



ACCU POWER Forschungs-, Entwicklungs-
und Vertriebsgesellschaft mbH.
Pirchäckerstrasse A-8053 Graz, AUSTRIA

MATERIAL SAFETY DATA SHEET

I – PRODUCT IDENTIFICATION

Brand: ACCUPOWER
Nominal Voltage: 1.2 V
Product Name: Nickel Metal Hydride Battery
Chemical System: Nickel Metal Hydride
Rechargeable: Yes

II – HAZERDOUS INGREDIENTS

IMPORTANT NOTE: The battery is contained in a hermetically sealed case, designed to withstand temperatures and pressures encountered during normal use, hazardous materials are fully contained inside the battery. The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

MATERIAL OR INGREDIENT	% wt
Aluminum	< 0.6
Nickel	30-50
As nickel hydroxide, nickel oxide and nickel powder Cobalt	2.5-6.0
As cobalt metal, cobalt oxide and cobalt hydroxide Zinc	<0.4
Misch meal	<20
Including Lanthanum, Cerium, Neodymium and Praseodymium	<0.2
Lithium Hydroxide	<4
Potassium Hydroxide	<1.5
Sodium Hydroxide	<0.5
Graphite	<1
PTFE	0-4
Lead	free
Cadmium	free
Mercury	free
For single cell Flash point	over 150 deg. C
Flavor	none
Toxicity	none
Corrosiveness	none

III-FIRE AND EXPLOSION HAZARD DATA

If fire explosion occurs when batteries are on charge, shut off power to charger.

In case of fire where nickel hydroxide batteries are present, apply a smothering agent such as sand, dry ground dolomite, or soda ash, or flood the area with water. A smothering agent will extinguish burning nickel metal hydroxide batteries. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving nickel metal hydroxide batteries can be controlled with water. When water is used, however, hydrogen gas may evolve. In a confined space, hydrogen gas can form an explosive mixture. In the situation, smothering agents are recommended. Fire fighters should wear self-contained breathing apparatus. Burning nickel metal hydroxide batteries can produce toxic fumes including oxide of nickel, cobalt, aluminum, lanthanum, cerium, neodymium, and praseodymium.



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IV-HEALTH HAZARD DATA

Under normal conditions of use, the battery is hermetically sealing

Ingestion: swallowing a battery can be harmful.

Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

If battery or open battery is ingested, do not induce vomiting or mouth or give food or drink. Seek medical attention immediately. Call national battery ingestion hotline for advice and follow-up

Inhalation: contents of an open battery can cause respiratory irritation hypersensitivity to nickel can cause allergic pulmonary asthma. Provide fresh air and seek medical attention.

Skin contact: contents of an open battery can cause skin irritation and/or chemical burns. Nickel, nickel compounds, cobalt, and cobalt compounds can cause skin sensitization and allergic contact.

Eye contact: contents of an open battery can cause severe irritation and chemical burns. Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention. The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. ACCU POWER GmbH. makes no warranty, expressed or implied, with respect to this information and disclaims all liabilities from reliance on it.

V –PRECAUTIONS FOR SAFE HANDLING AND USE

Storage: store in a cool, well-ventilated area. Elevated temperature can result in battery life.

Mechanical containment: never seals or encapsulate nickel metal hydroxide battery.

Do not obstruct safety release vents on batteries. Encapsulation (potting) of batteries will not allow cell venting and can cause high-pressure rupture.

Handling: Accidental short circuit for a few seconds will not seriously affect the battery.

However, this battery is capable of delivering very high short circuit currents. Prolonged short circuits will cause high cell temperatures, which can cause skin burns. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, and metal covered tables or metal belts used for assembly of batteries into devices. If soldering or welding to the battery is required, use of labeled batteries is recommended. Do not open the battery. The negative electrode material may be burn. Should an individual cell from a battery become disassembled, spontaneous combustion of the negative electrode is possible. This is much more likely to happen if the electrode is removed from its metal container. There can be a delay between exposure to air and spontaneous combustion.

Charging: The battery is made to be charged many times. Because it gradually loses its charge over a few months, it is good practice to charge battery before use. Use recommended charger. Improper charging can cause heat damage or even high pressure rupture. Observe proper charging polarity.

Labeling: If normal label warnings are not visible, it is important to provide a device label stating: **CAUTION:** Do not dispose in fire, mix with other battery types, charge above specified rate, connect improperly, or short circuit, which may result in overheating, explosion or leakage of cell contents.



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VI –SPECIAL PROTECTION INFORMATION

Ventilation requirement: not necessary under normal conditions.

Respiratory protection: not necessary under normal conditions.

Eye protection: not necessary under normal conditions. Wear safety glasses with side shields if handling an open or leaking battery.

Glove: not necessary under normal conditions. Use neoprene or natural rubber glove if handling an open or leaking battery.

Open battery storage: battery should not be opened. Should a cell become disassembled, the electrode should be stored in a fireproof cabinet, away from combustibles.

VII –TRANSPORTATION

AccuPower NiMH batteries in all forms of Transport (air, sea, or ground) are packed in safe and strong outer packaging and in a manner that prevents short circuit.

Air:

NiMH Batteries (also referred as “Dry cells”) are not defined as dangerous goods under IATA Dangerous Goods Regulations (DGR) 57th edition 2015. This kind of batteries are not subject to the IATA-DGR as they are compliant with the special provision requirements.

In addition, the IATA-DGR require the words “not restricted” and Special Provision number A199 on the air waybill, when air waybill is issued.

Sea:

For maritime transport the NiMH batteries are regulated by IMDG (International Maritime Dangerous Goods) under

UN3496 BATTERIES, NICKEL METAL HYDRIDE, CLASS 9 with Special Provision 117 and 963

All NiMH batteries must be securely packed and protected from short circuit.

They are not subject to other provisions of this Code if less than 100 Kg total gross weight is loaded in a cargo transport unit.

If a quantity of 100 Kg or more total gross weight is loaded in a cargo transport unit, the following requirements must be full filled:

- 1) IMO-Declaration (Dangerous Goods transport documentation for sea transport) must be accompanied to the shipment
- 2) shipment must be described as ***“UN3496 BATTERIES, NICKEL-METAL HYDRIDE, CLASS 9”*** in the shipper’s declaration for dangerous goods (IMO-Declaration)
- 3) The dangerous goods description must also mentioned on the Dangerous Goods Manifest and the detailed stowage plan in compliance with the IMDG code requirements for shipboard documentation.

Ground Road/Rail:

NiMH Batteries are no subject of the Dangerous Goods Regulations ADR/RID for Transports on Road or Rail.

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