Battery - Containing Product Information Data Sheet

Lithium-ion and Lithium-ion Polymer Battery

This data sheet is applicable to Lithium-Ion polymer batteries contained in Garmin aera®; Alpha™; Approach®; Astro®; BarkLimiter™; Camper; D2™; DC™; Descent™; Delta Sport™; Delta Upland™; Delta™; dēzlCam™; dēzl™; Drive™; DriveAssist™; DriveLuxe™; DriveSmart™; DriveTrack™; Edge®; epix™; fēnix™; Forerunner®; Garmin Dash Cam™; Garmin fleet™; Garminfone™; G5 Battery Pack; GDB™ 50 and GPS 10X products; GDL®; GDR 35; GHS™; GLO™; GPSMAP®; GTU™; Impact™; InReach SE®; InReach Explorer®; Instinct™; Montana®; Monterra™; Nautix™; Navigator; nüLink!™; nüvi®; nüviCam™; nüvifone®; PRO; PRO Control®; PRO Trashbreaker™; quatix™; Rino®; RV; SafeNav™; Sport PRO™; StreetPilot®; T5; tactix™; TruSwing™; TT™; Varia Vision™; Varia™; VIRB™; vívoactive®; vívomove® HR; vívosmart™; vívosport™; zūmo®. This data sheet also applies to product replacement Lithium Ion batteries when available.

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 Lithium Ion 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: Lithium Ion / Lithium Polymer 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

Emergency Overview:

Not considered dangerous as manufactured. If battery is damaged, exposure to product components may cause eye, skin and respiratory tract irritation. Combustion products from a fire involving batteries may be harmful.

Potential Health Effects: Eyes
None anticipated under normal product use and handling conditions. If battery is damaged, exposure may cause severe irritation or burns.

Potential Health Effects: Skin
None anticipated under normal product use and handling conditions. If battery is damaged, exposure may cause severe irritation or burns.

Potential Health Effects: Ingestion

Not considered a likely route of exposure under normal product use and handling conditions. Ingestion of material from a damaged battery may cause serious burns to mouth, esophagus, and gastrointestinal tract.

Potential Health Effects: Inhalation
None anticipated under normal product use and handling conditions. If battery is damaged, exposure to vapors or mist may cause respiratory irritation.

HMIS Ratings: Health: 0 Fire: 0 HMIS Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Section 3: Composition/Information on Ingredients

Substance	wt percent	CAS #
Graphite Carbon	19.5%	7782-42-5
Aluminum	16.7%	7429-90-5
Copper	10.4%	7440-50-8
Lithium Manganese Oxide	8.7%	12057-17-9
Lithium Cobalt Oxide	8.7%	12190-79-3
Lithium Nickel Oxide	8.7%	12031-65-1
Polypropylene	7.3%	9003-07-0
Polyethylene	5.6%	9002-88-4
Ethylene Carbonate	3.6%	96-49-1
Lithium Hexafluorophosphate	3.6%	21324-40-3
Polyvinylidene Fluoride (PVDF)	3.6%	24937-79-9
Dimethyl Carbonate	3.6%	616-38-6

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 situation:

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

Ingestion: Contents of battery cell can cause stomach irritation / burns. Seek medical help immediately

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: CO2, Dry chemical or foam. Water may be effective in extinguishing fire in materials surrounding lithium ion batteries.

Unusual Fire & Explosion Hazards: Fires in confined spaces or involving large quantities of lithium ion batteries may produce dangerous fumes.

Do not open, crush, disassemble, or incinerate battery. Do not expose battery to extreme heat or fire.

Section 6: Accidental Release Measures

Remove personnel from area until fumes dissipate. If the skin has come into contact with the electrolyte, it should be washed thoroughly with water.

Sand or earth should be used to absorb any exuded material. Seal leaking battery and contaminated absorbent material in plastic bag and dispose of as Special Waste in accordance with local regulations.

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.

Section 7: Handling and Storage, continued

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

Appearance: Cylindrical or prismatic shape

Odor: none

pH: Not Applicable

Flash point: Not applicable unless individual components exposed

Flammability: Not applicable unless individual components exposed

Relative density: Not applicable unless individual components exposed

Solubility (water:) Not applicable unless individual components exposed

Section 10: Stability and Reactivity

Product is stable when used under normal conditions.

Conditions to avoid: Heat above 70°C or incinerate. Deform. Mutilate. Crush. Pierce. Disassemble Short circuit. Expose over a long period to humid conditions.

Materials to avoid:

Hazardous decomposition Products: Carbon Monoxide, Hydrofluoric Acid

Section 11: Toxicological Information

Acute Dose Effects

A: General Product Information

If product is ruptured, material may cause irritation to the skin, eyes and respiratory tract.

B: Component Analysis - LD50/LC50

No LD50/LC50's are available for this product's components.

Carcinogenicity

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Section 12: Ecological Information

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)

Lithium Ion batteries used in Garmin products are of a type eligible for transport under the exceptions set forth in Section II of Packing Instructions 965-967 of the International Air Transport Association Dangerous Goods Regulations. Lithium ion batteries used in Garmin products have an equivalent lithium content of no more than 1.5 g per cell and 8.0 g per battery or battery pack and a Watt-hour rating of no more than 20 Watt-hours per cell and 100 Watt-hours per battery or battery pack.

Lithium ion batteries used in Garmin products are of a type that has been demonstrated to pass the tests set forth in the UN Manual of Tests and Criteria, Part III, Subsection 38.3.

Batteries shipped as individual or bulk batteries (separate from equipment) under Packing Instruction 965 are forbidden from carriage on passenger aircraft and must bear the Cargo Aircraft Only label.

Section 15: Regulatory Information (non-mandatory)

OSHA Hazardous Communication Standard (29CFR 1910.1200): Non-Hazardous

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.