MSDS

(Posted 10/09/2012)

The attached MSDS sheets supersede all other MSDS sheets. Please file accordingly.

VENDOR: **RIDGE TOOL COMPANY A769**

STOCK#	MFG# DESCRIPTION
H85-547	30063 MICROEXPLORER

MATERIAL SAFETY DATA SHEET

Section 1 – Product & Company Identification

Product Name.....:	Rechargeable Lithium Ion (Li-Ion) Batteries
Product Catalog No. .....:	
Company Name.....:	Ridge Tool Company
Address .....:	400 Clark Street
:	Elyria, Ohio 44036-2023
Telephone .....:	1-800-519-3456 (USA) (8:00 am – 5:00 pm EST, M-F)
Emergency Telephone .....:	call 9-1-1 or local emergency number
Website ……..:	www.RIDGID.com
Issue Date .....:	August 9, 2011

Section 2 – Hazards Identification

EMERGENCY OVERVIEW:

The materials in these Li-Ion batteries are hermetically sealed in a case and do not leak electrolyte under normal usage conditions. However, if exposed to a fire, explosion, extreme abuse, misuse or improper disposal that results in breaching of the battery cell case, hazardous materials may be released. Also, battery terminal contact with other metals may generate heat or cause electrolyte leakage. Direct contact with electrolyte may cause severe irritation and chemical burns. Short-term skin exposure may cause chemical burns and sores. Inhalation and injection are not anticipated routes of exposure with leakage of small amounts of electrolyte.

POTENTIAL HEALTH EFFECTS AND SYMPTOMS FROM SHORT TERM / ACUTE EXPOSURE:

- Eye
  This product is not expected to cause eye irritation under normal conditions of use. Direct eye contact with the electrolyte may cause severe irritation and chemical burns.

- Skin
  This product is not expected to cause skin irritation under normal conditions of use. Direct exposure to the electrolyte may cause chemical burns and sores on skin. No evidence of adverse effects from skin absorption.

- Ingestion
  This product is not expected to cause ingestion problems under normal use. If the battery case is breached in the digestive tract, the electrolyte may cause localized burns.

- 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 vapors may result in pulmonary conditions.

- Medical Conditions Aggravated By Exposure:
  No further data known.

- Carcinogenicity:
  Contains cobalt compounds.

Section 3 – Composition / Information On Ingredients

Composition:
- Positive electrode; Lithium cobalt oxide 20-35wt%
- Negative electrode; Carbon 5-20wt%
- Electrolyte; organic electrolyte mainly composed of alkyl carbonate 10-20wt%

Section 4 – First Aid Measures

EYE CONTACT:

If contents from an opened battery comes in contact with the eyes, immediately flush eyes thoroughly with water and continue flushing for at least 15 minutes without rubbing. Seek medical attention.

SKIN CONTACT:

If the contents from an opened battery come in contact with the skin, wash with soap and water. If irritation persists or contact has been prolonged, seek medical attention.

INHALATION:

If exposure to fumes or dusts occurs, remove immediately to fresh air and seek medical attention.

INGESTION:

If contents from an opened battery are swallowed, do not induce vomiting. Seek medical attention immediately.

Product Name……..: Li-Ion Battery

Section 5 – Fire Fighting Measures

FIRE AND EXPLOSIVE PROPERTIES:

Flashpoint.....:	N/A	
Flammability Limits.....:	LEL	- N/A
	UEL	- N/A

EXTINGUISH MEDIA:

It is permissible to use dry chemical, alcohol-resistant foam or carbon dioxide extinguishing mediums.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

The materials in these Li-Ion batteries are hermetically sealed in a case and do not leak electrolyte under normal usage conditions. However, if exposed to a fire or explosion hazardous materials may be released.

FIRE-FIGHTING PROCEDURES AND EQUIPMENT:

Since inhalation of vapors may irritate eyes, nose and throat, use self-contained breathing apparatus.

Section 6 – Accidental Release Measures

PERSONAL PRECAUTIONS:

Use rubber gloves and safety glasses, and a gas mask for organic gases when handling leaking battery. Move batteries and contents away from open fire.

ENVIRONMENTAL:

Resultant spill residues may be characterized as D002 (caustic) pursuant to the federal Resource Conservation and Recovery Act (RCRA). Provide appropriate ventilation.

CLEAN-UP MEASURES:

Spills and leaks are unlikely because cells are contained in a hermetically sealed case. If the battery case is breached, wear protective clothing that is impervious to caustic materials and absorb or pack spill residues in inert material.

Product Name……..: Li-Ion Battery

Section 7 – Handling And Storage

HANDLING:

Accidental short circuit (contacting positive and negative battery terminals with a conductive object) will bring high temperature evaluation to the battery as well as shorter battery life. Be sure to avoid prolonged short circuit since the heat can burn attendant skin and can even rupture the battery cell case. Batteries placed in bulk containers should not be shaken. Metallic objects in tool boxes can cause short circuit.

CHARGING:

This battery is designed for recharging. Charge battery before use. Observe the specified charging instructions since incorrect charging can cause a rise in internal gas pressure which may result in damaging heat generation or cell rupture and/or venting.

STORAGE:

Store in a cool, well-ventilated location. Prevent condensation on cell or battery terminals. Elevated temperatures may result in reduced battery life. Optimum storage temperatures are between 32°F (0°C) and 95°F (35°C). Avoid exposure to static electricity so that no damage will be caused to the protective circuitry of the battery pack.

CAUTION: Do not 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

EXPOSURE GUIDELINES:

Not specified

ENGINEERING CONTROLS:

None required under conditions of normal use. Provide appropriate ventilation in case of electrolyte leakage or exposure.

Product Name……..: Li-Ion Battery

PERSONAL PROTECTIVE EQUIPMENT:

- Eye Protection
  None required under conditions of normal use.

- Skin Protection
  None required under conditions of normal use.

- Respiratory Protection
  None required under conditions of normal use.

Section 9 – Physical And Chemical Properties

Physical Appearance:.....: Sealed Battery

Section 10 – Stability And Reactivity

STABILITY:

Since batteries utilize a chemical reaction they are considered a chemical product. As such, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, if the various usage conditions such as charge, discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage. The battery is stable under normal operating conditions.

CONDITIONS TO AVOID:

Open flames, heat, sparks and moisture. Battery should not be incinerated or abused. Do not subject battery to temperatures in excess of 140°F (60°C). Such treatment can vaporize electrolyte and cause cell rupture.

INCOMPATIBLE MATERIALS:

No additional information known.

DECOMPOSITION PRODUCTS MAY INCLUDE:

No additional information known.

POSSIBILITY OF HAZARDOUS REACTIONS:

No additional information known.

Section 11 – Toxicological Information

ACUTE TOXICITY: oral LD50 >2g/kg (estimated)

CHRONIC: No further toxicological data known.

SENSITIZATION: No further toxicological data known.

REPRODUCTIVE EFFECTS: No further toxicological data known.

TERATOGENIC EFFECTS: No further toxicological data known.

MUTAGENICITY: No further toxicological data known.

SYNERGISTIC MATERIALS: No further toxicological data known.

CARCINOGENICITY: No further toxicological data known.

Section 12 – Ecological Information

ECOTOXICOLOGICAL INFORMATION:

Resultant spill residues may be characterized as D002 (caustic) pursuant to the federal Recovery and Recovery Act (RCRA).

HEAVY METAL QUANTITY PER CELL:

Hg	<0.5 ppm	Measure Analysis: atomic absorption spectrometer
Cd	< 4.0 ppm	Measure Analysis: atomic absorption spectrometer

Section 13 – Disposal Consideration

WASTE DISPOSAL:

Li-Ion batteries should not be incinerated or subjected to temperatures in excess of 140°F (60°C). Such treatment can cause cell rupture. In the event of disposal, dispose only in accordance with federal, state and local regulations.

These Li-Ion batteries are classified as hazardous waste and are not safe for disposal in the normal waste stream. The Ridge Tool Company encourages recycling, as these batteries do contain recyclable materials that can be reused. The battery packs bear the Rechargeable Battery Recycling Corporation (RBRC) symbol, indicating RIDGID has already paid the cost of recycling the lithium-ion battery packs once they have reached the end of their useful life. For recycling center locations, call 1-800-822-8837.

Product Name…….: Li-Ion Battery

Section 14 – Transportation Information

U.S. DOT HAZARDOUS MATERIAL INFORMATION:

Sealed Li-Ion batteries are considered non-hazardous goods 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) and the International Maritime Dangerous Goods regulations (IMDG). It is recommended that batteries are in a less than 50% charged state (SOC). For air shipment that contain more than 40 new lithium ion rechargeable cells, or more than 20 new lithium ion rechargeable batteries, they are recommended to be subject to the following notices:

1. Each package shall be marked indicating that it contains Li-Ion batteries and special procedures shall be followed in the event that the package is damaged.
2. Each shipment shall be accompanied with a document indicating that the packages contain Li-Ion batteries and that the special procedures shall be followed in the event that the package is damaged.
3. The same documents shall be provided to air carriers.
4. Packages shall not exceed 30 Kg.
5. Packages shall be strong boxes, at the packing group II performance level.

Section 15 – Regulatory Information

UN – Class:

Exempt from Dangerous Goods classification because of low lithium content. Lithium ion rechargeable batteries are not subject to the UN Regulations if they meet the following provision. The equivalent Lithium content is not more than 8g per battery pack (and not more than 1.5g per cell).)

Section 16 – Other Information

Prepared by:. Ridge Tool Company

Issue Date: August 9, 2011
Last Revision Date: December 12, 2007

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