



# Battery - Containing Product Information Data Sheet

## Nickel Metal Hydride Battery

This data sheet is applicable to Nickel Metal Hydride (NiMH) batteries contained in Garmin GPSMAP® 695/696; Oregon®; NavTalk®; iQue®, GNX™; gWind™ 2; VHF®, and Rechargeable NiMH Battery Kit products

Garmin is providing this Data Sheet as a service to its customers for general information purposes only. The information in this Data Sheet has been provided to Garmin by the battery manufacturers, and Garmin has not independently evaluated its accuracy or completeness. This Data Sheet is not intended to be a comprehensive exposition of the properties of Nickel Metal Hydride batteries. No guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein.

### Section 1: Product and Company Identification

Product Name: Nickel Metal Hydride Batteries located within above products.

Company Name: Garmin International, Inc. 1200 E. 151st Street, Olathe, KS 66062

Product Category: Article

CHEMTREC® 24 hr Emergency: US 800-424-9300

CHEMTREC® 24 hr Emergency: International 703-527-3887

### Section 2: Hazard(s) Identification

A sealed Nickel-Metal hydride cell/battery is not hazardous in normal use.

In case of mistreatment (abusive over charge, reverse charge, external short circuit.. ) and in case of fault, some electrolyte can leak from the cell through the safety device. In these cases refer to the risks of potassium hydroxide solution or sodium hydroxide solution (corrosive, pH > 14). The electrode materials are only hazardous, if the materials are released by mechanical damaging of the cell or if exposed to fire.

### Section 3: Composition/Information on Ingredients

The following constituents are potentially present in Nickel Metal Hydride batteries used in Garmin products. The concentrations given are an approximation. Specific battery chemistries and concentrations will vary by the particular battery and battery manufacturer.

Substance	wt percent	CAS #
Nickel Oxyhydroxide	32.0%	1314-06-3
Stainless Steel	15.0%	12671-80-6
Potassium Hydroxide	15.0%	1310-58-3
Nickel	6.0%	7440-02-0
Nylon	5.5%	60-80-0
Polyolefin	5.5%	9002-84-0
Aluminum	4.2%	7429-90-5
Silicon	4.2%	7440-21-3
Titanium	4.2%	7440-32-6
Zirconium	4.2%	7440-67-7
Lanthanum + Nickel	4.2%	12196-72-4

## Section 4: First-Aid Measures

Symptoms of Exposure: Under conditions of normal use there should be no exposure to hazardous materials.

In the event of an opened battery

Inhalation: Contents of an opened battery cell can cause respiratory irritation

Ingestion: Contents of an opened battery cell can cause stomach irritation and burns. Seek medical help immediately if ingested

Skin Contact: Contents of an opened battery cell can cause skin irritation

Eye Contact: Contents of an opened battery cell can cause eye irritation

## Section 5: Fire-Fighting Measures

Extinguishing Media: Water, CO<sub>2</sub>, Dry chemical or foam.

Unusual Fire & Explosion Hazards: Fires in confined spaces or involving large quantities of batteries may produce dangerous fumes. Do not open, crush, disassemble, or any incinerate battery. Do not expose any battery to extreme heat or fire.

## Section 6: Accidental Release Measures

Person related 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 off according to the local law and rules.

Avoid leached substances to get into the earth, canalization or waters.

Treatment for cleaning:

If battery casing is dismantled, small amounts of electrolyte may leak. Pack the battery including ingredients as described above. Then clean with water.

## Section 7: Handling and Storage

Storage: Store in a cool place, prevent condensation on cell or battery terminals. Elevated temperatures may result in reduced battery life. Optimum storage temperatures are between -31°F and 95°F.

Handling: Short circuit will bring high temperature elevation to the battery as well as shorten the battery life. Avoid short circuits as the heat can burn attendant skin and rupture the battery cell case. Batteries packaged in bulk containers should not be shaken.

Charging: This battery is designed for recharging. 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.

**CAUTION:** Do not puncture or otherwise damage the battery or dispose in fire, mix with other battery types, charge above specified rate, connect improperly, or short circuit, which may result in overheating, explosion or leakage of cell contents.

## Section 8: Exposure Controls/Personal Protection

No protective equipment is necessary under conditions of normal use. In the event of a fire or opened cell:

Eye/Face Protection: Goggles and face shield

Skin Protection: Gloves and protective clothing

Respiratory Protection: Inorganic dust respirator

## 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.

## 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.

## Section 12: Ecological Information (non-mandatory)

Mammalian effects: None known if used/disposed of correctly

Eco-toxicity: None known if used/disposed of correctly

Bioaccumulation potential: None known if used/disposed of correctly

Environmental fate: None known if used/disposed of correctly.

## Section 13: Disposal Considerations (non-mandatory)

Recycle or dispose in accordance with applicable Federal, state and local regulations. Do not incinerate or heat batteries to temperatures above 100°C (212°F).

## Section 14: Transport Information (non-mandatory)

Sealed NiMH batteries used in Garmin products are not subject to hazardous materials (dangerous goods) regulations for the purpose of transportation provided they are securely packaged in a manner that prevents dangerous evolution of heat and protects against short circuit. Shipments under ICAO and IATA, Special Provision A123 are forbidden from transportation unless they are disconnected from equipment and exposed battery terminals are effectively insulated to prevent short-circuit and dangerous evolution of heat.

## Section 15: Regulatory Information (non-mandatory)

Nickel Metal Hydride batteries are not classified as dangerous goods by the US Department of Transportation or the major international regulatory bodies and are therefore not regulated.

## Section 16: Other Information

This information 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.