

SAFT AMERICA INC, POWER SOURCES DIV -- NICKEL CADMIUM AIRCRAFT BATTERY --
6140-00-881-6887

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

Product ID:NICKEL CADMIUM AIRCRAFT BATTERY

MSDS Date:06/04/1998

FSC:6140

NIIN:00-881-6887

MSDS Number: CJVNL

=== Responsible Party ===

Company Name:SAFT AMERICA INC, POWER SOURCES DIV

Address:711 INDUSTRIAL BLVD

Box:1886

City:VALDOSTA

State:GA

ZIP:31603

Country:US

Info Pho

ne Num:912-247-2331

Emergency Phone Num:(800)424-9300

Chemtre Ind/Phone:(800)424-9300

CAGE:09052

=== Contractor Identification ===

Company Name:SAFT AMERICA INC.

Address:711 INDUSTRIAL BLVD

Box:1886

City:VALDOSTA

State:GA

ZIP:31602

Country:US

Phone:912-247-2331

Contract Num:SP0430-00-C-5013

CAGE:09052

Company Name:SAFT AMERICA INC.

Address:711 INDUSTRIAL BLVD

Box:1886

City:VALDOSTA

State:GA

ZIP:31602

Country:US

Phone:912-247-2331

Contract Num:SP0430-00-C-5658

CAGE:09052

Company Name:SAFT AMERIC

A INC.
Address:711 INDUSTRIAL BLVD
Box:1886
City:VALDOSTA
State:GA
ZIP:31602
Country:US
Phone:912-247-2331
Contract Num:SP0430-00-M-KC75
CAGE:09052

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Composition/Information on Ingredients
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Ingred Name:CADMIUM (AS CADMIUM (CAS# 7440-43-9), CADMIUM HYDROXIDE (CAS# 21041-95-2), & CADMIUM OXIDE (CAS# 1306-19-0))

CAS:7440-43-9

= Wt:8.

OSHA PEL:see 1910.1027

Ingred Name:NICKEL (AS NICKEL (CAS# 7440-02-0), NICKEL HYDORXIDE (CAS# 1205-48-7), & NICKEL OXIDE (CAS# 13

13-99-1))

CAS:7440-02-0

= Wt:36.

OSHA PEL:1 MG/M3

ACGIH TLV:1 MG/M3

Ingred Name:ELECTROLYTE SOLUTION (30% POTASSIUM HYDROXIDE)

CAS:1310-58-3

= Wt:19.

ACGIH STEL:C2 MG/M3

Ingred Name:COPPER

CAS:7440-50-8

RTECS #:GL5325000

= Wt:9.

OSHA PEL:1 MG/M3

ACGIH TLV:1 MG/M3

EPA Rpt Qty:5000 LBS

DOT Rpt Qty:5000 LBS

Ingred Name:NYLON II CONTAINER

= Wt:15.

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Hazards Identification
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LD50 LC50 Mixture:NOT SPECIFIED BY MANUFACTURER

Reports of Carcinogenicity:NTP:Y

ES IARC:YES OSHA:YES

Health Hazards Acute and Chronic:EYES: ELECTROLYTE SOL'N IN BATTERY CAUSES VERY RAPID/SEVERE DAMAGE. EXTREMELY CORROSIVE TO EYES- POSSIBLE PERMANENT BLINDNESS. NICKEL OXIDE MAY CAUSE MINOR IRRITATION. SKIN: SOL'N INSIDE BATTERY MAY CAUSE SERIOUS BURNS TO SKIN. CONTACT WITH NICKEL COMPDS MAY CAUSE SKIN SENSITIZATION, RESULTING IN CHRONIC ECZEMA OR NICKEL ITCH. INGESTION: SOL'N IN BATTERY CAUSES TISSUE DAMAGE TO THROAT AREA & GASTRO/RESPIRATORY

TRACT. INGESTION OF NICKEL COMPOUND CAUSES INTESTINAL DISORDERS. INHALATION: CHARGING PROCEDURES MAY CAUSE KOH MIST GENERATION CAUSING IRRITATION. CHRONIC: CADMIUM COMPDS MAY CAUSE PULMONARY EDEMA, PROSTRATION, KIDNEY DAMAGE.

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

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

First Aid:BATTERY ELECTROLYTE-EYE CONTACT:FLUSH WITH PLENTY OF WATER

FOR AT LEAST 20 MINUTES. GET IMMEDIATE MEDICAL ATTENTION. SKIN CONTACT:REMOVE CONTAMINATED CLOTHING AND FLUSH AFFECTED AREAS WITH PLENTY OF WATER FOR AT LEAST 20 MINUTES. INGESTION:DO NOT INDUCE VOMITING. DILUTE BY GIVING WATER. IF AVAILABLE GIVE SEVERAL GLASSES OF 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 CONTACT: WASH WITH COLD WATER AND SOAP.

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===== 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 SOLUTION. DISCONNECT OR CUT ALL CABLES TO AND FROM BATTERY.

Unusual Fire/Explosion Hazard:ELECTRICAL

TROLYTE SOLUTION IS CORROSIVE TO ALL HUMAN TISSUES. IT WILL REACT VIOLENTLY WITH MANY ORGANIC CHEMICALS, ESPECIALLY NITROCARBONS & CHLOROCARBONS. ELECTRO. ELECTROLYTE REACTS WITH SEVERAL METALS REL EASING FLAMMABLE HYDROGEN GAS.

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

Spill Release Procedures:SMALL(UP TO 5 GALLONS): FLUSH WITH WATER AND NEUTRALIZE WITH CITRIC ACID. LARGE: CONTAIN MATERIAL IN SUITABLE CONTAINERS OR HOLDING AREA. DO NOT ALLOW MATERI AL TO ENTER SEWERS, STREAMS, OR STORM CONDU ITS. RECOVER MATERIAL WITH VACUUM TRUCK AND DISPOSE OF PROPERLY. REPORTABLE QUANTITY: 1000 POUNDS. 40 CFR 117.13.

Neutralizing Agent: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 CELL PROPERLY TO AVOID SHORTING OR MI SUSE THAT WILL R ESULT IN RAPID UNCONTROLLED ELECTRICAL, CHEMICAL OR HEAT ENERGY RELEASE.

Other Precautions:DO NOT TRANSPORT ACTIVATED BATTERIES WITHOUT VENT CAP IN PLACE.WHEN REMOVING BATTERY FROM SERVICE, VISUALLY INSPECT FOR LEAKAGE PRIOR TO HANDLING. IF LEAKAGE HAS OCCURRED FOLLOW SPILL MANAGEMENT PROCE DURES. DO NOT ALLOW AN EXPOSED FLAME OR SPARK TO COME NEAR THE CELLS.

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

Respiratory Protection:USE NIOS H/MSHA APPROVED RESPIRATOR DURING LEVEL CHARGING TO MAINTAIN EXPOSURE LEVELS BELOW THE TWA.

Ventilation:PERFORM LEVEL CHARGING PROCEDURES IN A WELL VENTILATED AREA. BATTERY OPERATING AREAS MUST BE WELL VENTILATED TO REMOVE NORMAL GASES GENERATED.

Protective Gloves:USE ANY WATER-INSOLUBLE NON-PERMEABLE GLOVE, I.E., SYNTHETIC RUBBER.

Eye Protection:USE SPLASH GOGGLES OR FACE SHIELD WHENEVER HANDLING A BATTERY.

Other Protective Equipment:DO NOT USE LEATHER OR WOOL GLOVES. RUBB

ER

BOOTS, RUBBER APRON OR RAINWEAR OR EQUIVALENT IF EXPOSURE TO ELECTROLYTE SOLUTION IS LIKELY.

Supplemental Safety and Health

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

HCC:B1

Spec Gravity:1.250-1.30 (ELECTROLYTE)

Evaporation Rate & Reference:N/D

Solubility in Water:ELECTROLYTE SOLUBLE

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

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

Stability Condition to Avoid:DO NOT ADD SULFURIC ACID.

Hazardous Decomposition Products:NICKEL OXIDE, CADMIUM, CADMIUM OXIDE, AND POTASSIUM HYDROXIDE. NOTE THAT NORMAL REACTIONS INSIDE BATTERY LIBERATE FLAMMABLE HYDROGEN GAS. BATTERY MUST BE VENTED TO ATMOSPHERE.

Conditions to Avoid Polymerization:HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

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===== 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, MUST BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

===== MSDS Transport Information =====

Transport Information:BATTERY, WET, FILLED WITH ALKALI, 8, PG

III,
UN2795.

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Regulatory Information
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State Regulatory Information:

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