Intec Industries Co., Ltd.
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MATERIAL SAFETY DATA SHEET

The information and set forth is provided in good faith and generally descriptive only and is not intended to make or imply any representation of warranty with respect to any product. Intec Industries Co., Ltd. reserves the rights on modification of this document without prior notice.

Potential hazards may arise from the improper use of cells or battery packs. Manufacturers and assemblers of battery-using systems, that are properly designed and that adequate battery handling procedures should be in place.

Section A – Product

Product series : Nickel Metal Hydride rechargeable cell or battery pack

Section B – Hazardous Ingredients

IMPORTANT NOTE: The battery cell should not be opened or exposed to heat because exposure to the following ingredients contained within could be harmful under some circumstances.

Chemical Name	Percentage by Weight
Cobalt	2.0-6.5%
Cobalt metal [CAS no: 7440 – 48 – 4]	
Cobalt oxide [CAS no: 1307 – 96 – 6]	
Cobalt hydroxide [CAS no: 21041 – 93 – 0]	
Lithium hydroxide [CAS no: 1310 – 65 – 2]	0-3%
Manganese metal [CAS no: 7439 – 96 – 5]	<4%
Rare Earth Metal	<14%
Lanthanum [CAS no: 7439 – 91 – 0]	
Cerium [CAS no: 7440 – 45 – 1]	
Neodymium [CAS no: 7440 – 00 – 8]	
Praseodymium [CAS no: 7440 – 10 – 0]	
Nickel	30-50%
Nickel powder [CAS no: 7440 – 02 – 0]	
Nickel oxide [CAS no: 1313 – 99 – 1]	
Nickel hydroxide [CAS no: 12054 – 48 – 7]	
Potassium hydroxide [CAS no: 1310 – 58 – 3]	<6%
Sodium hydroxide [CAS no: 1310-73-2]	0-5%

Remarks: Concentrations may vary under different condition of charging or discharging

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Section C – Fire and Explosion Hazard Data

If fire or explosion occurs when the cells or battery packs are being charged, stop charging immediately.

Any class of extinguish medium should be considered on the cells/battery packs or packing material.

Special Fire Fighting Procedure:

Fire fighters should ware self-contained breathing apparatus. Nickel metal hydride batteries involved in a fire can produce toxic fumes including oxides of nickel, cobalt, manganese, lanthanum, cerium, neodymium and praseodymium.

Section D – Health Hazard Data

Inhalation:

Do not dispose of cells or battery packs in fire or mutilate, they may burst explosively or release toxic fumes. Inhalation of those may cause significant harm to human body. Provide fresh air at once and seek medical attention.

Ingestion:

Cells of any size should never be placed in the month, nose, or ears. Damage to tissue may result from chemical and /or electrical burning. If the battery case is breached in the digestive tract, the electrolyte may cause localized burns. In all cases of ingestion, seek medical attention immediately. The progress of the cell through the body should be carefully monitored and surgical interventions.

Skin Contact:

Electrolyte will cause chemical burns, and others chemical compound may cause allergic dermatitis. Remove contaminated clothing at once, and rinse with large quantity of water. If the symptoms persist, seek medical attention.

Eye Contact:

Exposure of eye to contents of an open cell will cause chemical burns and severe irritation. Rinse thoroughly with large quantity of distillated water at once, and seek medical attention immediately.

Nickel, nickel compounds, cobalt, and cobalt compounds are listed as possible carcinogens by International Agency for Research on Cancer (IARC) or National Toxicology Program (NTP).

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Section E – Safe Handling and Use

Storage:

Cells or Battery packs should be stored in a cool, dry and well ventilated area. Cell life degradation is a function of time, even if the battery is never used. As temperature increases, the degradation rate of the cell increases, making it desirable to keep inventory between 0℃ to 30℃ when practical. Cells or battery packs that will be stored for extended periods should undergo regular OCV checks and receive boost charges on a regular schedule.

Airtight, watertight compartment:

Cell or battery packs normally evolve very small amount of hydrogen, which might cause harm to human body. In an airtight compartment, proper ventilation is suggested.

Short Circuit:

Care must be exercised in the handling and use of the cells or battery packs to avoid external shorts. A current-limited device such as a fuse, resistor, diode, or circuit breaker, may be used in the discharge circuit to prevent short-circuit current.

Soldering or Welding:

Avoid solder or weld to cells directly, contact Intec Industries Co. Ltd. for the proper handling procedures whenever in doubt.

Charging:

Incorrect chargers or reverse charging may result high temperature and gas formation, which risk fire or cell rupture. Do not leave the cell or battery packs charging over extend period unless it is specifically designed to do so.

Cautions:

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.

Do not incinerate or subject battery cells to temperature in excess of 100°C. Such treatment can cause cell rupture.

Do not open battery. The negative electrode material may be pyrophoric. Should an individual cell from a battery become disassembled, spontaneous combustion of the negative electrode is possible. This is much more likely to happen if the electrode is removed from its metal container. There can be a delay between exposure to air and spontaneous combustion.

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Section F – Transportation Requirements

Intec sealed Nickel Metal Hydride batteries are considered to be "dry cell" batteries. Improperly packed cells or battery packs when exposed to the vibration of long-distance transportation can be caused short circuit. The keys to proper shipment are as the follows:

a. Possible insulate the tables to prevent contact.
b. Cells or battery packs are heavy and deserve the protection of adequate strength boxes.
c. If stacking cells vertically, insulation between layers of cells must resist breaking down under the stress of transportation.
d. Avoid over stacking boxes of cells or battery packs so that the packaging of the lower tier is damaged.

Section G – Recycle and Disposal

Intec Industries Co. Ltd. has participated in the Rechargeable Battery Recycling Corporation's (RBRC) batteries recycle program. RBRC will provide methods and means for the disposal of batteries with the RBRC's logo. For more information, you may contact Intec Industries Co. Ltd. or visit RBRC website (www.rbrc.org).