

MSDS NO.: GB16483-2000

**Material Safety Data Sheet**

The batteries referenced herein are exempt articles and are not subject to the OSHA Hazard Communication Standard requirement. This sheet is provided as technical information only. The information and recommendations set forth are made in good faith and are believed to be accurate as of the date of preparation.

**Section 1 - Product and Company Identification**

|   |                        |
|---|------------------------|
| Product Name<br>Nickel Metal Hydride Battery                            | TEL: +49(0)215448380   |
| Manufacturer's Name<br>Axcom Battery Technology                         | FAX: +49(0)21544838444 |
| Address<br>Carl-Friedrich-Benz Straße 15, 47877 Willich<br>NRW, Germany |                        |

**Section 2 – Composition / Information on Ingredients**

| Components              | CAS#       | Content (wt%) |
|-------------------------|------------|---------------|
| Nickel hydroxide<br>R40 | 12054-48-7 | 15-30 wt %    |
| Metal Hydride Alloy     | -          | 15-40 wt %    |
| Potassium hydroxide     | 1310-58-3  | 3-15 wt %     |
| Cobalt hydroxide        | 21041-93-0 | 2.5-7 wt %    |

**Section 3 – Hazards Identification**

- Classification: Carcinogenic Category 3 R40, sensitizing R42/43, Xn R20/22, C R35, N R50-53
- Most important hazards: Limited evidence of a carcinogenic effect. Causes severe burns

Harmful by inhalation and if swallowed. May cause sensitization by inhalation and skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- Further information: The Nickel Metal Hydride is a sealed battery which is not hazardous when used according to recommendations.

Under normal conditions of use, the integrity of the battery casing and security vent are maintained, the ingredients are not expected to pose a significant risk to man or the environment.

On some bad using conditions (high over-charge, inverse charge, external short circuit) and in case of a bad functioning, some electrolyte leakage can occur by the safety vent. In these cases, the risk is the caustic nature of electrolyte (potassium hydroxide).

The classification above is based on the contents being considered as a preparation in accordance with Directive 1999/45/EC

#### **Section 4 - First Aid Measures**

- General advice: Show this safety data sheet to the doctor in attendance.
- The information below refers to exposure to the ingredients.

Inhalation: Immediate medical attention is required. Move to fresh air. If symptoms persist, call a physician.

Skin contact: Immediate medical attention is required. Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. If skin irritation persists, call a physician.

Eye contact: Immediate medical attention is required. Remove contact lenses. Rinse immediately with plenty of water for at least 15 minutes.

Ingestion: Immediate medical attention is required. Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Centre immediately.

#### **Section 5 - Fire Fighting Measures**

Suitable extinguishing media: Dry powder, carbon dioxide (CO<sub>2</sub>), sand.

Extinguishing media which must not be used for safety reasons: Water, water spray.

Specific hazards: Risk of receptacle bursting.

Special protective equipment for firefighters: In the event of fire, wear self contained breathing apparatus. Wear personal protective equipment.

Hazardous decomposition products: Nickel and cobalt compounds.

#### **Section 6 - Accidental Release Measures**

The information below refers to exposure to the ingredients.

Personal precautions: Use personal protective equipment. Avoid contact with skin and eyes.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system.

Methods for cleaning up: Pick up and transfer to properly labelled containers. Dispose of in accordance with local regulations.

#### **Section 7 - Handling and Storage**

- Handling

Technical measures/Precautions:

No special technical protective measures required.

Do not obstruct safety vent by soldering or welding tabs on the positive top.

Safe handling advice:

Avoid contact with skin and eyes.

Use personal protective equipment.

- Storage

Technical measures/Storage conditions

Keep in a dry, cool and well-ventilated place, preferably in the temperature range of +5 to +25°C at 65%(+/-5%) relative humidity.

Keep away from heat and sources of ignition.

Ensure battery terminals are protected during storage.

### **Section 8 - Exposure Controls, Personal Protection**

- Occupational exposure controls

Engineering measures:Ensure adequate ventilation, especially in confined areas.

Personal protective equipment:Not required under normal use.

The information below refers to exposure to the ingredients.

Respiratory protection:Wear a positive-pressure supplied-air respirator with full facepiece.

Hand protection:Neoprene gloves (EN374).

Eye protection:Safety glasses with side-shields conforming to EN166.

Skin and body protection:Boots, apron, protective suit.

Hygiene measures:General industrial hygiene practice.

- Environmental exposure controls

The information below refers to exposure to the ingredients

Prevent product from entering drains.

Do not allow material to contaminate ground water system.

### **Section 9 – Physical/Chemical Characteristics**

General Information

Form      battery (sealed unit)      Colour   not applicable      Odour      odourless

Important Health Safety and Environmental Information   not applicable

### **Section 10 - Stability and Reactivity**

Stability:Stable under normal conditions.

Hazardous polymerization:Hazardous polymerisation does not occur.

Conditions to avoid:Keep away from heat and sources of ignition.

Materials to avoid:Exposure to moisture.

Hazardous decomposition products:Nickel and cobalt compounds.

### **Section 11 - Toxicological Information**

The information below refers to exposure to the ingredients

Local effects:Causes severe burns. Risk of serious damage to eyes. Harmful by inhalation and if

swallowed.

Long term toxicity:No data available. Avoid repeated exposure.

Specific effects:May cause sensitization by inhalation and skin contact.Limited evidence of a carcinogenic effect.

## **Section 12 - Ecological Information**

If used as directed, and if the integrity of the battery casing and security vent are maintained, the ingredients are not expected to pose a significant risk to the environment.

Mobility:No data available.

Persistence and degradability:No data available.

Ecotoxicity effects

The information below refers to exposure to the ingredients

Nickel hydroxide:Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## **Section 13 - Disposal Consideration**

- Waste from residues / unused products

Dispose of in accordance with local regulations. It must undergo special treatment, e.g. at suitable disposal site,to comply with local regulations. Should not be released into the environment.

- Contaminated packaging

Not applicable.

- Further information

EWC waste disposal No: 200133 - batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries

Never incinerate Ni-MH batteries.

Never dispose Ni-MH batteries as landfill.

Nickel-Metal Hydride batteries - which in some countries may not be subject to collection & recycling and/or disposal requirements – do however contain recyclable materials and recommends proper recycling of these batteries whenever possible

## **Section 14 - Transportation Information**

Batteries are considered to be “Dry cell” batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation

Administration (ICAO), the IATA dangerous goods Regulation 57<sup>th</sup> Edition 2016 and International Maritime Dangerous Goods Regulations (IMDG). The only DOT requirement for shipping these batteries is special provision A199 which states: “Batteries, dry are not subject to the requirements of this subchapter only when they are offered for transportation in a manner that prevents the

dangerous evolution of heat (For example, by the effective insulation of exposed terminals). As of IATA dangerous goods Regulation 57<sup>th</sup> Edition 2016 requires that batteries being transported by air must be protected from short-circuiting and protected from movement that could lead to short-circuiting.

### **Section 15 - Regulatory Information**

Symbol                            C – Corrosive N – Dangerous for the environment

Text of R phrases    mentioned in Section 2

R22 - Harmful if swallowed.

R20/22 - Harmful by inhalation and if swallowed.

R35 - Causes severe burns

R40 - Limited evidence of a carcinogenic effect.

R42/43 - May cause sensitization by inhalation and skin contact.

R43 - May cause sensitization by skin contact.

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

### **Section 16 - Other Information**

S –phrases:                    S 1/2 - Keep locked up and out of the reach of children.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S60 - This material and its container must be disposed of as hazardous waste.

S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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