IDENTITY (As Used on Label and List)  
NiCd batteries  

Note: Blank spaces are not permitted if any item is not applicable or no information is available, the space must be marked to indicate that.

### Section 1 - Identification

**Manufacturer's Name**  
GPI International Ltd.

**Emergency Telephone Number**  
852-2484-3333

**Address (Number, Street, City State, and ZIP Code)**  
8/F GP Building, 30 Kwai Wing Road, Kwai Chung, N.T. H.K.

**Date of prepared and revision**  
Jan 1, 2015

**Signature of Prepare (optional)**  

### Section 2 – Hazards Identification

**Classification:**  
N.A.

### Section 3 – Composition/Information On Ingredients

#### Hazardous Components:

<table>
<thead>
<tr>
<th>Description</th>
<th>Approximate % of total weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>&lt;0.004 Wt%</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt;0.0005 Wt%</td>
</tr>
<tr>
<td>Cadmium Oxide</td>
<td>&lt;8.25 Wt%</td>
</tr>
<tr>
<td>Nickel Hydroxide</td>
<td>14%-21% Wt%</td>
</tr>
<tr>
<td>30% KOH solution (Potassium Hydroxide)</td>
<td>9-16% Wt%</td>
</tr>
</tbody>
</table>

### Section 4 – First Aid Measures

**First Aid Procedures**

If electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately.

If electrolyte comes into contact with eyes, wash with copious amounts of water for fifteen (15) minutes, and contact a physician.

If electrolyte vapors are inhaled, provide fresh air and seek medical attention if respiratory irritation develops. Ventilate the contaminated area.

### Section 5 – Fire-Fighting Measures

<table>
<thead>
<tr>
<th>Flash Point (Method Used)</th>
<th>Ignition Temp.</th>
<th>Flammable Limits</th>
<th>LEL</th>
<th>UEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

**Extinguishing Media**

Carbon Dioxide, Dry Chemical or Foam extinguishers

**Special Fire Fighting Procedures**

N.A.

**Unusual Fire and Explosion Hazards**

Do not dispose of battery in fire - may explode.

Do not short-circuit battery - may cause burns.

Manufacturer reserves the right to alter or amend the design, model and specification without prior notice.
Material Safety Data Sheet for GP Nickel Cadmium Battery

Section 6 – Accidental Release Measures
Steps to Be Taken in Case Material is Released or Spilled

- Batteries that are leakage should be handled with rubber gloves.
- Avoid direct contact with electrolyte.
- Wear protective clothing and a positive pressure Self-Contained Breathing Apparatus (SCBA).

Section 7 – Handling and Storage

Safe handling and storage advice

- Batteries should be handled and stored carefully to avoid short circuits.
- Do not store in disorderly fashion, or allow metal objects to be mixed with stored batteries.
- Never disassemble a battery.
- Do not breathe cell vapors or touch internal material with bare hands.
- The cells and batteries shall not be stored in high temperature, the maximum temperature allowed is 60°C for a short period during the shipment, otherwise the cells maybe leakage and can result in shortened service life.

Section 8 – Exposure Controls / Person Protection

<table>
<thead>
<tr>
<th>Occupational Exposure Limits:</th>
<th>LTEP</th>
<th>STEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Respiratory Protection (Specify Type) N.A.

Ventilation

<table>
<thead>
<tr>
<th>Local Exhausts</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Mechanical (General)

<table>
<thead>
<tr>
<th>Other</th>
<th>N.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Protective Gloves

<table>
<thead>
<tr>
<th>N.A.</th>
<th>Eye Protection</th>
<th>N.A.</th>
</tr>
</thead>
</table>

Other Protective Clothing or Equipment N.A.

Work / Hygienic Practices N.A.

Section 9 - Physical / Chemical Properties

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>N.A.</th>
<th>Specific Gravity (H₂O=1)</th>
<th>N.A.</th>
</tr>
</thead>
</table>

Vapor Pressure (mm Hg)

<table>
<thead>
<tr>
<th>N.A.</th>
<th>Melting Point</th>
<th>N.A.</th>
</tr>
</thead>
</table>

Vapor Density (AIR=1)

<table>
<thead>
<tr>
<th>N.A.</th>
<th>Evaporation Rate (Butyl Acetate)</th>
<th>N.A.</th>
</tr>
</thead>
</table>

Solubility in Water N.A.

Appearance and Odor Cylindrical Shape, odorless
Section 10 – Stability and Reactivity

Stability | Unstable | Conditions to Avoid
--- | --- | ---
Stable | X | 

Incompatibility (Materials to Avoid)

Hazardous Decomposition or Byproducts

<table>
<thead>
<tr>
<th>Hazardous Polymerization</th>
<th>May Occur</th>
<th>Conditions to Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will Not Occur</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Section 11 – Toxicological Information

Route(s) of Entry | Inhalation? | N.A. | Skin? | N.A. | Ingestion? | N.A.
--- | --- | --- | --- | --- | --- | ---
Health Hazard (Acute and Chronic) / Toxicological information

- In case of electrolyte leakage, skin will be itchy when contaminated with electrolyte.
- In contact with electrolyte can cause severe irritation and chemical burns.
- Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.

Section 12 – Ecological Information

N.A.

Section 13 – Disposal Considerations

Dispose of batteries according to government regulations.

Section 14 – Transportation Information

GP NiCd cylindrical cells/batteries are considered to be “dry cell” batteries 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) Dangerous Goods Regulations 56th edition, the International Maritime Organization (IMO).

- Alkaline batteries are not regulated for transportation as “DANGEROUS GOODS.”
- IATA DGR: Special Provision A123: “Example of such batteries are: alkali-manganese, zinc carbon, and nickel-cadmium batteries. Any electrical battery...having the potential of a dangerous evolution of heat must be prepared for transport as to prevent (a) a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals.) is forbidden from transport; and (b) accidental activation. The words “Not Restricted” and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6 when an Air Waybill is issued.
- EU: As NiCd cylindrical cells/batteries are not explicitly mentioned in RID/ADR, there are no special Dangerous Goods shipment requirements for these products.
- USA: 49 CFR § 172.102 Special Provision 130: “For other than dry battery specifically covered by another entry in the § 172.101 Table, “Batteries, dry” are not subject to the requirements of this subchapter when they are securely packaged and offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals) and protects against short circuits.”

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### Material Safety Data Sheet for GP Nickel Cadmium Battery

**Section 15 – Regulatory Information**
Special requirement be according to the local regulators.

**Section 16 – Other Information**
The data in this Material Safety Data Sheet relates only to the specific material designated herein.

**Section 17 – Measures for fire extinction**
In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.

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