SAFT AMERICA INC PORTABLE BATTERY DIVISION -- NICKEL CADMIUM SEALED CELL BATTERY -- 6140-00-225-2284

========== Product Identification ==========

Product ID:NICKEL CADMIUM SEALED CELL BATTERY
MSDS Date:06/12/1998
FSC:6140
NIIN:00-225-2284
Status Code:A
MSDS Number: CKPQG
=== Responsible Party ===
Company Name:SAFT AMERICA INC PORTABLE BATTERY DIVISION
Address:711 INDUSTRIAL BLVD
Box:1886
City:VALDOSTA
Stat
e:GA
ZIP:31601
Country:US
Info Phone Num:912-247-2331
Emergency Phone Num:912-245-2809
Chemtrec Ind/Phone:(800)424-9300
CAGE:67237
=== Contractor Identification ===
Company Name:SAFT AMERICA INC PORTABLE BATTERY DIVISION
Address:711 INDUSTRIAL BLVD
Box:1886
City:VALDOSTA
State:GA
ZIP:31601
Country:US
Phone:912-247-2331
CAGE:67237

========== Composition/Information on Ingredients ==========

Ingred Name:CADMIUM (AS CADMIUM: CAS# 7440-43-9, CADMIUM HYROXIDE: CAS# 21041-95-2, AND CADMI

UM OXIDE: CAS# 1306-19-0)
CAS:7440-43-9
RTECS #:EU9800000
= Wt:17.
OSHA PEL:SEE 1910.1027
EPA Rpt Qty:10 LBS
DOT Rpt Qty:10 LBS

Ingred Name:NICKEL (AS NICKEL: CAS# 7440-02-0, NICKEL HYDROXIDE: CAS# 12054-48-7, AND NICKEL OXIDE: CAS# 1313-99-1)
CAS:7440-02-0
RTECS #:QR5950000
= Wt:19.
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3

Ingred Name:ELECTROLYTE SOLUTION (18-28% POTASSIUM HYDROXIDE)
CAS:1310-58-3
RTECS #:TT2100000
= Wt:8.
ACGIH STEL:C2 MG/M3

Ingred Name:STEEL
= Wt:9.

Ingred Name:COBALT HYDRO
XIDE (AS COBALT METAL)
CAS:7440-48-4
RTECS #:GF8750000
= Wt:1.
OSHA PEL:0.1 MG/M3
ACGIH TLV:0.02 MG/M3

========== Hazards Identification ==========

Reports of Carcinogenicity:NTP:UNKNOWN IARC:UNKNOWN OSHA:YES
Health Hazards Acute and Chronic:EYES: CONTACT WITH ELECTROLYTE CAUSES VERY RAPID, SEVERE DAMAGE. EXTREMELY CORROSIVE. MAY RESULT IN PERMANENT BLINDNESS. CONTACT WITH NICKEL OXIDE MAY CAUSE IRRITATION. SKIN:CONTACT WITH ELECTROLYTE MAY CAUSE SERIOU

S BURNS
TO SKIN TISSUE. CONTACT WITH NICKEL COMPOUNDS MAY CAUSE SKIN SENSITIZATION, RESULTING IN CHRONIC ECZEMA OR NICKEL ITCH. INGESTION: INGESTION OF ELECTROLYTE SOLUTION CAUSES TIS SUE DAMAGE TO THROAT AREA AND GASTRO/RESPIRATORY TRACT. INGESTION OF CADMIUM AND/OR NICKEL COMPOUNDS CAUSES NAUSEA AND INTESTINAL DISORDERS. INHALATION: MIST MAY CAUSE VARYING DEGREES OF IRRITATION TO THE NASAL MUCOUS MEMBRANES.
Explanation of Carcinogenicity:NIOSH RECOMMENDS THAT NICKE
L AND CADMIUM
BE TREATED AS OCCUPATIONAL CARCINOGENS.
Effects of Overexposure:EYES: MAY RESULT IN PERMANENT BLINDNESS. SKIN: BURNS TO SKIN TISSUES. MAY CAUSE NICKEL ITCH. INGESTION: CAUSES NAUSEA AND INTESTINAL DISORDERS. INHALATION: MAY CAUSE DRY THROAT, COUGH, HEADACHE, VO MITING, CHEST PAIN, CHILLS, EXCESSIVE OVEREXPOSURE MAY RESULT IN PULMONARY EDEMA, BREATHING DIFFICULTY, AND PROSTRATION.

========== First Aid Measures ==========

First
Aid:BATTERY ELECTROLYTE: EYE: FLUSH WITH PLENTY OF WATER FOR AT LEAST 20 MINUTES. GET IMMEDIATE MEDICAL ATTENTION. SKIN: REMOVE CONTAMINATED CLOTHING AND FLUSH AFFECTED AREA WITH PLENTY OF WATER FOR AT LE AST 20 MINUTES. INGESTION: DO NOT INDUCE VOMITING. DILUTE BY GIVING LARGE VOLUMES OF WATER OR MILK. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. INHALATION : REMOVE TO FRESH AIR. GIVE OXYGEN OR ARTIFICAL RESPIRATION IF NE
EDED. GET IMMEDIATE MEDICAL ATTENTION. NICKEL
OXIDE: SKIN CONTACT: WASH WITH COLD WATER AND SOAP.

========== Fire Fighting Measures ==========

Extinguishing Media:CO2, SAND
Fire Fighting Procedures:USE SELF-CONTAINED BREATHING APPARATUS TO AVOID BREATHING TOXIC FUMES. WEAR PROTECTIVE CLOTHING AND EQUIPMENT TO PREVENT POTENTIAL BODY CONTACT WITH ELECTROLYTE SOLUTION OR MIXTURE OF WATER AND ELECTR OLYTE SOLUTION.
Unusual Fire/Explosion Hazard:ELECTROLYTE S

OLUTION IS CORROSIVE TO ALL
HUMAN TISSUES AND WILL REACT VIOLENTLY WITH MAY ORGANIC CHEMICALS, ESPECIALLY NITROCARBONS AND CHLOROCARBONS. ELECTROLYTE SOLUTION REACTS WITH ZINC, ALUMINUM, TIN, AND OTHER ACTIVE MATERIALS RELEASING FLAMMABLE HYDROGEN GAS. CADMIUM FUMES MAY BE RELEASED AT HIGH TEMPERATURES.

========== Accidental Release Measures ==========

Spill Release Procedures:FLUSH WITH WATER AND NEUTRALIZE WITH DILUTE CITRIC ACID.
Neutralizing Agent
:NEUTRALIZE WITH DILUTE CITRIC ACID.

========== Handling and Storage ==========

Handling and Storage Precautions:THESE CELLS AND THE BATTERIES CONSTRUCTED FROM THEM MAY BE HIGHLY CHARGED AND ARE CAPABLE OF HIGH ENERGY DISCHARGE. CARE SHOULD BE TAKEN TO HANDLE CELLS PROPERLY TO AVOID SHORTING OR MISUSE THAT WILL RESULT IN A RAPID, CHEMICAL, OR HEAT ENERGY RELEASE.
Other Precautions:DO NOT SHORT CIRCUIT-MAY CAUSE BURNS. DI NOT BREAK OPEN CELL. DO NOT
ALLOW AN EXPOSED FLAME OR SPARK TO COME NEAR THE CELLS.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:USE SELF-CONTAINED BREATHING APPARATUS (SCBA) IF CELL IS BROKEN OPEN DURING A FIRE TO MAINTAIN EXPOSURE LEVELS BELOW THE PEL FOR CADMIUM AND NICKEL COMPOUNDS.
Protective Gloves:USE ANY WATER-INSOLUBLE, NON-PERMEABLE GLOVES, I.E. SYNTHETIC RUBBER
Eye Protection:USE SPLASH GOGGLES OR FACE SHIELD IF CELL ACTIVATES DUE TO ABUSE.
Othe
r Protective Equipment:RUBBER APRON OR EQUIVALENT IF EXPOSURE TO ELECTROLYTE SOLUTION IS LIKELY.
Supplemental Safety and Health

========== Physical/Chemical Properties ==========

HCC:Z5
Spec Gravity:1.170-1.250(ELECTROLYTE)
Evaporation Rate & Reference:NOT DETERMINED
Solubility in Water:ELECTROLYTE-SOLUBLE

========== Stability and Reactivity Data ==========

ALUMINUM. ZINC, TIN AND OTHER ACTIVE METALS, ACIDS,CHLORINATED AND AROMATIC HYDROCARBONS,

NITROCARBONS, HALOCARBONS. TRICHLOROETHYLENE
WILL PRODUCE COMBUSTIBLE PRODUCT WITH ELECTROLYTE SOLUTION.
Hazardous Decomposition Products:NICKEL OXIDE, CADMIUM, CADMIUM OXIDE,
AND POTASSIUM HYDROXIDE.

========== Disposal Considerations ==========

Waste Disposal Methods:THE STORAGE BATTERY IS A UNIVERSAL WASTE UNDER
RCRA. IT MAY BE RETURNED TO SAFT FOR RECYCLING. BATTERY IS TCLP
TOXIC. BATTERY AND ELECTROLYTE SOLUTION ARE CORROSIVE. IF NOT
RECYCLED, MU
ST BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL,
STATE AND LOCAL REGULATIONS.

========== Other Information ==========