

Material Safety Data Sheet

1. Product & Company Identification and identification of the substance/mixture

Product:	NiMH rechargeable battery (AAA)
Manufacturer:	Conrad Electronic SE
Nominal voltage:	1,2 V
Nominal capacity:	1100 mAh
Address:	Klaus-Conrad-Str. 1, D-92240 Hirschau
Telephone:	+49 (0) 9604 / 40 - 8988
Date of issue:	14.11.2016

This sample is likely to be classified as article with substances not intended to be released and is out of scope of a SDS as set out in Regulation (EC) No. 1907/2006. This SDS is generated for clients reference only.

2. Hazards identification

- Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Resp. Sens 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Muta. 2	H341	Suspected of causing genetic defects.
Carc. 1A	H350i	May cause cancer by inhalation.
Repr. 1B	H360D	May damage the unborn child.
STOT RE 1	H372	Causes damage to organs through prolonged or repeated exposure.



GHS05 corrosion

Skin Corr. 1A	H314	Causes severe skin burns and eye damage.
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GHS09 environment

Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Sens. 1	H317	May cause an allergic skin reaction.

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Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R49-61-48/23: May cause cancer by inhalation. May cause harm to the unborn child. Toxic: danger of serious damage to health by prolonged exposure through inhalation.



C; Corrosive

R35: Causes severe burns.



Xn; Harmful

R20/22-40-68: Harmful by inhalation and if swallowed. Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.



N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of Directive 67/548/EEC, 1999/45/EC and Regulation (EC) No. 1272/2008.

Classification system:

The classification is according to the latest edition of the Directive 67/548/EEC, 1999/45/EC and Regulation (EC) No. 1272/2008, and extended by company and literature data.

Label elements:

Labeling according to Regulation (EC) No. 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms:



GHS05 GHS07 GHS08 GHS09

Signal word: Danger

Hazard-determining components of labelling:

nickel dihydroxide

potassium hydroxide

nickel

cobalt dihydroxide



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Hazard statements

- H302 Harmful if swallowed.
- H332 Harmful if inhaled.
- H314 Causes severe skin burns and eye damage.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H317 May cause an allergic skin reaction.
- 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.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

- P101 Of medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER/doctor/....
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local regional/national/international regulations.

Other hazards:

Results of PBT and vPvB assessment

- PBT:** Not available
- vPvB:** Not applicable.

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3. Composition/information on ingredients

Chemical characterization: Mixtures

Description:

Mixture of the substances listed below with nonhazardous additions.

For the wording of listed risk phrases refer to section 16.

Dangerous components		
CAS: 7440-02-0 EINECS: 231-111-4 EU number: 028-002-00-7	nickel  T R48/23;  Xn R40;  Xi R43 Carc. Cat. 3  Carc. 2, H351; STOT RE 1, H372;  Skin Sens. 1, H317	45,0%
CAS: 12054-48-7 EINECS: 235-008-5 EU number: 028-008-00-X	nickel dihydroxide  T Repr. Cat. 2 R49-61-48/23;  Xn R20/22-68;  Xn R42/43;  Xi R38;  N R50/53 Carc. Cat. 1, Muta. Cat. 3  Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1A, H350i; Repr. 1B, H360D; STOT RE 1, H372;  Aquatic Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317	33,0%
CAS: 1310-58-3 EINECS: 215-181-3 EU number: 019-002-00-8	potassium hydroxide  C R35;  Xn R22  Skin Corr. 1A, H314;  Acute Tox. 4, H302	15,0%
CAS: 21041-93-0 EINECS: 244-166-4	cobalt dihydroxide  Xn R20/21/22;  Xi R36/37/38  Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE3, H335	7,0%

Remark:

nickel dihydroxide (CAS: 12054-48-7)

Note: nickel hydroxide

cobalt dihydroxide (CAS: 21041-93-0)

Note: cobalt hydroxide



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4. First aid measures

Description of first aid measures

- After inhalation: Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.

Information for doctor:

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available

5. Fire fighting measures

Extinguishing media

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture:

No further relevant information available.

Advice for firefighters:

Protective equipment: Mouth respiratory protective device.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Keep unprotected persons away.

Environmental precautions:

Do not allow product to reach sewage system or any water source.

Inform respective authorities in case of seepage in to water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.



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7. Handling and storage

Handling

Precautions for safe handling:

Thorough dedusting.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of dust.

Information about fire - and explosion protection:

Keep respiratory protective device available.

Storage

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions:

Keep container tightly sealed.

Specific end use(s):

No further relevant information available

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8. Exposure controls, personal protection

Additional information about design of technical facilities: No further data; see item 7.

Control parameters

Ingredients with limit values that require monitoring at the workplace:	
7440-02-0 nickel	
MAK (Germany)	einatembare Fraktion; vgl.Abschn.XII
12054-48-7 nickel dihydroxide	
MAK (Germany)	einatembare Fraktion; vgl.Abschn.XII

DNELs: Not available

PNECs: Not available

Additional information: The lists valid during the making were used as basis.

Exposure controls

Based on the composition shown in Section 3, the following measures are suggested for occupational safety measure:

Personal protective equipment

General protective and hygienic measures:

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

Respiratory protection: In case of brief exposure or low pollution use respiratory filter device.
In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:

 Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation


Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

 Tightly sealed goggles

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9. Chemical and Physical Properties

Information on basic physical and chemical properties:

General information

Appearance:	Form:	Solid
	Colour:	Silver-grey
	Odour:	Odourless
	Odour threshold:	Not available
pH-value:		Not available

Change in condition

Melting point/Melting range:	Not available
Boiling point/Boiling range:	Not available
Freezing point:	Not available
Flash point:	Not available
Flammability (solid, gaseous):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Self-igniting:	Product is not selfigniting.

Explosive properties

Risk of explosion by shock, friction, fire or other sources of ignition.

Explosion limits:	Lower:	Not available
	Upper:	Not available
Oxidizing properties:		Not available
Vapour pressure:		Not available
Density:		Not available
Relative density:		Not available
Vapour density:		Not available
Evaporation rate:		Not available
Solubility in / Miscibility with water:		Not available
Partition coefficient (n-octanol/water):		Not available.
Viscosity:	Dynamic:	Not available.
	Kinematic:	Not available
Other information:		No further relevant information available.

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10. Stability and reactivity

Reactivity:	Data not available
Chemical stability:	Data not available
Possibility of hazardous reactions:	No dangerous reactions known.
Conditions to avoid:	No further relevant information available.
Incompatible materials:	No further relevant information available.
Hazardous decomposition products:	No dangerous decomposition products known

11. Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

1310-58-3 potassium hydroxide

Oral LD50 273 mg/kg (rat)

Primary irritant effect

On the skin: Strong caustic effect on skin and mucous membranes.

On the eye: Strong caustic effect.

Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

- Harmful
- Corrosive
- Irritant
- Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Toxicokinetics, metabolism and distribution: No further relevant information available

Acute effects (acute toxicity, irritation and corrosivity): No further relevant information available

Repeated dose toxicity: No further relevant information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): Muta. 2, Carc. 1A, Repr. 1B



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12. Ecological information

Toxicity

Aquatic toxicity:	No further relevant information available.
Persistence and degradability:	No further relevant information available.
Behaviour in environmental systems:	No further relevant information available.
Bioaccumulative potential:	No further relevant information available.
Remark:	Very toxic for fish.

Additional ecological information

General notes:

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Must not reach sewage water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

Other adverse effects:

No further relevant information available.

13. Disposal considerations

Waste treatment methods

Recommendation:
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging

Recommendation:
Disposal must be made according to official regulations.

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14. Transport information

UN-Number

ADR Not applicable

IMDG, IATA UN3496

UN proper shipping name

ADR Not applicable

IMDG, IATA Batteries, nickel-metal hydride

Transport hazard class(es)

ADR

Class Not applicable

Label -

IMDG, IATA



Class 9 Miscellaneous dangerous substances and articles.

Label 9

Packing group

ADR, IMDG, IATA Not applicable

Environmental hazards

Product contains environmentally hazardous substances: nickel dihydroxide

Marine pollutant: No

Special precautions for user: Not applicable

Danger code (Kemler): -

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

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15. Regulatory Information

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

MAK (German Maximum Workplace Concentration)

7440-02-0	nickel	1
12054-48-7	nickel dihydroxide	1

National regulations

Waterhazard class: Water hazard class 3 (Self-assessment): extremely hazardous for water.

Other regulations, limitations and prohibitive regulations

SVHC Candidate List of REACH Regulation Annex XIV Authorisation (16/12/2013): None of the ingredients is listed

REACH Regulation Annex XVII Restriction (13/2/2013): Nickel (CAS No.: 7440-02-0)

REACH Regulation Annex XIV Authorisation List (17/4/2013): None of the ingredients is listed

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. Other Information

Recommended restriction of use

REACH Annex XVII Restricted-27

27. Nickel CAS No 7440-02-0 EC No 231-111-4 and its compounds

1. Shall not be used:

(a) in any post assemblies which are inserted into pierced ears and other pierced parts of the human body unless the rate of nickel release from such post assemblies is less than 0,2 µg/cm² /week (migration limit);

(b) in articles intended to come into direct and prolonged contact with the skin such as:

- earrings,
- necklaces, bracelets and chains, anklets, finger rings,
- wrist-watch cases, watch straps and tighteners,
- rivet buttons, tighteners, rivets, zippers and metal marks, when these are used in garments,

if the rate of nickel release from the parts of the se articles coming into direct and prolonged contact with the skin is greater than 0,5 µg/cm² / week.

(c) in articles referred to in point (b) where these have a non-nickel coating unless such coating is sufficient to ensure that the rate of nickel release from those parts of such articles coming into direct and prolonged contact with the skin will not exceed 0,5 µg/cm² / week for a period of at least two years of normal use of the article.

2. Articles which are the subject of paragraph 1 shall not be placed on the market unless they conform to the requirements set out in that paragraph.

3. The standards adopted by the European Committee for Standardisation (CEN) shall be used as the test methods for demonstrating the conformity of articles to paragraphs 1 and 2.

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Relevant phrases

H302	Harmful if swallowed.
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H351	Suspected of causing cancer.
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.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R20/22	Harmful by inhalation and if swallowed.
R22	Harmful if swallowed.
R35	Causes severe burns.
R36/37/38	Irritating to eyes, respiratory system and skin.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R42/43	May cause sensitisation by inhalation and skin contact.
R43	May cause sensitization by skin contact.
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R49	May cause cancer by inhalation.
R50/53	Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.
R61	May cause harm to the unborn child.
R68	Possible risk of irreversible effects.

The contents and format of this MSDS/SDS are in accordance with REGULATION (EC) No. 1272/2008, (EC) No. 1907/2006, REGULATION (EU) No. 453/2010 and EU Commission Directive 1999/45/EC, 67/548/EEC.

DISCLAIMER OF LIABILITY

The information in this MSDS/SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in anyway connected with the handling, storage, use or disposal of the product. This MSDS/SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS/SDS information may not be applicable.



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Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent