

# MATERIAL SAFETY DATA SHEET

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NiMH Batteries  
January 25<sup>th</sup>, 2007  
Rev: 1



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**PRODUCT NAME:** AGFAPhoto NiMH Accu                      **TYPES:** all  
**TRADE NAME:** AGFAPhoto NiMH Accu  
**CHEMICAL SYSTEM:** Nickel Metal Hydride Batteries

### I – MANUFACTURE INFORMATION

Manufactured for:  
GBT German Battery Trading GmbH  
An Gut Nazareth 18 A  
52353 Düren / Germany

Telephone Numbers for Information:  
+49(0)2421-392071

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### II – HAZARDOUS INGREDIENTS

**IMPORTANT NOTE:** The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

<b>MATERIAL OR INGREDIENT</b>	<b>Wt. %</b>	<b>CAS No.</b>	<b>TLV</b>
Nickel and compounds	30-40	7440-02-0	0,1mg/m <sup>3</sup> (soluble compounds, TWA)
Steel	15-25	--	
Potassium Hydroxide	10-15	1310-58-3	C 2mg/m <sup>3</sup> (STEL)
Cobalt and compounds	4-8	7440-48-4	0,02mg/m <sup>3</sup> (TWA)
Manganese	<2	7439-96-5	0,2mg/m <sup>3</sup> (TWA)
Aluminum	<1	7429-90-5	2mg/m <sup>3</sup> (soluble salts, TWA)
Lanthanides, Zinc	5–20	7440-66-6	5mg/m <sup>3</sup> (ZnO, Fume, TWA)
Water, Paper, Plastic, other	Balance	--	

### Fire and Explosion Hazard Data

Flash Point: NA                      Lower (LEL): NA

Flammable Limits in Air (%): NA                      Upper (UEL): NA

Extinguishing Media: Use water, foam or dry powder, as appropriate

Auto-Ignition: NA

Special Fire Fighting Procedures: As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products (See section 2).  
Burning nickel metal hydride batteries can produce toxic fumes including oxides of nickel, cobalt, aluminum, manganese, lanthanum, cerium, neodymium, and praseodymium.

Special Fire Explosion Hazards: Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials.

Burning batteries will burn themselves out. Virtually all fires involving nickel metal hydride batteries can be controlled with water.

#### IV – Health Hazard Data

Under normal conditions of use, the battery is hermetically sealed.

- 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 give food or drink. Seek medical attention immediately.
- 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 an allergic contact dermatitis. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.
- Eye contact:** Contents of an open battery can cause severe irritation and chemical burns. Immediately flush eyes thoroughly with running water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.
- Note:** Nickel, nickel compounds, cobalt, and cobalt compounds are listed as possible carcinogens by International Agency for Research on Cancer.

#### V – PRECAUTIONS FOR SAFE HANDLING AND USE

- Storage:** Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.
- Mechanical Containment:** Never seal or encapsulate nickel metal hydride batteries. 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.  
Do not open battery. The negative electrode material may be pyrophoric. 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.
- Charging:** This 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.
- Disposal:** Dispose in accordance with all applicable federal, state and local regulations.

**VI – SPECIAL PROTECTION INFORMATION**

<b>Ventilation Requirements:</b>	Not necessary under normal conditions.
<b>Respiratory Protection:</b>	Not necessary under normal conditions.
<b>Eye Protection:</b>	Not necessary under normal conditions.
<b>Gloves:</b>	Not necessary under normal conditions.
<b>Open Battery Storage:</b>	Battery should not be opened. Should a cell become disassembled, the electrode should be stored in a fireproof cabinet, away from combustibles.

**VII – PHYSICAL and CHEMICAL PROPERTIES**

<b>Form and colour:</b>	Various size battery packs. Contents dark in colour.
<b>Odour:</b>	not applicable
<b>Change in physical state</b>	
Melting point/melting range:	not available
Boiling point/boiling range:	not available
<b>Flash point:</b>	not available
<b>Explosion limits:</b>	not available
<b>Ignition temperature:</b>	not determined
<b>Vapour pressure:</b>	not determined
<b>Specific gravity:</b>	not applicable
<b>% Volatiles:</b>	not available
<b>Solubility in water:</b>	not applicable
<b>Solubility in other solvents:</b>	not applicable
<b>PH value:</b>	not available
<b>Octanol/water partition coefficient (log POW):</b>	not available
<b>Viscosity:</b>	not available

**VIII – STABILITY and REACTIVITY**

<b>Thermal decomposition:</b>	Batteries may burst and release hazardous decomposition products when exposed to a fire situation.
<b>Substance(s) to avoid:</b>	Strong oxidisers
<b>Hazardous reactions:</b>	contents incompatible with strong oxidising agents

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Hazardous decomposition

Products: Thermal degradation may produce hazardous metal fumes; hydrogen gas, caustic vapours of potassium and sodium hydroxides and other toxic by-products.

## IX – TOXICOLOGICAL INFORMATION

Toxicity information is available on the battery ingredients noted in section 2, but, generally not applicable to intact batteries as used by consumers.

Chronic health effects: not applicable to intact batteries.

## X – ECOLOGICAL INFORMATION

Not available.

## XI – DISPOSAL CONSIDERATIONS

Product: See battery pack or instructions for a phone number to access the recycling program.

## XII – Transport information

UN Number: None  
IMDG Classification: None  
ADR/RID Classification: None  
ICA/IATA Classification: None

These batteries are not regulated as hazardous materials or dangerous goods when shipped. A shipping name of "Nickel Metal hydride batteries - Non-hazardous" may be used on all domestic and international bills of lading.

## XIII – Regulatory Information

EC Labeling: None  
Risk Phrases: None  
Safety Phrases: None

Labeling is not required because batteries are classified as "articles" under the Dangerous Preparations directive and as such are exempt from the requirements of the Directive.