

SAFETY DATA SHEET

ELECTROLYTIC NICKEL



The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued 14.06.2017

1.1. Product identifier

Product name ELECTROLYTIC NICKEL
REACH Reg. No. 01-2119438727-29-0001
CAS no. 7440-02-0
EC no. 231-111-4
Extended SDS with ES incorporated Yes

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation S4A (stainless, special steels and special alloy casters) ;Integrated steel and iron; EAF carbon steel; Powder metallurgy; Metal surface treatment (Nickel electroplating and nickel electroforming technologies); Manufacturing of batteries using positive nickel electrodes; Ni catalyst production from NiO-containing catalyst precursor; Use pre-reduced nickel containing catalyst; Production of magnets ; Production of nickel containing products (e.g. Electronics);Production of brazing alloys; Production of contact materials; Sputter deposition ;Thin film deposition by evaporation techniques All identified uses are listed in the attached GES.

Uses advised against Nickel in articles intended for direct and prolonged skin-contact. Nickel-containing food contact materials for which migration into foodstuff would exceed more than 0,1 mg/kg of nickel in accordance with the Council of Europe Guidelines on metals and alloys used as food contact materials (2002). Nickel-containing HIGH SULPHUR stainless steel for surgical implants. Immersion-type kettles which would release more than 0.05 mg/l of nickel into the water in accordance with the Council of Europe Guidelines on metals and alloys used as food contact materials (2002).

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name Norilsk Nickel Harjavalta Oy
Postal address Teollisuuskatu 1
Postcode 29200
City Harjavalta
Country Finland
Tel +358 2 537 11
E-mail product.safety@nornickel.fi
Enterprise no. FI15917284

1.4. Emergency telephone number

Emergency telephone Description: 3E EH&S Mission Control Center: +44 20 35147487 / Access Code: 334656

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS] Skin Sens. 1; H317
STOT RE1; H372
Carc. 2; H351

2.2. Label elements

Hazard Pictograms (CLP)



Signal word Warning

Hazard statements H317 May cause an allergic skin reaction. H372 Causes damage to organs through prolonged or repeated exposure H351 Suspected of causing cancer H412 Harmful to aquatic life with long lasting effects.

Precautionary statements P202 Do not handle until all safety precautions have been read and understood. P333+P313 If skin irritation or rash occurs: Get medical advice / attention.
P281 Use personal protective equipment as required. P261 Avoid breathing dust / fume / gas / mist / vapours / spray. P333+P313 If skin irritation or rash occurs: Get medical advice / attention. P273 Avoid release to the environment.

Other Label Information (CLP) CLP Article 23 d labelling derogation

2.3. Other hazards

PBT / vPvB The PBT and vPvB criteria of Annex XIII to the regulation does not apply to inorganic substances.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance	Identification	Classification	Contents
Nickel	CAS no.: 7440-02-0 EC no.: 231-111-4 REACH Reg. No.: 01-2119438727-29-	Skin Sens. 1; H317 STOT RE1; H372 Carc. 2; H351	99,9 %

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove affected person from the immediate area. Ensure supply of fresh air. If breathing is irregular or stopped, administer artificial respiration. Consult a physician.

Skin contact Wash off with soap and plenty of water. Remove soiled or soaked clothing immediately. Wash contaminated clothing before re-use.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.

Ingestion Rinse mouth. Consult a physician. Never give anything by mouth to an unconscious person.

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

General symptoms and effects Treat symptomatically.

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

Medical treatment None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Powder. Water spray. Foam. Carbon dioxide (CO₂).

Improper extinguishing media None.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards In case of fire, toxic gases may be formed. Metal dust; Metallic oxides;

5.3. Advice for firefighters

Personal protective equipment Use personal protective equipment as required.

Other Information Collect contaminated fire extinguishing water separately. Do not discharge into the drains/surface waters/groundwater. Nickel is non-flammable, but very fine nickel particles can burn.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures Refer to protective measures listed in sections 7 and 8. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Avoid dust formation. Avoid release to the environment.

6.2. Environmental precautions

Environmental precautionary measures Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Other information Recover the product and place in a suitable container for reuse.

6.4. Reference to other sections

Other instructions See also section 8,13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. Avoid inhalation of dust and contact with skin and eyes. Use mechanical ventilation in case of handling which causes formation of dust. Avoid generating excess dust.

Protective Safety Measures

Advice on general occupational hygiene Private clothes and working clothes should be kept separately.

7.2. Conditions for safe storage, including any incompatibilities

Storage Store in tightly closed original container in a dry and cool place. Incompatible products Acids; Oxidiser storage.

7.3. Specific end use(s)

Specific use(s) Exposure scenario is attached. Generic exposure scenario available from:
<http://www.nickelconsortia.org/exposure-scenario-library.html>

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Substance	Identification	Value	TWA Year
Nickel*		TWA (8h): 0,01 mg/m ³ Exposure Limit Letter Letter description: Ni, alveol fraction Source: HTP Finland	TWA Year: 2013

DNEL / PNEC

PNEC Comment : PNEC marine water: 8.6 µg dissolved Ni/L
 Comment : PNEC Freshwater: 7.1 µg dissolved Ni/L
 Comment : PNEC Sediment: 109 mg Ni/kg dry wt.

Substance	Nickel
DNEL	<p>Group: Professional Route of exposure: Acute inhalation (local) Value: 11.9 mg/m³</p> <p>Group: Professional Route of exposure: Long-term inhalation (systemic) Value: 0.05 mg/m³</p> <p>Group: Professional Route of exposure: Long-term dermal (local) Value: 0.035 Remarks: mg Ni/cm²</p> <p>Group: Professional Route of exposure: Long-term inhalation (local) Value: 0.05 mg/m³</p>

8.2. Exposure controls

Precautionary measures to prevent exposure

Product-related measures to prevent exposure Avoid contact with skin and eyes. Do not breathe dust. Avoid repeated exposure.

Eye / face protection

Suitable Eye Protection Use eye protection. Wear full-face visor or shield.

Hand protection

Suitable gloves type Wear protective gloves. Avoid prolonged skin contact.

Suitable materials Leather. Nitrile.

Skin protection

Suitable protective clothing Wear appropriate clothing to prevent reasonably probable skin contact. Wear special protective clothing.

Respiratory protection

Recommended type of equipment Use respiratory equipment with particle filter, type P3.

Hygiene / environmental

Specific hygiene measures Isolate contaminated clothing and wash before reuse. Personal protection must be kept separate from other clothes. When using do not eat, drink or smoke.

Appropriate environmental exposure control

Environmental exposure controls The employer shall fulfill requirements of IPPC Directive.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Colour	Silver-grey
Odour	Odourless.
Odour limit	Comments: Not relevant.
pH	Status: In delivery state Comments: Technically not feasible.
Melting point / melting range	Comments: 1455°C
Boiling point / boiling range	Comments: 2730°C
Flash point	Comments: Technically not feasible.
Flammability (solid, gas)	The product is not flammable.
Vapour pressure	Comments: 1 mmHg 1810°C
Specific gravity	Comments: 4-5 g/cm ³
Partition coefficient: n-octanol/water	Comments: Technically not feasible. inorganic
Spontaneous combustability	Comments: The product is not flammable.
Viscosity	Comments: Not relevant. Solid
Explosive properties	Not explosive
Oxidising properties	Not oxidizing.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No specific reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Conditions to avoid Avoid dust formation.

10.5. Incompatible materials

Materials to avoid Oxidizing agents; Reacts with acids to form flammable/explosive hydrogen gases.

10.6. Hazardous decomposition products

Hazardous decomposition products Metallic oxides;

Other information

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance	Nickel
Acute toxicity	<p>Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Oral Value: > 9000 mg/kg</p> <p>Type of toxicity: Acute Effect Tested: LC50 Route of exposure: Inhalation. Value: > 10 mg/l</p> <p>Type of toxicity: Acute Effect Tested: NOAEL Value: 0,012 mg/kg bw /d Comments: Ni ion released from metallic nickel in water and food contact material</p>

Other information regarding health hazards

Assessment of skin corrosion / irritation, classification	<p>According to the classification criteria of the European Union, the product is not considered as being a skin irritant.</p> <p>According to the classification criteria of the European Union, the product is not considered as being an eye irritant.</p>
Skin contact	May cause an allergic skin reaction.
Sensitisation	Not classified as Respiratory sensitizer.
Mutagenicity	None.
Carcinogenicity	Suspected of causing cancer if inhaled.

Reproductive toxicity	None.
Assessment specific target organ SE, classification	Causes damage to organs through prolonged or repeated exposure. LOAEC = 0.1 mg Ni/m ³ lungs if inhaled target organs
Aspiration hazard, comments	Not relevant.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Nickel
Acute aquatic, fish	<p>Toxicity type: Acute Value: 0,4 – 320 mg/l Effect dose concentration : LC50 Exposure time: 96 Tunti Method: Pimephales promelas; Hoang et al., 2004) (Brachydanio rerio; Janssen Pharmaceutica, 1993d)</p> <p>Toxicity type: Chronic Value: 40 – 15420 µg/l Effect dose concentration : EC10 Method: Brachydanio rerio(Dave & Xiu, 1991) Brachydanio rerio (Kienle et al., 2009)</p>
Ecotoxicity	<p>Ecotoxicity Reference Value (ERV) Nickel compounds -acute 120 µg Ni/L (pH 6), 68 µg Ni/L (pH 8) -chronic = 2.4 µg Ni/L</p>

12.2. Persistence and degradability

Persistence and degradability	No data available.
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12.3. Bioaccumulative potential

Bioaccumulative potential	Bioconcentration Terrestrial Compartment BSAF 0.013-1.86
Bioconcentration factor (BCF)	Value: 270

12.4. Mobility in soil

Mobility	Kp-Soil: log Kpsoil 2.86
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12.5. Results of PBT and vPvB assessment

PBT assessment results	The PBT and vPvB criteria of Annex XIII to the regulation does not apply to inorganic substances.
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12.6. Other adverse effects

Other adverse effects / Remarks	Not applicable.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal	The listed waste code numbers, according to the European Waste Catalogue (EWC), are to be understood as a recommendation (2000/532/EC). Confirm disposal procedures with environmental engineer and local regulations. Recover and reclaim or recycle, if practical.
Other Information	Contact manufacturer. Dispose of as special waste in compliance with local and national regulations.

SECTION 14: Transport information

14.1. UN number

Comments Not classified as dangerous in the meaning of transport regulations.

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

Comments -

14.6. Special precautions for user

Special safety precautions for user Not classified as dangerous in the meaning of transport regulations.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport In Bulk Value (Yes/No) No

SECTION 15: Regulatory information

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

Assessed restrictions Reach 1907/2006 Annex XVII (27 Nickel and its compounds)
Legislation and regulations 2004/96/EC

15.2. Chemical safety assessment

Chemical safety assessment performed Yes

SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3). H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer
H372 Causes damage to organs through prolonged or repeated exposure

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS] Skin Sens. 1; H317
STOT RE1; H372
Carc. 2; H351

Additional information Disclaimer The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

Exposure scenario  [ES_0_NICKEL POWDER \[FI-FIN\].pdf](#)

