



SDS Report

No.: GZ1005052388/CHEM

Date: MAY 26, 2010

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Client's Name : BETTERPOWER BATTERY CO.,LTD
Client's Address : No.11 AND 26 BLDG, DALANG TONGFU VILLAGE
INDUSTRY ZONE, LONGHUA TOWN, BAOAN DNDISTRLET,
SHENZHEN GUANGDONG.P.R CHINA

SGS Ref No. : GZ12520895EC
Product Name : Ni-Mh Battery
End Uses : Household & Industrial power
Composition/Ingredient : Nickel hydroxide(33%); Potassium hydroxide(15%); Cobalt
hydroxide(7%); Fe(44.7615%); C(0.054%); Si(0.009%);
Mn(0.135%); P(0.018%); S(0.0225).
Job Receiving Date : MAY 17, 2010
Preparation Period : MAY 17, 2010 TO MAY 26, 2010

Service Requested

Safety Data Sheet for the Product

SUMMARY

The contents and format of this SDS are in accordance with REGULATION (EC) No. 1907/2006, EU Commission Directive 1999/45/EC, 67/548/EEC.

Signed for and on behalf of
SGS-CSTC Ltd.

Allen Xie
Approved Signatory

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Safety Data Sheet

1907/2006/EC, 1272/2008/EC

Printing date 26.05.2010

Revision: 21.05.2010

1 Identification of the substance/preparation and of the company/undertaking

· **Product details**

· **Trade name:** Ni-Mh Battery

· **Registration number:** Not available

· **Application of the substance / the preparation:** Household & Industrial power

· **Manufacturer/Supplier:**

COMPANY NAME: BETTERPOWER BATTERY CO.,LTD

ADDRESS: No.11 AND 26 BLDG, DALANG TONGFU VILLAGE INDUSTRY ZONE, LONGHUA TOWN, BAOAN DNDISTRLET, SHENZHEN GUANGDONG.P.R CHINA

Tel: +86-755-28078690

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· **Further information obtainable from:** BETTERPOWER BATTERY CO.,LTD

· **Information in case of emergency:**

Liu Heping

Tel: +86-755-28078690

· **Email:** Bpi-qa01@163.com

· **Reference Number:** GZ12520895EC; GZ1005052388/CHEM.

2 Hazards identification

· **Hazard description:** A sealed Ni-Mh Battery is not hazardous in normal use on principle.

· **Information concerning particular hazards for human and environment:**

The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of 1272/2008/EC, EU Commission Directive 1999/45/EC, 67/548/EEC, and extended by company and literature data.

3 Composition/information on ingredients










· **Chemical characterization**

· **Description:**

The substance listed below with nonhazardous additions.

For the wording of listed risk phrases refer to section 16.

· **Dangerous components:**

| | | |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| CAS: 12054-48-7 EINECS: 235-008-5 EU number: 028-008-00-X | nickel dihydroxide Carc. Cat. 3;  Xn,  Xi,  N; R 20/22-40-43-50/53 | 33,0% |
| CAS: 1310-58-3 EINECS: 215-181-3 EU number: 019-002-00-8 | potassium hydroxide  C,  Xn; R 22-35 | 15,0% |
| CAS: 21041-93-0 EINECS: 244-166-4 | Cobaltous hydroxide  Xn,  Xi; R 20/21/22-36/37/38 | 7,0% |
| CAS: 7439-96-5 EINECS: 231-105-1 | manganese  Xn; R 48 | 0,135% |
| CAS: 7723-14-0 EINECS: 231-768-7 EU number: 015-002-00-7 | phosphorus  F; R 11-16-52/53 | 0,018% |

· **Non-dangerous components:**

| | | | |
|-------------------------------------|--------|------|----------|
| CAS: 7439-89-6 EINECS: 231-096-4 | iron | | 44,7615% |
| CAS: 7440-44-0 EINECS: 231-153-3 | carbon | R 10 | 0,054% |

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| | | |
|-------------------------------------|----------------------------------------------|---------|
| CAS: 7704-34-9 EINECS: 231-722-6 | sulphur, precipitated, sublimed or colloidal | 0,0225% |
| CAS: 7440-21-3 EINECS: 231-130-8 | silicon | 0,009% |

Remark:

Manganese(CAS No. :7439-96-5)

Synonym:Mn;

Phosphorus(CAS No. :7723-14-0)

Synonym:P;

Iron(CAS No. :7439-89-6)

Synonym:Fe;

Carbon(CAS No. :7440-44-0)

Synonym:C;

Silicone(CAS No. :7440-21-3)

Synonym:Si;

Sulphur,precipitated,sublimed or colloidal(CAS No. :7704-34-9)

Synonym:S.

4 First aid measures

General information:

In case of electrolyte solution spill (battery leakage) precautions must be taken to avoid any contact of human tissues.If it accidentally happens following must be done:

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.**After swallowing:**

Call for a doctor immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

5 Fire-fighting measures

· **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water

· **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

· **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Do not allow product to reach sewage system or any water source.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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· **Additional information:** See Section 7 for information on safe handling.

7 Handling and storage

- **Handling**
- **Information for safe handling:**
The sealed Ni-Mh battery when sleeved are safe in case of spilling.
Non-sleeved battery may generate short-circuits, causing release of alkaline electrolyte mist or liquid.
Electrolyte reacts with zinc, aluminium, tin and other active materials releasing flammable hydrogen gas.
- **Information about fire - and explosion protection:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Store away from foodstuffs.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Ingredients with limit values that require monitoring at the workplace:**

12054-48-7 nickel dihydroxide

| | |
|-----------|----------------------------------|
| REL (USA) | 0,015 mg/m ³ as Ni |
|-----------|----------------------------------|

1310-58-3 potassium hydroxide

| | |
|-----------|-----------------------------------------|
| REL (USA) | C2 mg/m ³ |
| TLV (USA) | Short-term value: C 2 mg/m ³ |

- **DNELs:** Not available
- **PNECs:** Not available
- **Additional information:** The lists valid during the making were used as basis.

- **Personal protective equipment**
- **General protective and hygienic measures:**
Under normal condition of use and handling no special protection is required for sealed Ni-Mh batteries.
- **Respiratory protection:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves:**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material:**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Not required.

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9 Physical and chemical properties

· General Information

| | |
|----------------|-------------|
| Form: | Solid |
| Colour: | Silver-grey |
| Odour: | Odourless |

· Change in condition

| | |
|-------------------------------------|---------------|
| Melting point/Melting range: | Not available |
| Boiling point/Boiling range: | Not available |

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not available

· **Ignition temperature:** Not available

· **Decomposition temperature:** Not available

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· Explosion limits:

| | |
|---------------|---------------|
| Lower: | Not available |
| Upper: | Not available |

· **Oxidizing properties** Not available

· **Vapour pressure:** Not available

· **Density:** Not available

· **Relative density** Not available

· **Vapour density** Not available

· **Evaporation rate** Not available

· **Solubility in / Miscibility with water:** Not available

· **pH-value:** Not available

· **Segregation coefficient (n-octanol/water):** Not available.

· Viscosity:

Dynamic: Not available.

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Materials to be avoided:**

· **Dangerous reactions:** No dangerous reactions known.

· **Dangerous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· Acute toxicity

· LD/LC50 values relevant for classification:

1310-58-3 potassium hydroxide

| | | |
|------|------|-----------------|
| Oral | LD50 | 273 mg/kg (rat) |
|------|------|-----------------|

7439-89-6 iron

| | | |
|------|------|----------------|
| Oral | LD50 | 30 mg/kg (rat) |
|------|------|----------------|

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7440-21-3 silicon

Oral LD50 3160 mg/kg (rat)

7439-96-5 manganese

Oral LD50 9000 mg/kg (rat)

- **Primary irritant effect**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Additional toxicological information:**
The product shows the following dangers if electrolyte leakage occurs according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Toxicokinetics, metabolism and distribution:** Not available
- **Acute effects (acute toxicity, irritation and corrosivity):** Not available
- **Repeated dose toxicity:** Not available

12 Ecological information

- **Information about elimination (persistence and degradability):** Not available
- **Behaviour in environmental systems**
- **Mobility and bioaccumulation potential:** Not available
- **Ecotoxicological effects**
- **Aquatic toxicity:** Not available
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Must not reach sewage water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **PBT assessments:** Not available

13 Disposal considerations

- **Product**
- **Recommendation:** Never incinerate Ni-Mh batteries.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Danger code (Kemler):** -
- **UN-Number:** -
- **Packaging group:** -
- **Hazard label:** -
- **Description of goods:** -
- **Limited quantities (LQ):** -

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- **Transport category:** -
- **Tunnel restriction code:** -

- **Maritime transport IMDG**
- **IMDG Class:** -
- **UN Number:** -
- **Label:** -
- **Packaging group:** -
- **EMS Number:** -
- **Marine pollutant:** Yes
- **Segregation groups:** -
- **Proper shipping name:** -

- **Air transport ICAO-TI and IATA-DGR**
- **ICAO/IATA Class:** -
- **UN/ID Number:** -
- **Label:** -
- **Packaging group:** -
- **Proper shipping name:** -

- **Environmental hazards:** Product contains environmentally hazardous substances: nickel dihydroxide

15 Regulatory information

- **Sara**

- **Section 335 (extremely hazardous substances):**

| | |
|-----------|------------|
| 7723-14-0 | phosphorus |
|-----------|------------|

- **Section 313 (specific toxic chemical listings):**

| | |
|------------|--------------------|
| 12054-48-7 | nickel dihydroxide |
|------------|--------------------|

| | |
|-----------|-----------|
| 7439-96-5 | manganese |
|-----------|-----------|

| | |
|-----------|------------|
| 7723-14-0 | phosphorus |
|-----------|------------|

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65**

- **Chemical known to cause cancer:**

| | |
|------------|--------------------|
| 12054-48-7 | nickel dihydroxide |
|------------|--------------------|

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenicity categories**

- **EPA (Environmental Protection Agency)**

| | | |
|-----------|-----------|---|
| 7439-96-5 | manganese | D |
|-----------|-----------|---|

| | | |
|-----------|------------|---|
| 7723-14-0 | phosphorus | D |
|-----------|------------|---|

- **IARC (International Agency for Research on Cancer)**

| | | |
|------------|--------------------|---|
| 12054-48-7 | nickel dihydroxide | I |
|------------|--------------------|---|

- **NTP (National Toxicology Program)**

| | | |
|------------|--------------------|---|
| 12054-48-7 | nickel dihydroxide | K |
|------------|--------------------|---|

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| | | |
|-------------------------------------------------------------------------------|--------------------|----|
| · TLV(Threshold Limit Value established by ACGIH) | | |
| 12054-48-7 | nickel dihydroxide | AI |
| · NIOSH-Ca(National Institution for Occupational Safety & Health) | | |
| 12054-48-7 | nickel dihydroxide | |
| · OSHA-Ca(Occupational Safety & Health Administration) | | |
| None of the ingredients is listed. | | |

· **Labelling according to EU guidelines:**

The substance is not subject to classification according to Directive 67/548, 1999/45/EC and 1272/2008/EC.

The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials

Observe the general safety regulations when handling chemicals.

16 Other information

· **Relevant R-phrases**

The product shows the following dangers classification :

11 Highly flammable.

16 Explosive when mixed with oxidising substances.

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

20/22 Harmful by inhalation and if swallowed.

22 Harmful if swallowed.

35 Causes severe burns.

36/37/38 Irritating to eyes, respiratory system and skin.

40 Limited evidence of a carcinogenic effect.

43 May cause sensitization by skin contact.

48 Danger of serious damage to health by prolonged exposure.

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The contents and format of this MSDS/SDS are in according with REGULATION(EC) No. 1907/2006, EU Commission Directive 1999/45/EC, 67/548/EEC.

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