



MATERIAL SAFETY DATA SHEET
BATTERIES WET, FILLED WITH ALKALI, ELECTRIC STORAGE

MSDS Safety Information

Product ID: BATT, WET, FILLED WITH ALKALI, 8, UN2795, PGIII
(NICKEL CADMIUM BATTERY)

Responsible Party

Name: HBL POWER SYSTEMS LTD / **Storage Battery Systems, Inc.**

Address: N56 W16665 Ridgewood Drive

Menomonee Falls, WI TEL: (262) 703-5800 FAX (262) 703-3073

Emergency Phone Number: (262) 703-5800

Review Ind: Y

Published: Y

Contractor Summary

Name: HBLNIFE POWER SYSTEMS LTD

8-2-601, ROAD No.10, BANJARA HILLS,

HYDERABAD, INDIA TEL: + 91 – 40 –27795434 FAX: + 91 – 40 – 27795419

Item Description Information

Item Name: BATTERY, STORAGE

Specification Number: UNKNOWN

Unit of Issue: SET

UI Container Qty: 1

Type of Container: POLYPROPYLENE

Ingredients

Name: CADMIUM (SARA 313) (CERCLA) PLUS INGRED #2 % Wt: 6

Other REC Limits: NONE RECOMMENDED

OSHA PEL: 0.2 MG/M3 DUST; Z-2

ACGIH TLV: 0.01 MG/M3 DUST;9596

EPA Rpt Qty: 10 LBS

DOT Rpt Qty: 10 LBS

Name: CADMIUM HYDROXIDE PLUS INGRED #1 % Wt: SEE #1

Other REC Limits: NONE RECOMMENDED

OSHA PEL: 0.05 MG CD/M3

ACGIH TLV: 0.05 MG CD/M3

Name: NICKEL (SARA 313) (CERCLA) PLUS INGRED #4 % Wt: 9

Other REC Limits: NONE RECOMMENDED

OSHA PEL: 1 MG/M3

ACGIH TLV: 1 MG/M3; 9596

Name: NICKEL HYDROXIDE (SARA 313) (CERCLA) PLUS INGRED #3 % Wt: SEE #3

Other REC Limits: NONE RECOMMENDED

OSHA PEL: 1 MG(NI)/M3

ACGIH TLV: 0.1 MG(NI)/M3; 9596

EPA Rpt Qty: 10 LBS

DOT Rpt Qty: 10 LBS

Name: POTASSIUM HYDROXIDE (CERCLA); KOH; CAUSTIC POTASH % Wt: 10

Other REC Limits: NONE RECOMMENDED

OSHA PEL: C 2 MG/M3

ACGIH TLV: C 2 MG/M3; 9596

EPA Rpt Qty: 1000 LBS

DOT Rpt Qty: 1000 LBS

Name: LITHIUM HYDROXIDE; LIOH; LITHIA % Wt: 0.5

Other REC Limits: NONE RECOMMENDED

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: NOT ESTABLISHED

Health Hazards Data



LD50 LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.

Route Of Entry Inds - Inhalation: YES

Skin: YES

Ingestion: YES

Carcinogenicity Inds - NTP: YES

IARC: YES

OSHA: YES

Effects of Exposure: ACUTE EXPO: KOH-BURNS TO TISSUE CONTACTED; NICKEL-POSSIBLE CONTACT DERMATITIS.CHRONIC EXPO: CADMIUM-POSSIBLE LUNG OR KIDNEY DAMAGE.NICKEL-POSSIBLE LUNG DAMAGE.

Explanation Of Carcinogenicity: PER MSDS: CARCINOGENICITY-D, NI.NTP/IARC/

OSHA: YES.

Signs And Symptoms Of Overexposure: BURNS TO TISSUE CONTACTED, CONTACT DERMATITIS, LUNG/KIDNEY DAMAGE.

Medical Cond Aggravated By Exposure: INDIVIDUALS W/PRE-EXISTING DISEASE OF LUNGS MAY HAVE INCREASED SUSCEPTIBILITY TO TOXICITY OF EXCESSIVE EXPOSURES.

First Aid: IF KOH ELECTROLYTE SPILLED IMMEDIATELY FLUSH EYE/SKIN FOR @LEAST 15MINS WHILE REMOVING CONTAM CLOTH/SHOES.MILD ACID MAY BE USED TO NEUTRALIZE KOH ON SKIN.IN ALL CASES CONTACT PHYSICIAN.IF SWALLOWED DO NOT INDUCE VOMITING.DRINK LARGE QUANTITIES OF WATER OR FRUIT JUICE.CONTACT PHYSICIAN.

Handling and Disposal

Spill Release Procedures: IF KOH ELECTROLYTE SPILLED COMPLY W/LOCAL, STATE AND FEDERAL REGULATIONS ON REPORTING RELEASES, CONTAINING SPILLS/REMEDICATION.CONTAIN SPILL TO SMALLEST POSSIBLE AREA AND ABSORB AS APPROPRIATE.

Neutralizing Agent: WEAK ACID SOLUTIONS.

Waste Disposal Methods: COMPLY W/LOCAL, STATE AND FEDERAL REGULATIONS.IF APPROVED NEUTRALIZE W/WEAK ACID SOLUTIONS AND TRANSFER TO WASTE TREATMENT SYSTEM.

Handling And Storage Precautions: AVOID ROUGH HANDLING.DO NOT STORE ABOVE 140F.ALWAYS HAVE WATER SAFETY SHOWERS/EYEWASH FOUNTAINS AVAILABLE.

Other Precautions: NO SMOKING REGULATIONS MUST BE ENFORCED DUE TO HYDROGEN GENERATION DURING BATTERY CHARGING.

Fire and Explosion Hazard Information

Flash Point Text: NA

Lower Limits: NA

Upper Limits: NA

Extinguishing Media: SUITABLE FOR SURROUNDING MATERIAL.

Fire Fighting Procedures: WEAR FULL PROTECTIVE CLOTHING.USE NIOSH/MSHA-APPROVED POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS.

Unusual Fire/Explosion Hazard: TOXIC CADMIUM OXIDE FUMES MAY BE RELEASED DURING BURNING.POTASSIUM HYDROXIDE REACTS VIOLENTLY W/ORG CHEMS, ESPECIALLY NITROCARBONS

AND CHLOROCARBONS,METALS (ZN,AL,SN)

Control Measures

Respiratory Protection: IF INCINERATED NIOSH/MSHA APPROVED POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS.

Ventilation: LOCAL EXHAUST-YES-DISCHARGE OUT OF WORK AREA.

Protective Gloves: RUBBER ACID-PROOF GAUNTLET GLOVES

Eye Protection: CHEM SPLASH GOGGLES,FULL-LENGTH FACE SHIELD

Other Protective Equipment: RUBBER OR PLASTIC APRON AND BOOTS; LONG SLEEVE WOOL, ACRYLIC OR POLYESTER CLOTHING; ACID-PROOF SUIT AND HOOD.

Work Hygienic Practices: ALWAYS USE EXTREME CARE; WASH THOROUGHLY AFTER HANDLING.

Physical/Chemical Properties

HCC: B1

B.P. Text: NA

M.P./F.P Text: NA



Vapor Pres: NA
Vapor Density: NA
Spec Gravity: NA
Evaporation Rate ANDamp; Reference: NA
Solubility in Water: NA
Appearance and Odor: RECTANGULAR PLASTIC CONTAINER ENCLOSING NICKEL AND CADMIUM ELECTORDES AND KOH ELECTROLYTE

Reactivity Data

Stability Indicator: YES
Stability Condition To Avoid: NONE SPECIFIED BY MANUFACTURER.
Materials To Avoid: DONT ALLOW KOH TO CONTACT ORGANIC CHEMS, ACIDS OR METALS SUCH AS ZINC, ALUMINUM, TIN.EXPO TO AIR FORMS POTASSIUM CARBONATE.
Hazardous Decomposition Products: TOXIC CADMIUM OXIDE FUMES MAY BE RELEASED IF INCINERATED.FLAMM HYDROGEN GAS PRODUCED DURING CHARGING.
Hazardous Polymerization Indicator: NO

Toxicological Information

Ecological Information

MSDS Transport Information

Regulatory Information

Other Information

Transportation Information

Product ID: BATT, WET, FILL W/ALKALI, 8, UN2795, PGIII (NICKEL CADMIUM BATTERY)

MSDS Prepared Date: 01/31/1995

Review Date: 09/01/2002

MFN: 1

Net Unit Weight: UNKNOWN

Multiple KIT Number: 0

Review IND: Y

Unit Of Issue: EA

Container QTY: 1

Type Of Container: BATTERY

Additional Data: PER MSDS:

BATTERY, WET, FILLED W/ALKALI, 8, UN 2795, PKG III.

Detail DOT Information

DOT Proper Shipping Name: BATTERIES, WET, FILLED WITH ALKALI

DOT PSN Modifier: ELECTRIC STORAGE

Hazard Class: 8

UN ID Num: UN2795

DOT Packaging Group: III

Label: CORROSIVE

Non Bulk Pack: 159

Bulk Pack: 159

Max Qty Pass: 30 KG GRO

Max Qty Cargo: NO LIMIT

Vessel Stow Req: A

Detail IMO Information

IMO PSN Code: BWF

IMO Proper Shipping Name: BATTERIES, WET, FILLED WITH ALKALI

IMO PSN Modifier: ELECTRIC STORAGE

IMDG Page Number: 8120

UN Number: 2795

UN Hazard Class: 8

IMO Packaging Group: III

Subsidiary Risk Label: -

EMS Number: 8-10

MED First Aid Guide NUM: 705

Detail IATA Information

IATA PSN Code: CZR

IATA UN ID Num: 2795

IATA Proper Shipping Name: BATTERIES, WET, FILLED WITH ALKALI,



IATA PSN Modifier: ELECTRIC STORAGE +
IATA UN Class: 8
IATA Label: CORROSIVE
UN Packing Group: III
Packing Note Passenger: 800
Max Quant Pass: NO LIMIT
Max Quant Cargo: NO LIMIT
Packaging Note Cargo: 800
Exceptions: A51

Detail AFI Information

AFI PSN Code: CZR
AFI Proper Shipping Name: BATTERIES, WET, FILLED WITH ALKALI
AFI PSN Modifier: ,ELECTRIC STORAGE
AFI Hazard Class: 8
AFI UN ID NUM: UN2795
AFI Packing Group: III
Special Provisions: P5
Back Pack Reference: A12.5

HAZCOM Label

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Name: HBLNIFE POWER SYSTEMS LTD
Address: 8-2-601, ROAD No.10, BANJARA HILLS,
HYDERABAD, INDIA TEL : + 91 – 40 –27795434 FAX : + 91 – 40 – 27795419
Emergency Phone Number: +91-98480 12583
Label Required IND: Y
Date Of Label Review: 05/28/1998
Status Code: C
Label Date: 05/28/1998
Origination Code: F
Chronic Hazard IND: Y
Eye Protection IND: YES
Skin Protection IND: YES
Signal Word: CAUTION
Respiratory Protection IND: YES
Health Hazard: Slight
Contact Hazard: Slight
Fire Hazard: Slight
Reactivity Hazard: None

Hazard And Precautions: ACUTE EXPO: KOH-BURNS TO TISSUE CONTACTED; NICKEL-POSSIBLE CONTACT DERMATITIS.CHRONIC EXPO:CADMIUM-POSSIBLE LUNG OR KIDNEY DAMAGE.NICKEL-POSSIBLE LUNG DAMAGE. AVOID ROUGH HNDLG.DO NOT STORE ABOVE 140F.A LWAYS HAVE WATER SAFETY SHOWERS / EYEWASH FOUNTAINS AVAILABLE. FIRST AID: IF KOH ELECTROLYTE SPILLED IMMED FLUSH EYE/SKIN FOR @LEAST 15MINS WHILE REMOVING CONTAM CLOTH/SHOES.MILD ACID MAY BE USED TO NEUT RALIZE KOH ON SKIN.IN ALL CASES CONTACT PHYSICIAN.IF SWALLOWED DO NOT INDUCE VOMITING.DRINK LARGE QUANTITIES OF WATER OR FRUIT JUICE.CONTACT PHYSICIAN.TARGET ORGANS: TISSUE, LUNGs, KIDNEY.