



The products referenced herein are "articles" under 29 CFR 1910.1200(c) and are not subject to OSHA's requirements for material safety data sheets under its Hazard Communication Standard, 29 CFR 1910.1200. This Product Data Sheet is provided as a service to our customers.

## Section I - Product and Company Information

**Identity:** Nickel Metal Hydride (NiMH) Batteries  
**Models:** All  
**Effective Date:** January 8, 2015

**Manufacturer**  
Motorola Solutions, Inc.  
1303 E. Algonquin Road  
Schaumburg, Illinois 60196 U.S.A.  
**Phone: 1-847-576-5000**

## Section II – Composition Information

Motorola Solutions battery packs contain NiMH cells from various manufacturers. NiMH cells are generally composed of the following major ingredients:

| Cell component     | Common chemical name / General name        | CAS number | Concentration range |
|--------------------|--------------------------------------------|------------|---------------------|
| Positive electrode | Nickel metal                               | 7440-02-0  | 10 - 25%            |
|                    | Nickel hydroxide                           | 12054-48-7 | 10 - 25%            |
|                    | Cobalt                                     | 7440-48-4  | < 10%               |
| Negative electrode | Metal hydride alloy including one or more: |            |                     |
|                    | Lanthanum                                  | 7439-91-0  | 5 - 15%             |
|                    | Cerium                                     | 7440-45-1  |                     |
|                    | Neodymium                                  | 7440-00-8  |                     |
|                    | Praseodymium                               | 7440-10-0  |                     |
|                    | Nickel                                     | 7440-02-0  | 10 - 30%            |
|                    | Cobalt                                     | 7440-48-4  | <10%                |
| Electrolyte        | Potassium hydroxide                        | 1310-58-3  | 10 - 15%            |
|                    | Sodium hydroxide                           | 1310-73-2  |                     |
| Other components   | Nylon                                      | n/a        | < 3%                |
|                    | Polypropylene                              |            |                     |
|                    | Steel                                      | n/a        | 10 - 25%            |

## Section III – Hazards Identification

Potentially hazardous materials are fully contained in a hermetically sealed case designed to withstand normal handling and use. Exposure could occur only if the battery or cells have been opened, disassembled, crushed, burned, exposed to high temperatures (> 60° C or 140° F), or subjected to other types of abuse. Exposure to cell contents may be harmful under some circumstances.

Follow instructions and precautions for safe use of the battery pack.

## Section IV – First Aid Measures

Cell manufacturers recommend that in case of exposure to cell contents, wash affected area for at least 15 minutes with generous amounts of water and seek medical attention. The electrolyte is caustic and exposure may cause severe irritation or chemical burns.

## Section V – Firefighting Measures

Fires involving these types of battery packs should be flooded with any available extinguishing media. Fires involving large quantities of batteries may produce toxic, corrosive, or irritating fumes.

## Section VI – Accidental Release Measures

If batteries are spilled and damaged, they should be disposed of according to the disposal section.

## Section VII – Handling and Storage

The battery pack and enclosed cells should not be opened, disassembled, crushed, burned, or exposed to high temperatures (> 60° C or 140° F).

## Section VIII – Exposure Controls / Personal Protection

---

No personal protection is required during normal handling and use. Exposure to the ingredients contained within the cells within the battery pack could be harmful under some circumstances. In case of exposure to cell contents, wash affected area for at least 15 minutes with generous amounts of water and seek medical attention.

## Section IX – Physical and Chemical Properties

---

These batteries are solid articles. Properties such as odor, pH, vapor pressure, solubility, etc. are not applicable.

## Section X – Stability and Reactivity

---

|                                  |                                                                                                                           |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Reactivity                       | None during normal handling and use                                                                                       |
| Incompatibility                  | None during normal handling and use                                                                                       |
| Hazardous Decomposition Products | None during normal handling and use                                                                                       |
| Conditions to Avoid              | The battery pack and enclosed cells should not be opened, disassembled, crushed, burned, or exposed to high temperatures. |

## Section XI – Toxicological Information

---

There are no known toxicological properties of the batteries during normal handling and use.

## Section XII – Ecological Information

---

There are no known ecological risks of the batteries during normal handling and use.

## Section XIII – Disposal

---

All Motorola Solutions NiMH batteries contain recyclable materials. Recycling options available in your local area should be considered when disposing of this product. Do not dispose of in fire.

## Section XIV – Transport Information

---

UN 3496 – NiMH Batteries

When packaged and shipped by Motorola Solutions, Inc., these batteries meet the requirements for transport by mode of shipment (air, sea or ground) based on the applicable regulations in force at the time of that shipment.

Motorola Solutions sealed NiMH battery packs are considered to be “dry cell” batteries and are not subject to dangerous goods regulations for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), and International Air Transport Association (IATA).

Air shipments must comply with ICAO and IATA Special Provision A199, which includes the requirement that “Any electrical battery or battery powered device having the potential of dangerous evolution of heat that is not prepared so as to prevent 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) is forbidden from transport.” Any waybill accompanying a consignment of these batteries must contain the words “Non-restricted” and “Special Provision A199”.

DOT shipments must comply with Special Provision 130.

Ocean shipments may be transported under International Maritime Dangerous Goods regulations (IMDG) Special Provision 963 which allows non-regulated shipment of: NiMH coin cells; NiMH batteries packed with or contained in equipment; and cargo transport units with not more than 100 kg of NiMH batteries. The International Maritime Dangerous Goods (IMDG) regulates shipment by ocean in excess of 100 kg as Class 9 dangerous goods under UN 3496 and Special provision 117 and 963.

The requirements for shipping these batteries, in all modes of transportation, are that they be separated from each other to prevent short-circuits and to prevent movement that could lead to short-circuits. Products must also be packed in strong packaging that can withstand the rigors normal to transportation. These products are labeled in accordance to requirements for cargo shipments of NiMH batteries and cells.

## Section XV – Regulatory Information

---

The products referenced herein are “articles” under 29 CFR 1910.1200(c) and are not subject to OSHA's requirements for material safety data sheets under its Hazard Communication Standard, 29 CFR 1910.1200.

## Section XVI – Other Information

---

Notice: The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Motorola makes no warranty expressed or implied with respect to this information and recommendations and disclaims all liability from reliance on it.