

# GP Batteries

## Material Safety Data Sheet

Model No.: GP380AFH

Document Number: CRS3614

Revision: 01

Page 1 of 4

|                                                  |                                                                                                                                               |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| IDENTITY (As Used on Label and List)<br>GP380AFH | 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 I – Information of Manufacturer

|                                                                                                                    |                                                   |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Manufacturer's Name<br>GPI International Ltd.                                                                      | Emergency Telephone Number                        |
| Address (Number, Street, City State, and ZIP Code)<br>8/F GP Building, 30 Kwai Wing Road,<br>Kwai Chung, N.T. H.K. | Telephone Number for information<br>852-2484-3333 |
|                                                                                                                    | Date of prepared and revision<br>Aug., 28, 2003   |
|                                                                                                                    | Signature of Preparer (optional)                  |

### Section II - Hazardous Ingredients / Identity Information

#### Hazardous Components:

| Description:                           | Approximate % of total weight |     |
|----------------------------------------|-------------------------------|-----|
| Mercury                                | <5ppm                         |     |
| Lead                                   | Nil                           |     |
| Cadmium                                | Nil                           |     |
| Ni(OH) <sub>2</sub> (Nickel Hydroxide) | 26.0                          | Wt% |
| 30% KOH Solution (Potassium Hydroxide) | 9.5                           | Wt% |

### Section III - Physical / Chemical Characteristics

|                                |                                               |
|--------------------------------|-----------------------------------------------|
| Boiling Point<br>N.A.          | Specific Gravity (H <sub>2</sub> O=1)<br>N.A. |
| Vapor Pressure (mm Hg)<br>N.A. | Melting Point<br>N.A.                         |
| Vapor Density (AIR=1)<br>N.A.  | Evaporation Rate (Butyl Acetate)<br>N.A.      |
| Solubility in Water<br>N.A.    |                                               |
| Appearance and Odor            | Cylindrical Shape, odorless                   |

### Section IV – Hazard Classification

#### Classification

N.A.

# GP Batteries

## Material Safety Data Sheet

Model No.: GP380AFH

Document Number: CRS3614

Revision: 01

Page 2 of 4

### Section V – Reactivity Data

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

Incompatibility (Materials to Avoid)

Hazardous Decomposition or Byproducts

|                          |                |   |                     |
|--------------------------|----------------|---|---------------------|
| Hazardous Polymerization | May Occur      |   | Conditions to Avoid |
|                          | Will Not Occur | X |                     |

### Section VI - Health Hazard Data

|                   |             |       |            |
|-------------------|-------------|-------|------------|
| Route(s) of Entry | Inhalation? | Skin? | Ingestion? |
|                   | N.A.        | N.A.  | 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 VII – 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 VIII - Fire and Explosion Hazard Data

|                           |                |                  |      |      |
|---------------------------|----------------|------------------|------|------|
| Flash Point (Method Used) | Ignition Temp. | Flammable Limits | LEL  | UEL  |
| N.A.                      | N.A.           | N.A.             | N.A. | N.A. |

Extinguishing Media

Carbon Dioxide, Dry Chemical or Foam extinguishers

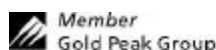
Special Fire Fighting Procedures

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.

# GP Batteries

## Material Safety Data Sheet

Model No.: GP380AFH

Document Number: CRS3614

Revision: 01

Page 3 of 4

### Section IX – Accidental Release or Spillage

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 X – 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.

Keep batteries between -30°C and 35°C for prolong storage.

### Section XI – Exposure Controls / Person Protection

Occupational Exposure Limits: LTEP

N.A.

STEP

N.A.

Respiratory Protection (Specify Type)

N.A.

Ventilation

Local Exhausts

N.A.

Special

N.A.

Mechanical (General)

N.A.

Other

N.A.

Protective Gloves

N.A.

Eye Protection

N.A.

Other Protective Clothing or Equipment

N.A.

Work / Hygienic Practices

N.A.

### Section XII – Ecological Information

N.A.

### Section XIII – Disposal Method

Dispose of batteries according to government regulations.

# GP Batteries

## Material Safety Data Sheet

Model No.: GP380AFH

Document Number: CRS3614

Revision: 01

Page 4 of 4

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### Section XIV – Transportation Information

GP 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) and International Maritime Dangerous Goods Regulations (IMDG). The only DOT requirement for shipping these batteries is special provision 130 which states: “Batteries, dry are not subject to the requirements of this subchapter only when they are offered for transportation in a manner that prevents the dangerous evolution of heat (For example, by the effective insulation of exposed terminals). As of 1/1/97 IATA requires that batteries being transported by air must be protected from short-circuiting and protected from movement that could lead to short-circuiting.

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### Section XV – Regulatory Information

Special requirement be according to the local regulatory bodies.

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### Section XVI – Other Information

The data in this Material Safety Data Sheet relates only to the specific material designated herein.

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### Section XVII – 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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