SAFETY DATA SHEET

The Safety Data Sheet is supplied as a service to you. For other related information, please visit: www.ampli.com

1. IDENTIFICATION

PRODUCT NAME: Lithium Ion Battery

SIZES: All rechargeable sizes


EDITION DATE: 05/12/2015

2. HAZARD IDENTIFICATION

We would like to inform our customers that these batteries are exempt articles and are not subject to the 29 CFR 1910.1200 OSHA requirements, Canadian WHMIS requirements or GHS requirements.

Emergency Overview
OSHA Hazards-not applicable
Target Organs-not applicable
GHS Classification-not applicable
GHS Label Elements, including precautionary Statement-not applicable
Pictogram-not applicable
Signal words-not applicable
Hazard statements-not applicable
Precautionary statements-not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>CAS #</th>
<th>%</th>
<th>TLV*/**TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Cobalt Nickel Dioxide</td>
<td>12031-55-1; 12031-65-1</td>
<td>&lt;25</td>
<td>None Established</td>
</tr>
<tr>
<td>Steel</td>
<td>---</td>
<td>15-30</td>
<td>None Established</td>
</tr>
<tr>
<td>Lithiated Manganese Dioxide</td>
<td>12057-17-9</td>
<td>&lt;25</td>
<td>5.0 mg/m3 (Mn)</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>3-5</td>
<td>15 mppcf</td>
</tr>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>5-15</td>
<td>0.1 mg/m3 (Fume)</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>2-5</td>
<td>1.0 mg/m3 (elemental)</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>2-8</td>
<td>15 mg/m3 (Dust)</td>
</tr>
<tr>
<td>Lithium Hexafluorophosphate</td>
<td>21324-40-3</td>
<td>1-5</td>
<td>None Established</td>
</tr>
<tr>
<td>Ethlyene Carbonate</td>
<td>96-49-1</td>
<td>&lt;15</td>
<td>None Established</td>
</tr>
<tr>
<td>Methyl Ethyl Carbonate</td>
<td>623-53-0</td>
<td>&lt;15</td>
<td>None Established</td>
</tr>
<tr>
<td>Dimethyl Carbonate</td>
<td>616-38-6</td>
<td>&lt;15</td>
<td>None Established</td>
</tr>
<tr>
<td>Substance</td>
<td>CAS Number</td>
<td>LOAEL</td>
<td>NOAEL</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>Diethyl Carbonate</td>
<td>105-58-8</td>
<td>&lt;15</td>
<td>None Established</td>
</tr>
<tr>
<td>Methyl Acetate</td>
<td>79-20-9</td>
<td>&lt;15</td>
<td>200 ppm</td>
</tr>
<tr>
<td>Plastic-ceramic</td>
<td>---</td>
<td>&lt;20</td>
<td>None Established</td>
</tr>
</tbody>
</table>

*Source: OSHA 29 CFR 1910.1000 Table Z-1, 2 or 311-01-2012*

4. **FIRST AID INFORMATION**

   Under normal conditions of use, the battery is hermetically sealed. This information is of relevance only if the battery is broken and this results in a direct contact with the ingredients.

   **EMERGENCY FIRST AID PROCEDURES:**
   - **Ingestion:** Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Quickly transport victim to an emergency care facility.
   - **Eye:** If eye contact with contents of an open cell occurs, immediately flush the contaminated eye(s) with water. Quickly transport victim to an emergency care facility.
   - **Skin Contact:** Immediately flush with water. If irritation or pain persists, seek medical attention.
   - **Inhalation:** Remove the patient from exposure into fresh air, seek medical attention.

5. **FIRE FIGHTING MEASURES**

   - **Explosion Data:** Closed containers may explode, burst, rupture or vent when exposed to temperatures above 120°C (248°F).
   - **Sensitivity to Mechanical Impact:** Extreme mechanical abuse will result in rupture of the individual battery cells.
   - **Sensitivity to Static Discharge:** Electrostatic discharges imposed directly on the spilled electrolyte may start combustion.
   - **Extinguishing Media:** Dry chemical, carbon dioxide and foam. Water acts as a cooling agent.

   **SPECIAL FIRE FIGHTING PROCEDURES:** As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products (See section 2). Water will cool the fire but may react with available lithium in the batteries producing flammable hydrogen.

   **SPECIAL FIRE OR EXPLOSION HAZARDS:** DO NOT RECHARGE. As a typical sealed battery they may rupture when exposed to excessive heat. Rupture may expose lithium to moisture causing it to react or release flammable or corrosive materials. Do not accumulate charged batteries together.

   *Do not use water on these batteries if fighting fire within an enclosed area. Evolving hydrogen may build up and auto-ignite.*

6. **ACCIDENTAL RELEASE MEASURES**

   **TO CONTAIN AND CLEAN UP LEAKS OR SPILLS:** In the event of a battery rupture, prevent skin contact and contact with moisture or flammable/combustible materials. If possible, collect all released material in a metal container. Place damaged cells in mineral oil or graphite if available.

   **REPORTING PROCEDURE:** Report all spills in accordance with Federal, State and Local reporting requirements.
7. **HANDLING AND STORAGE**

Store batteries in a dry place. Storing unpackaged cells together with other combustible materials could result in cell shorting and fire. Do not recharge. Do not puncture or abuse.

8. **EXPOSURE CONTROL/PERSONAL PROTECTION**

RESPIRATORY PROTECTION (SPECIFY TYPE): Not necessary under normal conditions. Fire situations, use self contained breathing apparatus.

VENTILATION: Not necessary under normal conditions. Ventilation is required if there is leakage from the cell or battery

PROTECTIVE GLOVES: Not necessary under normal conditions. Use neoprene or natural rubber gloves if handling an open or leaking battery.

PROTECTIVE CLOTHING: Skin protection is not required when handling the cell or battery during normal use. Wear long sleeved clothing to avoid skin contact if handling a leaking or ruptured cell or battery. Soiled clothing should be washed with detergent prior to re-use.

EYE PROTECTION: Not necessary under normal conditions. Wear safety glasses with side shields if handling an open or leaking battery.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point @ 760 mm Hg (°C)</td>
<td>NA</td>
</tr>
<tr>
<td>Percent Volatile by Volume (%)</td>
<td>NA</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg @ 25°C)</td>
<td>NA</td>
</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate = 1):</td>
<td>NA</td>
</tr>
<tr>
<td>Vapor Density (Air = 1):</td>
<td>NA</td>
</tr>
<tr>
<td>Physical State:</td>
<td>Solid, Sealed Unit</td>
</tr>
<tr>
<td>Density (grams/cc)</td>
<td>NA</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Insoluble</td>
</tr>
<tr>
<td>pH</td>
<td>NA</td>
</tr>
<tr>
<td>Appearance and Odor:</td>
<td>Battery Pack, Odorless</td>
</tr>
</tbody>
</table>

10. **STABILITY AND REACTIVITY**

STABLE OR UNSTABLE: Stable

INCOMPATIBILITY (MATERIALS TO AVOID): Conductive materials, water, seawater, strong oxidizers and strong acids

HAZARDOUS DECOMPOSITION PRODUCTS: May decompose to produce hydrogen fluoride, phosphorus oxides, sulfur oxides, sulfuric acid, lithium hydroxide, carbon monoxide and carbon dioxide.

DECOMPOSITION TEMPERATURE: 194°F (90°C)

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: Avoid electrical shorting, puncturing or deforming

11. **TOXICOLOGICAL INFORMATION**

**Organic Electrolyte**
- Acute toxicity: LD₉₀, oral - Rat 2,000mg/kg or more
- Irritating nature: Irritation to skin and eye
12. **ECOLOGICAL INFORMATION**

Consumers should dispose of discharged batteries through waste disposal services or legitimate collection outlets. Those collecting batteries should follow state and federal regulations. Partially discharged damaged batteries can overheat and cause fires in the presence of other combustible materials.

13. **DISPOSAL CONSIDERATIONS**

Always comply with Federal, state or local requirements. Hazardous waste generators should check with the USEPA or their state authorized agency for guidance. [http://www.nema.org/Policy/Environmental-Stewardship/Documents/Companies%20Claiming%20to%20Recycle.MARCH2005.pdf](http://www.nema.org/Policy/Environmental-Stewardship/Documents/Companies%20Claiming%20to%20Recycle.MARCH2005.pdf)

14. **TRANSPORTATION INFORMATION**

**TRANSPORTATION-SHIPPING:**

These are Lithium Ion (Li-ion) batteries, also known as secondary or rechargeable lithium, and are classified as non-dangerous goods for transportation.

- UN number: 3480 (3481 when the battery is contained in equipment or packed with equipment)
- Proper shipping name: Lithium ion batteries (“lithium ion batteries contained in equipment” or “lithium ion batteries packed with equipment”) • Class: 9 • Packing group: II
- USDOT – See 49 CFR 173.185 and Special Provision 188.
- ICAO/IATA – Effective January 1, 2015, these AmpliVox Li Ion batteries can be shipped by air in accordance with International Air Transport Association (IATA) 56th edition. Since these Li Ion batteries are under 20WH they can ship as Section II or 1B pending count or gross weight limitations per package. See Packing Instructions: PI 965 (Batteries), PI 966 (Batteries, packed with equipment) and PI 967 (Batteries, contained in equipment) as applicable.

15. **REGULATORY INFORMATION**

**SARA 313:** Notification is not required because these products are article(s) that do not release a covered toxic chemical under the normal conditions of storage, use, or handling.

**NOTICE:** The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. AmpliVox Portable Sound Systems, LLC makes no warranty expressed or implied.