Material Safety Data Sheet

1. Product & Company Identification

Product:	NiMH rechargeable battery (A)
Manufacturer:	Conrad Electronic SE
Nominal voltage:	2,4 V
Nominal capacity:	4000 mAh
Address:	Klaus-Conrad-Str. 1, D-92240 Hirschau
Telephone:	+49 (0) 9604 / 40 - 8988
Date of issue:	25.04.2017

2. Hazards identification

Classification of the substance or mixture

Classification according to GHS

Not a dangerous substance according to GHS.

Label elements

Labelling according to Regulation (EC) No 1272/2008[CLP]

Hazard pictogram(s): No available

Signal word: No available

Hazard statement(s): No available

Precautionary statement(s):

Prevention: No available

Response: No available

Disposal: No available

Other hazards

No information available.

3. Composition, Information on Ingredients

Chemical characterization: Mixture

Chemical Composition	CAS No.	EC#	Weight (%)
Nickel	7440-02-0	231-853-9	30 ~ 44
Cobalt	7440-48-4	231-158-0	2.0 ~ 6.0
Copper	7440-50-8	231-159-6	5.0
Zinc	7440-66-6	231-592-0	0.5
PTFE	9002-84-0	204-126-9	<1.2
Potassium Hydroxide (Liquid)	1310-58-3	215-181-3	<3
Iron	7439-89-6	231-096-4	7.0
Sodium Hydroxide	1310-73-2	231-659-4	<2
Rare Earth Alloy	---	---	30.0 ~ 35.0
Nylon	24937-16-4	---	<1
Others	---	---	<1

4. First Aid Measures

Description of first aid measures

General information

No special measures required.

After eye contact

Flush eyes with plenty of water for several minutes while holding eyelids open. Get medical attention if irritation persists.

After skin contact

Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, get medical attention.

After inhalation

Remove victim to fresh area. Administer artificial respiration if breathing is difficult. Seek medical attention.

After swallowing

Do not induce vomiting. Get medical attention.

Information for doctor:

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5. Fire Fighting Measures

Flammability: Not available.

Extinguishing media

Suitable extinguishing agents

CO2, dry chemical.

Special hazards arising from the substance or mixture

When exposed to fire or extreme heat, batteries may emit toxic fumes.

Advice for firefighters

Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

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

Steps to be taken in case material is spilled or released

Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches and bodies of water.

Waste disposal method

All waste must refer to the United Nations, the national and local regulations for disposal.

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.

7. Handling and Storage

Handling

Precautions for safe handling

Consumption of food and beverage should be avoided in work areas.

Wash hands with soap and water before eating, drinking.

Ground containers when transferring liquid to prevent static accumulation and discharge.

Information about fire and explosion protection

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles

Store in a cool, dry, well-ventilated place.

Information about storage in one common storage facility

Keep away from heat, avoiding the long time of sunlight.

Further information about storage conditions

Keep container tightly sealed.

Specific and use

No further relevant information available.

8. Exposure Controls, Personal Protection

Control parameters

Ingredients with limit values that require monitoring at the workplace:

No further relevant information available.

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Respiratory Protection

Use suitable respirator when high concentrations are present.

Personal Protection

Protection of hands

Protective gloves

Eye protection

Tightly sealed goggles

9. Physical and Chemical Properties

Information on basic physical and chemical properties

General information

Appearance:	Silver.
Form:	Cylindrical.
Odour:	Odorless.
pH:	Not available.

Change in condition

Melting point:	Not available.
Boiling point:	Not available.
Freezing point:	Not available.
Flash point:	Not available.
Flammability:	Not available.
Ignition temperature:	Not available.
Decomposition temperature:	Not available.
Self-igniting:	Not available.
Danger of explosion:	Not available.
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.
n-octanol/water partition coefficient:	Not available.
Viscosity:	Not available.
Dynamic:	Not available.
Kinematic:	Not available.

10. Stability and Reactivity

Reactivity:	Data not available.
Chemical stability:	Stable.
Possibility of hazardous reactions:	Data not available.

Conditions to Avoid

Heating, fire, mechanical abuse and electrical abuse.

Incompatibilities

Oxidizing agents, acid, base.

Hazardous Combustible Products

Carbon monoxide, carbon dioxide, other metallic oxide fumes.

Hazardous Polymerization

N/A.

11. Toxicological Information

Information on toxicological effects

Acute toxicity:

LD/LC50 Values relevant for classification: Not available.

Primary irritant effect:

No further relevant information available.

Sensitization:

No further relevant information available.

Additional toxicological information

Toxicological, metabolism and distribution:

No further relevant information available.

Acute effects (acute toxicity, irritation and corrosivity):

No further relevant information available.

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):

No further relevant information available.

12. Ecological Information

Toxicity

Aquatic toxicity:

No further relevant information available.

Persistence and degradability:

No further relevant information available.

Behaviour in environmental systems

Bioaccumulative potential:

No further relevant information available.

Mobility in soil:

No further relevant information available.

Ecological effects

Additional ecological information

General notes:

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

Other adverse effects:

No further relevant information available.

13. Disposal Considerations

Waste treatment methods

Recommendation:

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packaging

Recommendation:

Disposal must be made according to official regulations.

14. Transport Information

UN Number **IATA** **IMDG** **Model Regulation**	 None UN3496 None
UN Proper shipping name **IATA** **IMDG** **Model Regulation**	 None Nickel-metal hydride batteries None
Transport hazard class(es) **IATA** **IMDG** **Model Regulation**	 None 9 None
Packing group **IATA** **IMDG** **Model Regulation**	 None None None
Environmental hazards **Marine pollutant:**	 No
Special precautions for user	Not applicable.

Transport information: NI-MH BATTERY (AA) is exempt from dangerous goods.

It is considered non-dangerous goods by the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA) DGR, IATA Special Provisions A123,or the « Recommendations on the Transport of Dangerous Goods Model Regulations ».

S.P.A123

This entry applies to Batteries, electric storage, not otherwise listed in Subsection 4.2–List of Dangerous Goods. Examples of such batteries are: alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries. Any electrical battery or battery powered device, equipment or vehicle having the potential of dangerous evolution of heat must be prepared for transport so as to prevent (a) a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or, in the case of equipment, by disconnection of the battery and protection of exposed terminals) is forbidden from transport; and (b) accidental activation.

The words “Not Restricted” and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued.

International maritime Dangerous Goods Regulations (IMDG), is from dangerous goods. Note: Products weighing more than 100kg in the Container. (By sea).

Separate batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport.

Transport Fashion:

By air, by sea, by railway, by road.

15. Regulatory Information

This Material Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

Composition	CAS#	TSCA	EC#	EINECS
Nickel	7440-02-0	Listed	231-853-9	Listed
Cobalt	7440-48-4	Listed	231-158-0	Listed
Copper	7440-50-8	Listed	231-159-6	Listed
Zinc	7440-66-6	Listed	231-592-0	Listed
PTFE	9002-84-0	Listed	204-126-9	Listed
Potassium Hydroxide (Liquid)	1310-58-3	Listed	215-181-3	Listed
Iron	7439-89-6	Listed	231-096-4	Listed
Sodium Hydroxide	1310-73-2	Listed	231-659-4	Listed
Nylon	24937-16-4	Listed	---	Unlisted

16. Additional Information

Abbreviations and acronyms

CLP: EU regulation (EC) No 1272/2008 on classification, labelling and packaging of chemical substances and mixtures.

CAS: Chemical Abstracts Service (Division of the American Chemical Society).

ACGIH: American Conference of Governmental Industrial Hygienists

TLV: Threshold Limit Value

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods

LC50: lethal concentration, 50 percent kill

LD50: lethal dose, 50 percent kill

TWA: Time Weighted Average

TSCA: United States Toxic Substances Control Act Section 8(b) Inventory

EINECS: European Inventory of Existing Commercial Chemical Substances

Model Regulation: Recommendations on the Transport of Dangerous Goods Model Regulations

Declare to reader

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.