Amerex Part No. 18156, 19667, 19682, 21661 NiMH Product Information Sheet

Section 1 -Product Identification and Company Information

Supplier Name:
Amerex Corporation
P.O. Box 81
Trussville, AL 35173
Telephone: (205) 655-3271
Fax: (205) 655-2879
Website: www.amerex-fire .com
Revised: 1/18/12

Product: Rechargeable Battery Pack (NiMH)
part no. 18156, 19667, 19682, 21661

Operating Voltage: various

The batteries referenced herein are exempt articles and are not subject to the OSHA Hazard Communication Standard requirement. This sheet is provided as a service to our customers

Section 2 - Hazard Identification

A sealed Nickel-Metal hydride cell/battery is not hazardous in normal use. A small amount of hydrogen gas may be released during normal operation. In cases of battery pack abuse (over charging, reverse charge, external short circuit, etc.) or in the case of mechanical damage, some electrolyte can leak from the cell through the safety device. If electrolyte has leaked from the cell follow the guidelines for the risk of potassium hydroxide solution which has a pH of >14. Electrode materials are only hazardous if the battery pack is mechanically damaged or if the pack is exposed to fire.

Section 3 – Composition

Contents	CAS No.	Classification		R Phrases	Material
10-35 %		Care; F;	Cat. 3;	40 – 42/43 11 - 17	Mischmetal nickel alloy
10-40 %	12054-48-7	Care. Xn; N;	Cat. 3;	40 20/22 – 43 50-53	Nickel hydroxide
3- 15 %	1310-58-3	Xn; C		22 35	Potassium hydroxide
0 – 3 %		Xn; N		22 – 42/43 50/53	Cobalt and compounds
Full text of Classification and R-phrases; see section 16.					
Heavy Metals					
Contents				**CAS No.**	**Material**
<5 mg/kg				7440-43-9	Cadmium
<15 mg/kg				7439-92-1	Lead
<1 mg/kg				7439-97-6	Mercury (none intentionally introduced, see Chapter 12)
Other Ingredients					
Contents				**CAS No.**	**Material**
15-60 %					Steel and nickel
3-10 %					Polymers

Components

During charge process, the mischmetal nickel alloy is loaded with hydrogen, this compound is flammable (F).

Section 4 - First Aid Measures

Threshold limit Values: See Section 3

Inhalation:	Fresh air. Seek medical assistance.
After skin contact	Flush affected areas with plenty of water. Remove contaminated clothing immediately. Seek medical assistance.
After eye contact:	Flush the eye gently with plenty of water (at least 15 minutes). Seek medical assistance.
After ingestion:	Drink plenty of water. Avoid vomiting. Seek medical assistance.

Section 5 - Fire-fighting Measures

Suitable extinguishing media:	Use foam, dry chemical or dry sand
Special protection equipment during fire-fighting:	Protective clothing including breathing apparatus
Special hazard:	During fire conditions, the electrode materials can form carcinogenic nickel and cobalt oxides

Section - 6 Accidental Release Measures

Personal protection measures:	Wear personal protective equipment adapted to the situation (protection gloves, cloth)
Environment protection measures:	In the event of battery rupture, prevent skin contact and collect all released material in a plastic lined container. Dispose of according to local laws. Prevent leached substances from soaking into the ground, ground water, ponds , lakes and streams.
In the event of a spill:	If battery casing is cracked, small amounts of electrolyte may leak. Pack the battery including ingredients with sand as described above. Then clean the area with large amounts of water.

Section 7 - Safe Handling and Storage

Guideline for safe handling:	Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. Unpacked batteries shall not lie about in bulk. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep discharge. Do not short-circuit batteries Use recommended charging time and current.
Storage:	Storage preferably at room temperature 20 **OC.** Avoid large temperature changes. Do not store close to heat sources. Avoid direct sunlight.
Storage of large amounts:	If possible, store the batteries in original packaging A fire alarm is recommended; For automatic fire extinguishing, refer to section 5 "Firefighting measures".

Section 8 - Exposure controls/Personal protection

Under normal conditions (during charge and discharge) release of ingredients does not occur.

Section 9 - Physical and chemical properties

Not applicable if closed.

Section 10 - Stability and Reactivity

Dangerous reactions:	When heated above 150<C the risk of rupture occurs. Due to special safety construction, rupture implies controlled release of pressure without ignition.

Section 11 – Toxicological Information

Under normal conditions (during charge and discharge) release of ingredients does not occur.
If accidental release occurs see information in section 2, 3, and 4.
Swallowing of a battery can be harmful. Call the local Poison Control Center for advice and follow-up.

Section 12- Ecological Information

Nickel metal hydride button cells/batteries do not contain heavy metals as defined by the European directive 2006/66/EC Article 21.

Mercury has not been "intentionally introduced (as distinguished from mercury that may be incidentally present in other materials)" as per the U.S.A "Mercury-Containing and Rechargeable Battery Management Act" (May 13, 1996).

The Regulation on Mercury Content Limitation for Batteries promulgated on 1997-12-31 by the China authorities including the State Administration of Light Industry and the State Environmental Protection Administration defines 'low mercury' as 'mercury content by weight in battery as less than 0.025%', and 'mercury free' as 'mercury content by weight in battery as less than 0.0001%'

Section 13 - Disposal Considerations

USA:
Nickel metal hydride button cells/batteries are classified by the federal government as non-hazardous waste and are safe for disposal in the normal municipal waste stream. These batteries, however, do contain recyclable materials and are accepted for recycling by the Rechargeable Battery Recycling Corporation's (RBBC) Battery Recycling Program. Please go to the RPRC website at www.rbrc.org for additional information.

European Union:
Manufacturing, handling and disposal of batteries is regulated on the basis of the DIRECTIVE 2006/66/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC. Customers may find detailed information on disposal in their specific countries using the web site of the European Portable Batteries Association (h itp://www. epbaeurope. net/{ eqisiatiQn national. html).

Importers and users outside EU should consider the local law and rules.
In order to avoid short circuit and heating, used nickel metal hydride button cells/batteries should never be stored or transported in bulk. Proper measures against short circuit are:

- Storage of batteries in original packaging
- Coverage of the terminals

Section 14 - Transportation

Amerex nickel metal hydride battery packs 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), International Air Transport Association (lATA), the International Maritime Organization (IMO), the "Accord European Relatif au Transport International des Marchandises Dangereuses par Route" (ADR)) and the "Reglement concernant le transport international ferroviaire de marchandises Dangereuses" (RID)

lATA DGR: Special Provision A 123: "Examples of such batteries are: alkali-manganese, zinc-carbon, nickelmetal hydride and nickel-cadmium batteries. Any electrical battery ... having the potential of a dangerous evolution of heat must be prepared for transport as to prevent (a) a short-circuit (e.g. in the case of batteries, by the effective insulation 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."

EU: Special Provision 304 (ADR/RID): "Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the requirements of RID/ADR provided the batteries are securely packed and protected against short-circuits. Examples of such batteries are: alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries."

USA: 49 CFR § 172.102 Special Provision 130: "For other than a dry battery specifically covered by another entry in the §172.101 Table, "Batteries, dry" are not subject to the requirements of this subchapter when they are securely packaged and offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals) and protects against short circuits."

Section 15 - Regulatory Information

Marking Requirements:	According to DIRECTIVE 2006/66/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC all batteries have to be marked with the crossed bin.
International Safety Standards:	The component cells are approved according to UL 2054
Water Hazard Class:	(according to the German Federal Water Management Act) non-water polluting according to VwVwS Appendix 1 (No. 1443 and 766).

Section 16 -Other Information

Full text of Classification and R-phrases referred to under sections 2 and 3

Classification:	Care. Cat. 3	carcinogens category 3
	Xn	Harmful
:	F	Highly flammable
	C	Corrosive
	N	Dangerous for the environment

R Phases:	11	Highly flammable.
	17	Spontaneously flammable in air.
	20/22	Harmful if inhaled or if swallowed.
	22	Harmful if swallowed.
	35	Causes severe bums.
	40	Limited evidence of a carcinogenic effect.
	42/43	May cause sensitization by inhalation and skin contact.
	43	May cause sensitization by skin contact.
	50/53	Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

Note Issued	Date of issue of the transport regulations: ADR 2009, IATA 2009, IMDG 2006, DOT / 49 CFR 2008.