Amerex Nickel Metal Hydride (NiMH) Safety Data Sheet

Section 1 - Product Identification and Company Information

Product Identifier

18156 - Battery Assy, Replacement NiMH for Mod CM/CP III
19667 - Battery Assy, Replacement, SafetyNet Driver
19682 - Battery Sub-assy, Amerex Mil
23642 - Battery, NiMH, CDRS Dual & Quad

Supplier Name:
Sava Fire Equipment Inc.
1085 Stacey Court
Mississauga, ON L4W 2X7

Telephone: (905) 238-6400
Fax: (905) 238-6831

Website: www.amerex-fire .com

Product Operating Voltage ranges
4.8 to 9.6 vdc nominal

Product Use:
To be used only with Amerex Fire Control Panels

Emergency Contact:
ChemTrec 1-800-424-9300
1-703-527-3887

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

Ingredients

Contents	CAS No.	Hazard Categories	Hazard Statements	Material
10-35%		Flam. Sol. 2 Pyr. Sol. 1 Resp. Sens. 1 Skin Sens. 1 Carc. 2 STOT RE 1 Aquatic Chronic 3	H228 H250 H334 H317 H351 H372 H412	Mischmetal nickel alloy
10-40%	12054-48-7	Carc. 1A Repr. 1 B Muta. 2 STOT RE 1 Acute Tox. 4* Skin Irrit. 2 Resp. Sens. 1 Skin Sens. 1 Aquatic Acute 1 Aquatic Chronic 1	H302 H332 H334 H315 H317 H341 H350i H360D H372 H400 H410	Nickel hydroxide

3-15%	1310-58-3	Acute Tox. 4 Skin Corr. 1A	H302 H314	Potassium hydroxide
0-0.3%	1310-73-2	Skin Corr. 1A	H314	Sodium hydroxide
0-0.1%	1310-65-2	Acute Tox. 3 Skin Corr. 1A	H301 H314	Lithium hydroxide
0-3%		Acute Tox. 4 Skin Sens. 1 Aquatic Acute Aquatic Chronic 1	H302 H317 H400 H410	Cobalt and compounds

Full test of Hazard statements: see section 16

Heavy Metals and RoHS Relevant Substances

Contents	CAS No.	Material
< 5 mg/kg	7440-43-9	Cadmium (none intentionally introduced)
< 15 mg/kg	7439-92-1	Lead (none intentionally introduced)
< 1 mg/kg	7439-97-6	Mercury (none intentionally introduced) See Section 12
< 5 mg/kg		Hexavalent Chromium (Cr^{6+})
< 5 mg/kg		PBB
< 5 mg/kg		PBDE

Other Ingredients

Contents	CAS No.	Material
15-60 %		Steel and nickel
3-10%		Polymers (including external coating and isolation material)

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

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.
No trials for neutralization.

Section 5 – Fire-fighting Measures

Suitable extinguishing media:	Use foam, dry chemical or dry sand, as appropriate.
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. In case of battery change always replace all batteries by new ones of identical type and brand. 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. Do not open or disassemble batteries.
Storage:	Storage preferably at room temperature 20 °C. 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
(hitp://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 (IATA), the International Maritime Organization (IMO), the "Accord European Relatif au Transport International des Marchandises Dangereuses par Route" (ADR)) and the "Reglement concemant le transport international ferroviaire de marchandises Dangereuses" (RID)

IATA DGR: Special Provision A199: “The UN number UN3496 is only applicable in sea transport. Nickel-metal hydride batteries or nickel-metal hydride battery-powered devices, equipment or vehicles having the potential of a dangerous evolution of heat are not subject to these Regulations provided they are prepared for transport so as to prevent: a) a short circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or, in the case of equipment, by disconnection of the battery and protection of exposed terminals); and (b) unintentional activation. The words ‘Not Restricted’ and the Special Provision number must be include in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued.”

IMO, IMDG Code: Special Provision 963: “Nickel-metal hydride button cells or nickel-metal hydride cells or batteries pack with or contained in equipment are not subject to the provisions of the Code.”

EU (ADR/RID): Chapter 3.2 Table A: “Batteries, nickel-metal hydride, UN 3496, not subject to ADR.”

USA: 49 CFR § 172.102 Special Provisions 130 and 340: Nickel metal hydride button cells/batteries are not subject to requirements of this subchapter except for the following…”Batteries and battery-powered device(s) containing batteries must be prepared and packaged for transport in a manner to prevent: (1) A dangerous evolution of heat; (2) Short circuits, including but not limited to the following methods: (i) Packaging each battery or each battery-powered device wen practicable, in fully enclosed inner packaging made of non-conductive material; (ii) Separating or packaging batteries in a manner to prevent contact with other batteries, devices, or conductive materials (e.g., metal) in the packaging.”

Code of practice for packaging and shipment of secondary batteries given in IEC 62133: “The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design shall be chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of moisture.”

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 Hazard Statements referred to under section 3.

H228	Flammable solid.
H250	Catches fire spontaneously if exposed to air.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H351	Suspected of causing cancer.
H360D	May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Note Issued:	Date of issue of the transport regulations: ADR 2015, RID 2015, IATA 2016 (57th edition), IMDG 2014, DOT/49 CRF 2016. Latest covered modification of the European Battery Directive 2006/66/EC: Directive 2013/56/EU.

This information (effective November 3, 2016) has been compiled from sources considered to be dependable and is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty (either expressed or implied) or guarantee is made to the accuracy, reliability or completeness of the information contained herein.

This information relates to the specific materials designated and may not be valid for such material used in combination with any other materials or in any process. It is the user's responsibility to satisfy himself as to the suitability and completeness of this information for his particular use.