

SAFETY DATA SHEET

NICKEL HYDROXYCARBONATE



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 15.06.2017

1.1. Product identifier

Product name NICKEL HYDROXYCARBONATE
REACH Reg. No. 01-2119490826-25-0000
CAS no. 12607-70-4
EC no. 235-715-9
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 Plating agent; Catalyst manufacture ; Production of nickel salts ; Nickel powder manufacture ; enamel frits manufacture ; Production of pigments ; repackaging
Uses advised against
Not applicable.

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 Irrit. 2; H315
- Skin Sens. 1; H317
- Muta. 2; H341
- Acute tox. 4; H302
- Acute tox. 2; H330
- STOT RE1; H372
- Repr. 1B; H360D
- Carc. 1A; H350i
- Eye Irrit. 2; H319
- Resp. Sens. 1; H334
- Aquatic Acute 1; H400
- Aquatic Chronic 1; H410

2.2. Label elements

Hazard Pictograms (CLP)



Signal word

Danger

Hazard statements

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H341 Suspected of causing genetic defects
- H302 Harmful if swallowed.
- H330 Fatal if inhaled.
- H372 Causes damage to organs through prolonged or repeated exposure
- H360D May damage the unborn child.
- H350i May cause cancer by inhalation.
- H319 Causes serious eye irritation.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

- P261 Avoid breathing dust / fume / gas / mist / vapours / spray.
- P270 Do not eat, drink or smoke when using this product.
- P362 Take off contaminated clothing and wash before reuse.
- P273 Avoid release to the environment.
- P280 Wear protective gloves / protective clothing / eye protection / face protection.
- P308+P313 IF exposed or concerned: Get medical advice / attention.

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 hydroxycarbonate	CAS no.: 12607-70-4 EC no.: 235-715-9 REACH Reg. No.: 01-2119490826-25-0000	Skin Irrit. 2; H315 Skin Sens. 1; H317 Muta. 2; H341 Acute tox. 4; H302 Acute tox. 2; H330 STOT RE1; H372 Repr. 1B; H360D Carc. 1A; H350i Eye Irrit. 2; H319 Resp. Sens. 1; H334 Aquatic Acute 1; H400; M-factor 1 Aquatic Chronic 1; H410; M-factor 1	100 %
Substance comments	Substance, inorganic salt		

SECTION 4: First aid measures

4.1. Description of first aid measures

General	If symptoms persist, call a physician.
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.

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 No hazards which require special first aid measures.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment e.g.: Dry powder; Carbon dioxide (CO ₂); Water spray jet;
Improper extinguishing media	Strong water jet;

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards In the event of fire the following can be released: Metal dust; Metallic oxides;

5.3. Advice for firefighters

Personal protective equipment	Wear self-contained breathing apparatus and protective suit.
Other Information	Collect contaminated fire extinguishing water separately. Do not discharge into the drains/surface waters/groundwater.

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 dust formation. Ensure adequate ventilation.

6.2. Environmental precautions

Environmental precautionary measures Do not discharge into the drains/surface waters/groundwater. Avoid dust formation.

6.3. Methods and material for containment and cleaning up

Other information Pick up mechanically. Send in suitable containers for recovery or disposal. (Section 13)

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.
Conditions to avoid Acids

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 compounds *		TWA (8h): 0,05 mg/m ³ Source: HTP Finland TWA (8h): 0,01 mg/m ³ Source: HTP Finland Comments: Alveolar dust fraction	TWA Year: 2013

DNEL / PNEC

Substance Nickel hydroxycarbonate

DNEL	<p>Group: Professional Route of exposure: Acute inhalation (systemic) Value: 30,4 Remarks: mg Ni/m³</p> <p>Group: Professional Route of exposure: Acute inhalation (local) Value: 0,8 Remarks: mg Ni/m³</p> <p>Group: Professional Route of exposure: Long-term inhalation (systemic) Value: 0,05 Remarks: mg Ni/m³</p> <p>Group: Professional Route of exposure: Long-term dermal (local) Value: 0.003 Remarks: mg Ni/cm²</p> <p>Group: Professional Route of exposure: Long-term inhalation (local) Value: 0,05 Remarks: mg Ni/m³</p>
PNEC	<p>Comment : PNEC marine water: 8.6 □ug dissolved Ni/L</p> <p>Comment : PNEC Freshwater: 7.1 □ug dissolved Ni/L</p> <p>Comment : PNEC Sediment: 109 mg Ni/kg dry wt.</p>

8.2. Exposure controls

Precautionary measures to prevent exposure

Product-related measures to prevent exposure	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 contact with skin and eyes. Do not breathe dust. Avoid repeated exposure. Wear suitable protective equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Remove soiled or soaked clothing immediately. Clean skin thoroughly after work. At work do not eat, drink, smoke or take drugs. Keep away from food, drink and animal feedingstuffs. Keep working clothes separately.
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Eye / face protection

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

Suitable gloves type	Wear protective gloves.
Suitable materials	Butyl rubber. Neoprene. Polyvinyl chloride (PVC).

Skin protection

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

Recommended type of equipment	Use respiratory equipment with particle filter, type P3.
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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	Granules , Paste , Powder
Colour	Green.
Odour	odourless
Melting point / melting range	Comments: Decomposes before melting.
Boiling point / boiling range	Comments: Ei määritettävissä.
Flammability (solid, gas)	does not ignite
Vapour pressure	Comments: Not applicable.
Vapour density	Comments: Not applicable.
Density	Value: 0,75 – 0,80 g/cm ³
Partition coefficient: n-octanol/water	Comments: Not applicable.
Spontaneous combustibility	Comments: >400°C (Chemical Safety Assessment)
Decomposition temperature	Comments: approx. 240°C
Explosive properties	Not explosive
Oxidising properties	Not applicable.

9.2. Other information

Other physical and chemical properties

Physical and chemical properties Granules , Paste = Moisture content: 20%

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stability Stable under recommended 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 Acids;

10.6. Hazardous decomposition products

Hazardous decomposition products Metallic oxides;

Other information

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Value:
Substance	Nickel hydroxycarbonate
Acute toxicity	Effect Tested: LD50 Route of exposure: Oral Value: 2000 mg/kg bw Comments: NOAEL (oral): 383 mg Ni/kg/day Effect Tested: LC50 Route of exposure: Inhalation. Value: 0,24 mg/l Comments: NOAEC (inhalation): 26 mg Ni/m ³ (males, MMAD=1.9 µm)

Other information regarding health hazards

Assessment of acute toxicity classification	Acute tox. 2 Fatal if inhaled. Acute tox 4 Harmful if swallowed.
Assessment of skin corrosion / irritation, classification	Skin irrit. 2 Irritating to skin. Eye irrit.2 Causes serious eye irritation.
General respiratory or skin sensitisation	Skin sens 1 Voi aiheuttaa allergisen ihoreaktion. Resp. sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Assessment carcinogenicity classification	Muta 2 Suspected of causing genetic defects <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>. Carc 1A May cause cancer by inhalation. Repr. 1B May damage the unborn child.
Assessment specific target organ SE, classification	Causes damage to organs [Value] through prolonged orrepeated exposure [Value]. LOAEC = 0.1 mg Ni/m ³ Target Organs Lungs If inhaled
Aspiration hazard, comments	Not applicable. Solid

Symptoms of Exposure

Other Information	No studies have been found.
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SECTION 12: Ecological information

12.1. Toxicity

Substance	Nickel hydroxycarbonate
Acute aquatic, fish	Toxicity type: Acute Value: 0,4 – 320 mg/l Effect dose concentration : LC50 Exposure time: 96 t Method: Fresh water Test reference: (Pimephales promelas; Hoang et al., 2004) (Brachydanio rerio; Janssen Pharmaceutica, 1993d)

Substance	<p>Toxicity type: Acute Value: 24.8 – 350 mg/l Effect dose concentration : LC50 Exposure time: 96 t Method: Sea water Test reference: (Fundulus heteroclitus; Bielmyer et al., 2013) (Fundulus heteroclitus; Eisler and Hennekey, 1977) Nickel hydroxycarbonate</p>
Acute aquatic, Daphnia	<p>Toxicity type: Acute Value: 0.013 – 4970 mg/l Effect dose concentration : LC50 Exposure time: 48 t Method: Fresh water Test reference: (Ceriodaphnia dubia; Schubauer-Berigan et al., 1993) (Daphnia magna; Chapman and Recht, 1980)</p>
Ecotoxicity	<p>Toxicity type: Acute Value: 0.23 – 415 mg/l Effect dose concentration : LC50 Exposure time: 48 t Method: Sea water Test reference: (Haliotis refescens; Hunt et al., 2002b) (Penaeus duorarum; Bentley et al., 1975b)</p> <p>Aquatic Acute 1 Aquatic Chronic 1 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 degradability additional info	Not applicable.
Persistence and degradability	Not applicable.

12.3. Bioaccumulative potential

Bioaccumulative potential	Bioconcentration Terrestrial Compartment BSAF 0.013-1.86
Substance	Nickel hydroxycarbonate
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	no data available
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal	Contaminated packaging should be emptied as far as possible. Packaging that cannot be cleaned should be disposed as special waste in compliance with local and national regulations.
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	UN3288
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14.2. UN proper shipping name

Comments	TOXIC SOLID, INORGANIC, N.O.S. (nickel hydroxycarbonate)
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14.3. Transport hazard class(es)

Comments	6.1
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14.4. Packing group

Comments	II
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14.5. Environmental hazards

Comments	Dangerous for the environment
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14.6. Special precautions for user

Special safety precautions for user	No data available. Tunnel restriction code D/E
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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport In Bulk Value (Yes/No)	No
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ADR / RID - Other information

Hazard no.	60
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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	94/27/EC ; 2007/96/EC ; Reach 1907/2006 Annex XVII

15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
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SECTION 16: Other information

List of relevant H-phrases	H302 Harmful if swallowed.
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(Section 2 and 3).	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H330 Fatal 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.
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Exposure scenario	 ES_0_NICKEL HYDROXYCARBONATE [F+FIN].pdf