



Mathews Associates, Inc.

SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION	
IDENTITY: MAI-150722 BB-390B/U NSN: 6140-01-490-4317	DATE PREPARED NOVEMBER 2015
MANUFACTURER'S NAME Mathews Associates, Inc.	EMERGENCY TELEPHONE NUMBER INFOTRAC 800-535-5053 (US) +1-352-323-3500 (International)
ADDRESS 220 Power Court Sanford, FL 32771 USA	TELEPHONE NUMBER FOR INFORMATION Tele: 407-323-3390 Fax: 407-323-3115 e-mail : www.sales@maifl.com website: www.maifl.com

SECTION 2 – HAZARD(S) IDENTIFICATION
PRIMARY ROUTE OF EXPOSURE
POTENTIAL HEALTH EFFECTS
Inhalation: During normal use inhalation is an unlikely route of exposure due to containment of hazardous materials within the battery case. However, should the batteries be exposed to extreme heat or pressures causing a breach in the battery cell case, exposure to the constituents may occur. Inhalation of cobalt dusts may result in pulmonary conditions.
Skin Contact: Exposure to the electrolyte contained inside the battery may result in chemical burns. Exposure to nickel may cause dermatitis in some sensitive individuals. The cell manufacturer reports no evidence of adverse effects from available data related to skin absorption.
Eye Contact: Exposure to electrolyte contained inside battery may result in severe irritation and chemical burns.
Ingestion: If the cell contents enter the digestive tract, the electrolyte may cause localized burns.
Existing Conditions Aggravated by Exposure: The cell manufacturer advises that it is unlikely that any existing medical conditions would be aggravated by overexposure. However, chronic overexposure to nickel may result in cancer; dermal contact may result in dermatitis in sensitive individuals.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS			
The following components are found in a Nickel-Metal Hydride Cell:			
COMPONENT	MATERIAL	FORMULA	CAS #
Positive Electrode	Nickel II Hydroxide	Ni(OH) ₂	12054-48-7
Negative Electrode	Metal Hydride Alloy	AB ₅ Type (See Note)	AB ₅ Type (See Note)
Electrolyte	Potassium Hydroxide	KOH	1310-58-3
	Sodium Hydroxide	NaOH	1310-73-2
NOTE: Components of AB ₅ alloy include: Lanthanum (La) – CAS# 7439-91-0, Cerium (Ce) – CAS#7440-45-1, Neodymium (Nd) – CAS#7440-00-8, Praseodymium (Pr) – CAS#7440-10-0			
The chemical composition of cell manufacturers vary, however the above information is typical of a NiMH cell chemistry.			
The NiMH battery cell is contained in a hermetically-sealed case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, hazardous materials are fully contained inside the battery cell. The battery cell should not be opened or exposed to heat. Exposure to the above chemicals could be harmful under some circumstances.			

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SECTION 4 – FIRST AID MEASURES

Inhalation: If exposure to fumes or dust occurs, move immediately to fresh air and seek medical attention.

Skin Contact: If you get electrolyte on your skin, wash the area immediately with soap and water. If irritation continues contact physician.

Eye Contact: If you get electrolyte in your eyes, flush with water for 15 minutes without rubbing and irritation continues contact a physician.

Ingestion: DO NOT induce vomiting. Call the National Capital Poison Center (NCPC) at 1-800-222-1222 or your local poison center immediately.

SECTION 5 – FIRE - FIGHTING MEASURES

Flash Point	FLAMMABLE LIMITS	LEL	UEL
N/A		N/A	N/A
Autoignition Temperature: N/A			
Extinguishing Media: In case of fire, use a smothering agent such as dry sand, dry ground dolomite or soda ash. If you use water, use enough to smother the fire. Using an insufficient amount of water could possible make the fire worse. Cooling the exterior of the batteries will help prevent rupturing.			
Special Fire Fighting Procedures: Burning of these batteries will generate toxic fumes. Fire fighters should use self-contained breathing apparatus.			
Unusual Fire Or Explosion Hazards: As noted above.			

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Wear suitable protective equipment which is impervious to caustic materials. Reclaim or place in suitable container for disposal.

SECTION 7 – HANDLING AND STORAGE

Handling: Accidental short circuit will bring high temperature elevation to the battery as well as shorten the battery life. Be sure to avoid prolonged short circuit since the heat can burn attendant skin and even rupture of the batter cell case.

Charging: This battery is designed for recharging in accordance with the instructions marked on the battery. A loss of voltage and capacity of batteries due to self-discharge during prolonged storage is unavoidable. Charge battery before use. Observe the specified charge rate since higher rates can cause a rise in internal gas pressure which may result in damaging heat generation or cell rupture and/or venting.

Labeling: If normal label warnings are not visible, it is important to provide a device label stating: CAUTION – Do not store above 122°F (50°C), crush, mutilate, reverse polarity, disassemble, or dispose of in fire.

Storage: Store in a cool place. Elevated temperatures may result in reduced battery life. Optimum storage temperatures are between 40°F (5°C) and 100°F (38°C). Do not store above 122°F (50°C).

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: Not required under normal use.

Skin Protection: Not required under normal use.

Eye/Face Protection: Not required under normal use.

Other Protective Clothing or Equipment: Not required under normal use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	N/A	Specific Gravity:	N/A
Vapor Density:	N/A	Melting Point:	N/A
Vapor Pressure:	N/A	Evaporation Rate:	N/A
Solubility in Water:	N/A	pH:	N/A
Appearance and Odor: No Odor			

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SECTION 10 – STABILITY AND REACTIVITY		
Stability:	Unstable	
	Stable	x
Incompatibility:	The battery cells are encased in a non-reactive container; however, if container is breached, avoid contact of internal battery components with acids, aldehydes, and carbamate compounds.	
Conditions to Avoid:	Heat, Open Flames, and Sparks	

SECTION 11 – TOXICOLOGICAL INFORMATION
Carcinogenicity: Nickel has been identified by the National Toxicology Program as reasonably anticipated to be a carcinogen. Cobalt has been identified by Internal Agency for Research on Cancer as a 2B carcinogen.

SECTION 12 – ECOLOGICAL INFORMATION
 Hazardous decomposition products: oxides of nickel, cobalt, manganese, lanthanum, and cerium.

SECTION 13 – DISPOSAL CONSIDERATIONS
 Nickel Metal Hydride batteries are classified by the federal government as a non-hazardous waste and are safe for disposal in the normal municipal waste stream. Exception: California, which requires these batteries to be disposed of in accordance with the California Universal Waste Rules. These batteries, however, do contain recyclable materials and are accepted for recycling anywhere in the US and Canada by the Call2Recycle Battery Recycling Program. Please call 1-800-8-BATTERY for information on recycling your used Nickel Metal Hydride battery or go to the Call2Recycle website at www.rbrc.org for additional information.
 DO NOT INCINERATE or subject battery to temperatures in excess of 212°F. Such treatment can cause cell rupture.

SECTION 14 – TRANSPORT INFORMATION
U.S. Department of Transportation Ground (49 CFR): Proper Shipping Name: Batteries, Nickel-Metal Hydride Hazard Class or Division: 9 (Vessel transportation only) Identification Number: 3496 Packing Group: N/A Packaging Instructions: N/A Environmental Hazards: See section 12 Marine Pollutant: Yes Transport in Bulk: No
International Air Transportation (ICAO/IATA): Proper Shipping Name: Batteries, Nickel-Metal Hydride Hazard Class or Division: 9 (Vessel transportation only) Identification Number: 3496 Packing Group: N/A Packaging Instructions: N/A Environmental Hazards: See section 12 Marine Pollutant: Yes Transport in Bulk: No
Water Transportation (IMO/IMDG): Proper Shipping Name: Batteries, Nickel-Metal Hydride Hazard Class or Division: 9 Identification Number: 3496 Environmental Hazards: See section 12 Marine Pollutant: Yes Transport in Bulk: No

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Nickel Metal Hydride batteries (sometimes referred to as “Dry cell” batteries) are not listed as dangerous goods under the International Civil Aviation Organization (ICAO), International Air Transport Association (IATA), U.S. Department of Transportation. (DOT), 49 CFR. These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following Special Provisions. Special Provision A199 in the IATA Dangerous Goods Regulations and ICAO Technical Instructions and Special Provisions 130 and 340 in 49 CFR 172.102 of the U.S. Hazardous materials regulations require these batteries to be packed in such a way to prevent short circuits or generating a dangerous quantity of heat. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words “Not Restricted” and “Special Provisions A199” to be provided on the air waybill, when an air waybill is issued. Effective January 1, 2012 the International Maritime Organization (IMO) regulates shipments by ocean, in excess of 100 Kg, as a Class 9 dangerous good under UN 3496 and Special Provisions 117 & 963.

SECTION 15 – REGULATORY INFORMATION

ICAO (International Civil Aviation Organization): Technical Instructions for the safety transport of dangerous

IATA (International Air Transport Organization): Dangerous Goods Regulations

IMO (International Maritime Organization): International Maritime Dangerous Goods (IMDG) Code

SECTION 16 – OTHER

Date SDS Prepared: 23NOVEMBER2015

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