS-No	INDEX No	EC-No.	REACH No.	GHS Classification	Classification
nickel(II)chloride hexahydrate	60-100	7791-20-0	028-011-00-6	231-743-0	-	STOT RE 1 (H372) Skin Irrit. 2 (H315) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1A (H350i) Repr. 1B (H360D) Acute Tox. 3 (H301) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	Carc.Cat.1;R49 Muta.Cat.3;R68 Repr.Cat.2;R61 T;R23/25-48/23 Xi;R38 R42/43 N;R50/53

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

4. FIRST AID MEASURES

Description of first aid measures

General advice:
Call a physician immediately.

Skin contact:
Wash off immediately with plenty of water. Take off all contaminated clothing immediately.

Inhalation:
Move to fresh air
Keep respiratory tract clear
Artificial respiration and/or oxygen may be necessary

Eye contact:
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion:
Call a physician or Poison Control Center immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Protection of first-aiders:
First aider needs to protect himself. Use personal protective equipment.

Most important symptoms and effects, both acute and delayed
None known

Indication of immediate medical attention and special treatment needed
For specialist advice physicians should contact the Poisons Information Service

5. FIRE-FIGHTING MEASURES

Extinguishing media:

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

Extinguishing media which must not be used for safety reasons:
No information available

Special hazards arising from the substance or mixture:
In case of fire hazardous decomposition products may be produced such as. nickel oxides. Hydrogen chloride.

Precautions for fire-fighters:
Wear self-contained breathing apparatus and protective suit. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Flammability Limits in Air:

Lower:
Not applicable.

Upper:
Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Avoid contact with skin, eyes and clothing. Prevent unauthorized access. Evacuate personnel to safe areas.

Environmental precautions:
Should not be released into the environment.

Methods and materials for containment and cleaning up:
Avoid dust formation. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local regulations.

Prevent further leakage or spillage if safe to do so

Reference to other sections:
For personal protection see section 8. See also section 13.

7. HANDLING AND STORAGE

Precautions for safe handling:
Use only in area provided with appropriate exhaust ventilation.

Do not breathe vapours/dust. Remove and wash contaminated clothing before re-use. Do not ingest. For personal protection see section 8.

Handle in accordance with good industrial hygiene and safety practise.

Conditions for safe storage, including any incompatibilities:
Keep containers tightly closed in a dry, cool and well-ventilated place , Keep locked-up , See chapter: 10

Storage Temperature

Keep above
-5 °C
Keep below
40 °C

Specific end uses:
None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parametres:

Derived No Effect Level

Long-term
No information available

Short-term
No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Predicted No Effect Concentration

Long-term
No information available

Short-term
No information available

National occupational exposure limits

Components	EU	Austria	Czech Republic	Denmark	Finland
nickel(II)chloride hexahydrate			TWA: 0.05 mg/m^3	TWA: 0.01 mg/m^3	TWA: 0.1 mg/m^3

Components	Lithuania	The Netherlands	Norway	Poland	Portugal
nickel(II)chloride hexahydrate	TWA: 0.1 mg/m^3	MAC: 0.1 mg/m^3	TWA: 0.05 mg/m^3	NDS: 0.25 mg/m^3	TWA: 0.1 mg/m^3 TWA: 0.2 mg/m^3

Components	Slovakia	Slovenia	Spain	Sweden	United Kingdom
nickel(II)chloride hexahydrate	TWA: 0.5 mg/m^3	TWA: 0.05 mg/m^3 STEL: 0.2 mg/m^3	TWA: 0.1 mg/m^3 TWA: 0.2 mg/m^3	TWA: 0.1 mg/m^3	

Exposure controls:

Appropriate engineering controls:
Ensure adequate ventilation
Apply technical measures to comply with the occupational exposure limits

Individual protection measures

Hygiene measures
Avoid breathing dust or vapour. Handle in accordance with good industrial hygiene and safety practise. Barrier creams may help to protect the exposed areas of skin, they should however not be applied once exposure has occurred. Wash face, hands and any exposed skin thoroughly after handling.

Eye protection:
tightly fitting safety goggles. Ensure that eyewash stations and safety showers are close to the workstation location.

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

Respiratory protection:
In case of insufficient ventilation wear suitable respiratory equipment
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards:
None known

Environmental exposure controls:
Do not empty into drains

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solid
Colour:	green

9. PHYSICAL AND CHEMICAL PROPERTIES

Odour:	Odourless
Odour Threshold	No information available
Melting point	140 °C
Boiling point	No information available
Flash point	No information available
Evaporation rate:	No information available
Flammability	No information available
Lower explosion limit	No information available
Upper explosion limit	No information available
Vapour pressure:	ca. 23 hPa
Relative vapour density	No information available
Water solubility	soluble
Partition coefficient: n-octanol/water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity:	No information available
Explosive properties:	Not applicable
oxidising properties	No information available
pH:	4 - 5
Relative density	1.90 - 1.95

Other data

VOC Content(%)
Not applicable

Solubility in other solvents:
No information available

Bulk density
640 kg/m^3

9. PHYSICAL AND CHEMICAL PROPERTIES

Ignition temperature
No information available

Solidification point
Not required

10. STABILITY AND REACTIVITY

Reactivity:
None under normal processing

Chemical stability
Elimination of water of crystallisation

Possibility of hazardous reactions
Risk of violent reaction - Alkali metals

Conditions to avoid:
To avoid thermal decomposition, do not overheat.

Incompatible materials:
(see section "Possibility of hazardous reactions")

Hazardous decomposition products:
See chapter: 5.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Skin contact
Irritating to skin.

Eye contact
Contact with eyes may cause irritation

Inhalation
Toxic by inhalation.

Ingestion
Toxic if swallowed.

Sensitisation
May cause sensitization by skin contact. May cause sensitization by inhalation.

carcinogenic effects
May cause cancer

mutagenic effects
Suspected of causing genetic defects Mutagenic Category 2

Reproductive toxicity
May damage fertility or the unborn child

STOT - single exposure
No information available

STOT - repeated exposure
Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard
No information available

Other information on acute toxicity

Components	LD50/oral/rat	LC50/inhalation/rat	LD50/dermal/rabbit
nickel(II)chloride hexahydrate - 7791-20-0	105 mg/kg	No information available	No information available

Other information
None known

12. ECOLOGICAL INFORMATION

Toxicity:
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Persistence and degradability:
No information available

Bioaccumulative potential:
Not determined.

Mobility in soil:
No known effect based on information supplied

Results of PBT and vPvB assessment:
No information available

Other adverse effects:
Do not allow contact with soil, surface or ground water

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Waste from residues / unused products:
Dispose of in accordance with local regulations. Do not dispose of waste into sewer..

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

IMDG

UN-No (IMO/IMDG): UN3288
Proper shipping name (IMDG): TOXIC SOLID, INORGANIC, N.O.S.
Technical Name (IMDG): nickel(II) chloride hexahydrate
Ems no.: F-A,S-A
Hazard Class (IMO/IMDG): 6.1
Packing group (IMO/IMDG): III
Marine pollutant: P
Hazard Label (IMO/IMDG): 6.1

14. TRANSPORT INFORMATION

ADR/RID

UN-No:	3288
Proper shipping name:	TOXIC SOLID, INORGANIC, N.O.S.
Technical Name (ADR):	nickel(II)chloride hexahydrate
Hazard Class:	6.1
Packing group:	III
Classification Code:	T5
Kemler Number (ADR):	60
ADR/RID-Labels	6.1

ICAO/IATA

UN-No (IATA):	UN3288
Proper shipping name (IATA):	TOXIC SOLID, INORGANIC, N.O.S.
Technical Name (IATA):	nickel(II) chloride hexahydrate
Hazard Class (IATA):	6.1
Packing group (IATA):	III
Hazard Label:	6.1

Environmental hazards:
Marine pollutant

Special precautions for users:
Observe label precautions

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
None known

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:
Take note of Dir 94/33/EC on the protection of young people at work
Take note of Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

Further Information:

Water contaminating class (Germany) 2

Substances currently restricted by WEEE/RoHS (European Directive 2002/96/EC , 2002/95/EC) or ELV (European Directive 2000/53/EC):

PBDE	PBB	CrVI	Hg	Pb	Cd
-	-	-	-	-	-

Please note: Current legislation restricting the use of certain substances applies to „homogeneous material“ in finished articles being supplied to the market. Substances deposited during surface finishing may have a composition (weight percent) higher than the weight percent of the substance in the operating solution from which the deposit is made. Atotech encourages its customers to implement systems to ensure their finished products comply with the regulations in force.

All of the components in this product are on or exempt from the following inventories:
US TSCA, CANADA DSL / NDSL, Europe (EINECS/ELINCS/NLP), Australia, Korea, China, Japan, Philippines.

International Inventory Legend
TSCA: US - Toxic Substance Control Act
DSL: Canada - Domestic Substance List
NDSL: Canada - Non-Domestic Substance List
IECSC: China - Inventory of Existing Chemical Substances China
EINECS: EU Inventory of Existing Commercial Chemical Substances
ELINCS: EU List of Notified Chemical Substances
ECL: Korea - Existing Chemicals List
AICS: Australia - Inventory of Chemical Substances
ENCS: Japan - Existing and New Chemical Substances
PICCS: Phillipines - Inventory of Chemicals and Chemical Substances

Chemical Safety Assessment:
None known

16. OTHER INFORMATION

This safety datasheet has been prepared according to European Union legislation:
REGULATION (EC) No 453/2010

Text of R phrases mentioned in Section 3:
- R38 - Irritating to skin.
- R49 - May cause cancer by inhalation.
- R61 - May cause harm to the unborn child.
- R68 - Possible risks of irreversible effects.
- R23/25 - Also toxic by inhalation and if swallowed
- R42/43 - May cause sensitization by inhalation and skin contact.
- R48/23 - Also toxic: danger of serious damage to health by prolonged exposure through inhalation
- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard statements:
- H301 - Toxic if swallowed
- 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
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects

Revision Date: 09.05.2011

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text