

Material Safety Data Sheet

1. Product & Company Identification

| | |
|----------------------|----------------------------------|
| Product name: | Ni-MH battery pack, rechargeable |
|----------------------|----------------------------------|

| BN | Size | Nominal Voltage | Capacity | Energy content |
|---------|-----------|-----------------|----------|----------------|
| 2389180 | AA/Mignon | 1.2 V | 2300 mAh | 2.76 Wh |

| | |
|-----------------------|---------------------------------------|
| Manufacturer: | Conrad Electronic SE |
| Address: | Klaus-Conrad-Str. 1, D-92240 Hirschau |
| Telephone: | +49 (0) 9604 / 40 - 8988 |
| Date of issue: | 01.01.2022 |

2. Composition/Information on Ingredients

| Chemical Name | Concentration or concentration ranges (%) | CAS No. |
|---------------------|---|------------|
| Nickel | 15-40 | 7440-02-0 |
| Nickel hydroxide | 10-30 | 12054-48-7 |
| Iron | 10-30 | 7439-89-6 |
| Cobalt | 1-5 | 7440-48-4 |
| Sodium hydroxide | 1-5 | 1310-73-2 |
| Potassium hydroxide | 1-5 | 1310-58-3 |
| Cobalt hydroxide | 1-5 | 21041-93-0 |
| Manganese | 1-5 | 7439-96-5 |

Labelling ining to EC directives. No symbol and Hazard phrase are required. Note: CAS number is Chemical Abstract Service Registry Number. N/A=Not apply.

3. Hazards Identification

Classification of Danger

See section 14.

Primary Route(s) of Exposure

Eye, skin contact, ingestion.

Health Hazard

The batteries are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there's Hazard of rupture, fire, heat, leakage of internal components, which could cause casualty loss. Abuses including but not limited to the following cases: charged for long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken.



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4. First Aid Measures

Eye

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin

Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

Inhalation

Remove from exposure and move to fresh air immediately. Use oxygen if available.

Ingestion

Ingesting damaged batteries, do not induce vomiting or give food or drink. Seek medical attention immediately.

5. Fire Fighting Measures

Characteristics of Hazard

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Carbon dioxide.

Fire-extinguishing Methods and Extinguishing Media

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

Attention in Fire-extinguishing

Wear self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal Precautions, protective equipment, and emergency procedures

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Refer to protective measures listed in Sections 7 and 8.

Environmental Precautions

Prevent material from contaminating soil and from entering sewers or waterways.

Methods and materials for Containment

Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.

Methods and materials for cleaning up

Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.



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7. Handling and Storage

Handling

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

Storage

Store in a cool, dry, well-ventilated area away from incompatible substances. Store locked up. Keep out of the reach of children.

Other Precautions

In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.

8. Exposure Controls/Personal Protection

Engineering Controls

Use adequate ventilation to keep airborne concentrations low.

Personal Protective Equipment

Eye and Face Protection: None required for consumer use. If there is a Hazard of contact: Tight sealing safety goggles. Face protection shield.

Skin and Body Protection: None required for consumer use. If there is a Hazard of contact: Wear protective gloves and protective clothing.

Respiratory Protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.



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9. Physical and Chemical Properties

Physical State

Appearance: Cylindrical

Odour: If leaking, smells of medical ether.

Change in condition:

| | |
|--------------------|--|
| pH | Not applicable as supplied. |
| Flash Point | Not applicable unless individual components exposed. |
| Flammability | Not applicable unless individual components exposed. |
| Relative density | Not applicable unless individual components exposed. |
| Solubility (water) | Not applicable unless individual components exposed. |
| Solubility (other) | Not applicable unless individual components exposed. |

10. Stability and Reactivity

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

None known based on information supplied.

Incompatible materials

Strong acids, Strong oxidizing agents, Strong bases.

Hazardous Decomposition Products

Carbon oxides.

11. Toxicological Information

Irritation

In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes and skin.

Sensitization

Not Available.

Reproductive Toxicity

Not Available.

Toxicologically Synergistic Materials

Not Available.



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12. Ecological Information

General note

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Anticipated behavior of a chemical product in environment/possible environmental impact/ ecotoxicity

Not Available.

13. Disposal Considerations

Waste Treatment

Recycle or dispose of in accordance with government, state & local regulations.

Attention for Waste Treatment

Deserted batteries shouldn't be treated as ordinary trash. Shouldn't be thrown into fire or placed in high temperature. Shouldn't be dissected, pierced, crushed or treated similarly. Best disposal method is recycling.

14. Transport Information

UN number:

3496

Proper shipping name:

Batteries, nickel-metal hydride

Label(s) / Placard Required:

N/A

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

ICAO / IATA:

The batteries are not subject to the provisions of International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA) if they meet the requirements of special provision A199 of IATA DGR 63rd (2022 Edition).

IMDG CODE:

The batteries are not restricted to IMDG Code 2020 Edition Amtd 40-20 according to special provision 963.

DOT:

Not regulated.

ADR/ ADN:

Not regulated.

NOTE:

In addition, the batteries should be well protected against short circuits.



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15. Regulatory Information

Dangerous Goods Regulations

Recommendations on the Transport of Dangerous Goods-Model Regulations (21st revised edition)

Recommendations on the Transport of Dangerous Goods-Manual of Tests and Criteria

International Air Transport Association (IATA)

International Maritime Dangerous Goods (IMDG Code 2020 Edition Amdt 40-20)

Technical Instructions for the Safe Transport of Dangerous Goods

Classification and code of dangerous goods (GB 6944-2012)

2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Toxic Substance Control Act (TSCA)

Code of Federal Regulations

In accordance with all Federal, State and local laws

16. Additional Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.