Cameron Sino Technology Limited
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MATERIAL SAFETY DATA SHEET

Ref No: CSMSDS25

1. Manufacturer

Name of Company : Cameron Sino Technology Limited
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Representative : Mr. Longman CHEUNG
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2. Name of Product

CS-FBP190 Ni-MH rechargeable battery

3. Composition / information on ingredients

The ingredients are contained in a hermetically sealed case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, hazardous materials are fully contained inside the battery. The battery should not be opened or exposed to heat because exposure to the following ingredients contained within could be harmful under some circumstances. The following information is provided for the user's information only.

Chemical nature: Wt.% CAS No. EEC No. Index No. Classification
Nickel 55-70 7440-02-0 231-111-4 028-002-00-7 Carc. Cat. 3; R40, R43
Cobalt 5-10 7440-48-4 231-158-0 027-001-00-9 R; 42/43, R53
Potassium Hydroxide 1-5 1310-58-3 215-181-3 019-002-00-8 Xn; R22, C; R35
Sodium Hydroxide 1-5 1310-73-2 215-185-5 011-002-00-6 C; R35
Aluminum 1-5 7429-90-5 231-072-3 013-002-00-1 F; R15, R10

4. Physical Data for Battery

Melting point (℃): N/A Boiling point (℃): N/A %Volatile by Volume: N/A
Vapor Pressure (mm Hg): N/A Evaporation Rate (Butyl Acetate): N/A
Vapor Density (Air=1): N/A Specific Gravity (H2O=1): N/A Solubility in Water: N/A
Appearance and Odor: Cylindrical Shape, odorless

5. Possible hazards

Critical hazards to man: if battery is leaking, exposure to caustic ingredients may occur. Sensitization may occur upon skin contact.
Critical hazards to the environment: Not available
Other Information: Keep batteries away from small children.

6. First aid measures

General advice: These chemicals and metals are contained in a sealed can. For consumer use, adequate hazard warnings are included on both the package and on the battery.
Potential for exposure should not exist unless the battery leaks, is exposed to high temperature or is mechanically, physically, or electrically abused. Contains concentrated (~35%) potassium and sodium hydroxides, which are caustic.
Anticipated potential leakage of potassium and sodium hydroxides is 1~2 gms.
In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
If inhaled: Not anticipated. Respiratory (and eye) irritation may occur if fumes are released due to heat or an abundance of leaking batteries. Remove to fresh air. Contact

physician if irritation persists.
On skin contact: Not anticipated. Irritation, including caustic burns/injury, may occur. If battery is leaking, irrigate exposed skin with copious amounts of clear, tepid water for at least 15 minutes. If irritation, injury or pain persists, consult a physician.
On contact with eyes: Not anticipated. Irritation, including caustic burns/injury, may occur. If battery is leaking and material contacts eyes, flush with copious amounts of clear, tepid water for 30 minutes. Contact a physician at once.

On ingestion: Not anticipated due to size of batteries. Irritation, including caustic burns/injury may occur following exposure to a leaking battery. Rinse mouth and surrounding area with clear, tepid water for at least 15 minutes. Consult a physician immediately for treatment and to rule out involvement of the esophagus and other tissues.
Notes to Physician: 1) The acutely toxic ingredients are concentrated (35%) potassium and sodium hydroxides and nickel.
2) Chronic exposure to nickel has been reported to be carcinogenic and disposal processes resulting in nickel exposure may be hazardous.
3) Anticipated potential leakage of potassium and sodium hydroxides is 1-2 grams.
4) If the cell is abusively opened the electrodes may react with air and ignite.

7. Fire and Explosion Hazard Data

Flash Point: N/A Extinguishing Media: Any class of extinguishing
Lower Explosive Limit: N/A medium may be used on the batteries or their packing material
Upper Explosive Limit: N/A
Special Fire Fighting Procedures: Exposure to temperatures of above 212℉ can cause venting of the liquid electrolyte. Internal shorting could venting of the electrolyte. There is potential for exposure to iron, nickel, cobalt, rare earth metals (cerium, lanthanum, neodymiun, and praseodymium), manganese, and aluminum fumes during fire; use self-contained breathing apparatus.

8. Accidental release measures

Personal precautions: Irritating vapours may be released from leaking or ruptured batteries. Avoid eye or skin contact and inhalation of vapours. Increase ventilation.
Clean-up personnel should wear appropriate protective gear.
Environmental precautions: Notify safety personnel of large spills.
Methods for cleaning up: Contain for disposal.

9. 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℃ and 35℃ for prolong storage.

10. Exposure controls and personal protection

Personal protective equipment
Respiratory equipment: None required under normal consumer use conditions.
Hand protection: None required under normal use conditions. Use neoprene, rubber or nitrile gloves when handling leaking batteries.
Eye protection: None under normal use conditions. Wear safety glasses when handling leaking batteries.
Gerneral safety and hygiene measures: Use only as directed.

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11. Stability and reactivity

Thermal decomposition: Batteries may burst and release hazardous decomposition products when exposed to a fire situation.
Substance(s) to avoid: Strong oxidizers
Hazardous reactions: Contents incompatible with strong oxidizing agents.
Hazardous decompositions products: Thermal degradation may produce hazardous metal fumes; hydrogen gas; caustic vapours of potassium and sodium hydroxides and other toxic by-products.

12. Toxicological information

Toxicity information is available on the battery ingredients noted in Section 2, but, generally not applicable to intact batteries as used by customers.
Chronic Health Effects: Not applicable to intact batteries.

13. Ecological information

See item 2 & 3.

14. Disposal considerations

Dispose of batteries according to government regulations.

15. Transportation information

These batteries are considered to be 'Ni-MH' 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 A199 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.

16. Regulatory information

Special requirement be according to the local regulatories.

The information contained in the Material Safety Data Sheet is based on data considered to be accurate, however, no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof.