

SAFT AMERICA INC TRANSPORTATION DIV -- NICKEL CADMIUM SEALED CELL BATTERY --  
6140-00-738-5914

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

Product ID:NICKEL CADMIUM SEALED CELL BATTERY

MSDS Date:02/21/2000

FSC:6140

NIIN:00-738-5914

Status Code:A

MSDS Number: CKLRQ

=== Responsible Party ===

Company Name:SAFT AMERICA INC TRANSPORTATION DIV

Address:711 INDUSTRIAL BLVD

Box:1886

City:VALDOSTA

State:GA

ZIP:316

01-1886

Country:US

Info Phone Num:912-245-2824

Emergency Phone Num:912-247-2331

Chemtrec Ind/Phone:(800)424-9300

CAGE:09052

=== Contractor Identification ===

Company Name:BATTERY MARKETING ASSN. (AKA: SUNN BATTERY CO.)

Address:1316 W ADAMS

Box:City:JACKSONVILLE

State:FL

ZIP:32204

Country:US

Phone:800-226-4508/ 904-354-4508

Contract Num:SP0430-00-M-KB78

CAGE:1LWY3

Company Name:SAFT AMERICA INC.

Address:711 INDUSTRIAL BLVD

Box:1886

City:VALDOSTA

State:GA

ZIP:31602

Country:US

Phone:912-247-2331

CAG

E:09052

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Composition/Information on Ingredients  
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Ingred Name:CADMIUM (AS CADMIUM, CADMIUM HYDROXIDE AND CADMIUM OXIDE)

CAS:7440-43-9

RTECS #:EU9800000

= Wt:17.

OSHA PEL:.005 MG/M3 DUST

EPA Rpt Qty:10 LBS

DOT Rpt Qty:10 LBS

Ingred Name:CADMIUM HYDROXIDE

CAS:21041-95-2

RTECS #:EV1260000

Fraction by Wt: SEE #1%

ACGIH TLV:C .05 MG/M3 FUME

Ingred Name:CADMIUM OXIDE

CAS:1306-19-0

RTECS #:EV1925000

Fraction by Wt: SEE #1%

OSHA PEL:.005 MG/M3

Ingred Name:NICKEL (AS NICKEL, NICKEL HYDROXIDE AND NICKEL OXIDE)

CAS:7440-02-0

RTECS #:QR5950000

= Wt:19.

OSHA PEL:1 MG/M3

ACGIH TLV:1 MG/M3

Ingred Name:NICKEL HYDROXIDE

CAS:12054-48-7

RTECS #:QR7040000

Fraction by Wt: SEE #4%

OSHA PEL:1 MG/M3

ACGIH TLV:1 MG/M3

EPA Rpt Qty:10 LBS

DOT Rpt Qty:10 LBS

Ingred Name:NICKEL OXIDE

CAS:1313-99-1

RTECS #:QR8400000

Fraction by Wt: SEE #4%

Ingred Name:POTASSIUM HYDROXIDE, 18-28% SOLUTION

CAS:1310-58-3

RTECS #:TT2100000

= Wt:8.

ACGIH STEL:C 2 MG/M3

EPA Rpt Qty:1000 LBS

DOT Rpt Qty:1

000 LBS

Ingred Name:STEEL  
= Wt:9.

Ingred Name:COBALT (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 =====

Health Hazards Acute and Chronic:EYE: CONTACT WITH ELECTROLYTE SOLUTION INSIDE BATTERY CAUSES VERY RAPID, SEVERE DAMAGE. EXTREMELY CORROSIVE TO EYE TISSUES. MAY RESULT IN PERMANENT BLINDNESS. CONTACT WITH NICKEL OXIDE MAY CAUSE MINOR IRRITATION. SKIN: CONTACT WITH ELECTROLYTE SOLUTION INSIDE BATTERY MAY CAUSE SERIOUS BURNS TO SKIN TISSUES. CONTACT WITH NICKEL COMPOUNDS MAY CAUSE SKIN SENSITIZATION, RESULTING IN CHRONIC ECZEMA OR NICKEL ITCH. INGESTION: INGESTION OF ELECTROLYTE SOLUTION CAUSES TISSUE DAMAGE TO THROAT & GASTRO/RESPIRATORY TRACT. INGESTION OF CADMIUM &/OR NICKEL COMPOUNDS CAUSES NAUSEA & INTESTINAL DISORDERS. IN HALATION: NO EXPOSURE POSSIBLE EXCEPT IN

Explanation of Carcinogenicity:NIOSH RECOMMENDS THAT NICKEL AND CADMIUM BE TREATED AS OCCUPATIONAL CARCINOGENS.

Effects of Overexposure:EYE: CONTACT WITH ELECTROLYTE SOLUTION INSIDE BATTERY CAUSES VERY RAPID, SEVERE DAMAGE. EXTREMELY CORROSIVE TO EYE TISSUES. MAY RESULT IN PERMANENT BLINDNESS. CONTACT WITH NICKEL OXIDE MAY CAUSE MINOR IRRITATION. SKIN: CONTACT WITH ELECTROLYTE SOLUTION INSIDE BATTERY MAY CAUSE SERIOUS BURNS TO SKIN TISSUES. CONTACT WITH NICKEL COMPOUNDS MAY CAUSE SKIN SENSITIZATION, RESULTING IN CHRONIC ECZEMA OR NICKEL ITCH. INGESTION: INGESTION OF ELECTROLYTE SOLUTION CAUSES TISSUE DAMAGE TO THROAT & GASTRO/RESPIRATORY TRACT. INGESTION OF CADMIUM &/OR NICKEL COMPOUNDS CAUSES NAUSEA & INTESTINAL DISORDERS. IN HALATION: NO EXPOSURE POSSIBLE EXCEPT IN

===== 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 A

ND FLUSH AFFECTED AREAS 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 ARTIFICIAL RESPIRATION IF NEEDED. GET IMMEDIATE MEDICAL ATTENTION. NICKEL OXIDE-SKIN: WASH WITH COLD WATER AND SOAP.

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===== Fire Fighting Measures =====  
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Extinguishing Media:CO2 AND 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 ELEXTR OLYTE SOLUTION.

Unusual Fire/Explosion Hazard:ELECTROLYTE SOLUTION IS CORROSIVE TO ALL HUMAN TISSUES & WILL REACT VIOLENTLY WITH MANY ORGANIC CHEMICALS, ESPECIALLY NITROCARBONS & CHLOROCARBONS. ELECTROLYTE SOLUTION REACTS WITH ZINC, ALUMINUM, TIN & OTHER ACTIVE MATERIALS RELEASING FLAMMABLE HYDROGEN GAS. CADMIUM FUMES MAY BE RELEASED WHEN IN FIRE.

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===== Accidental Release Measures =====  
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Spill Release Procedures:ELECTROLYE SOLUTION SPILLS: FLUSH WITH WATER AND NEUTRALIZE WITH DILUTE CITRIC ACID.

Neutralizing Agent:NEUTRALIZE WITH DILUTE CITRIC ACID.

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===== Handling and Storage =====  
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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 CELL PROPERLY TO AVOID SHORTING OR MISUSE THAT WILL RESULT IN A RAPID, UNCONTROLLED ELECTRICAL, CHEMICAL, OR HEAT ENERGY RELEASE.

Other Precautions:DO NOT SHORT CIRCUIT-MAY CAUSE BURNS. DO NOT BREAK OPEN CELL. DO NOT ALLOW AN EXPOSED FLAME OR SPARK TO COME NEAR THE CELLS.

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===== Exposure Controls/Personal Protection =====  
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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 PVC WHEN HANDLING ELECTROLYTE

Eye Protection:USE SPLASH GOGGLES OR FACE SHIELD IF CELL ACTIVATES DUE TO ABUSE.

Other Protective Equipment:RUBBER APRON OR EQUIVALENT IF EXPOSURE TO ELECTROLYTE SOLUTION IS LIKELY. DO NOT USE LEATHER OR WOOL GLOVES.

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 SOLUTION IS

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

ALUMINUM, ZINC, TIN AND OTHER ACTIVE METALS, ACID, CHLORINATED AND AROMATIC HYDROCARBONS, NITROCARBONS, HALOCARBONS. TRICHOLORETHYLENE WILL REACT WITH ELECTROLYTE SOLUTION TO FORM DICHLOROACETYLENE WHICH IS SPON

TANEOUSLY CO

Stability Condition to Avoid:CAUTION: NEVER ACTIVATE OR TOP OFF WITH ACID.

Hazardous Decomposition Products:NICKEL OXIDE, CADMIUM, CADMIUM OXIDE, AND POTASSIUM HYDROXIDE.

Conditions to Avoid Polymerization:WILL NOT OCCUR.

===== 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 ELECTOLYTE SOLUTION ARE CO

RROSIVE. IF NOT

RECYCLED, MUST BE DISPOSED O F IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

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