

SAFT AMERICA INC PRIMARY BATTERY DIVISION -- NICKEL CADMIUM AIRCRAFT BATTERY --  
6140-00-402-6350

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

Product ID:NICKEL CADMIUM AIRCRAFT BATTERY

MSDS Date:10/03/1994

FSC:6140

NIIN:00-402-6350

Status Code:A

MSDS Number: CKJ TZ

=== Responsible Party ===

Company Name:SAFT AMERICA INC PRIMARY BATTERY DIVISION

Address:711 INDUSTRIAL BLVD

Box:1886

City:VALDOSTA

State:GA

ZI

P:31601-6512

Country:US

Info Phone Num:912-245-2809;912247-2331

Emergency Phone Num:912-247-2331

Chemtrec Ind/Phone:(800)424-9300

CAGE:01306

=== Contractor Identification ===

Company Name:SAFT AMERICA INC PRIMARY BATTERY DIVISION

Address:711 INDUSTRIAL BLVD

Box:1886

City:VALDOSTA

State:GA

ZIP:31601-6512

Country:US

Phone:912-247-2331

CAGE:01306

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:SP0430-99

-C-5030  
CAGE:09052

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Composition/Information on Ingredients  
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Ingred Name:CADMIUM OXIDE  
CAS:1306-19-0  
RTECS #:EV1925000  
= Wt:13.

Ingred Name:NICKEL OXIDE  
CAS:1313-99-1  
RTECS #:QR8400000  
= Wt:18.

Ingred Name:POTASSIUM HYDROXIDE (30% POTASSIUM HYDROXIDE)  
CAS:1310-58-3  
RTECS #:TT2100000  
= Wt:19.  
ACGIH STEL:C2 MG/M3  
EPA Rpt Qty:1000 LBS  
DOT Rpt Qty:1000 LBS

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 LB  
S  
DOT Rpt Qty:5000 LBS

Ingred Name:NYLON II  
= Wt:15.

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Hazards Identification  
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LD50 LC50 Mixture:NOT GIVEN FOR PRODUCT AS A WHOLE  
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES  
Health Hazards Acute and Chronic:EYES: CONTACT WITH ELECTROLYTE SOL'N  
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 SOL'N INSIDE BATTERY MAY CAUSE SERIOUS BURNS TO SKIN TISSUES. CONTACT WITH NICKEL MAY CAUSE SKIN SENSITIZATION. INGESTION: INGESTION OF ELECTROLYTE SOL'N CAUSES TISSUE DAMAGE TO THROAT AREA & GASTROINTESTINAL DISORDERS. INHALATION: KOH MIST CAUSES VARYING DEGREES OF IRRITATION OF THE NASAL MUCOUS MEMBRANES & RESPIRATORY TRACT. INHAL'N OF CADMIUM MAY RESULT IN PULMONARY EDEMA, & KIDNEY DAMAGE.

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

Effects of Overexposure:EYES: IRRITATION. SKIN: MAY CAUSE SERIOUS BURNS OR CHRONIC ECZEMA OR NICKEL ITCH. INGESTION: CAUSES NAUSEA AND INTESTINAL DISORDERS. INHALATION: DRY THROAT, COUGH, HEADACHE, VOMITING, CHEST PAIN, AND CHILLS. CHRONIC: PULMONARY EDEMA, BREATHING DIFFICULTY, PROSTRATION, AND KIDNEY DAMAGE.

Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

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First Aid

Measures =====

First Aid:EYES: FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION. SKIN: REMOVE CONTAMINATED CLOTHING. FLUSH AFFECTED AREAS WITH PLENTY OF WATER FOR AT LEAST 15 MIN. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. RESTORE BREATHING. GET MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING. DILUTE WITH WATER OR MILK. GET MEDICAL ATTENTION.

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Fire Fight

ing Measures =====

Flash Point:NONFLAMMABLE

Lower Limits:NOT GIVEN

Upper Limits:NOT GIVEN

Extinguishing Media:CARBON DIOXIDE, 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. DISCONNECT OR CUT ALL CABLES TO AND FROM BATTERY. ELECTROLYTE SOLUTION IS CORROSIVE TO ALL HUMAN TISSUES. IT WILL REACT VIOLENTLY WITH MANY ORGANIC

NIC CHEMICALS.

Unusual Fire/Explosion Hazard:CADMIUM FUMES MAY BE RELEASED WHEN BATTERIES ARE SUBJECTED TO HIGH TEMPERATURES. IN CASE OF FIRE, DO NOT BREATHE SMOKE AND FUMES.

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

Spill Release Procedures:ELECTROLYTE SPILLS: SMALL (UP TO 5 GALLONS)- FLUSH WITH WATER AND NEUTRALIZE WITH DILUTE CITRIC ACID. LARGE- CONTAIN MATERIAL IN SUITABLE CONTAINERS OR HOLDING AREA. DO NOT ALLOW MATERIAL TO ENTER SE WERS, STR EAMS, OR STORM CONDUITS. RECOVER MATERIAL WITH VACUUM TRUCK ADN DISPOSE OF PROPERLY. REPORTABLE QUANTITY: 1000 LBS, 40 CFR 117.13. Neutralizing Agent:CITRIC ACID.

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

Handling and Storage Precautions:DO NOT TRANSPORT 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 PROCEDURES. DO NOT ALLOW AN EXPOSED FLAME OR SPARK TO COME NEAR THE CELLS. Other Precautions:CARE SHOULD BE TAKEN TO HANDLE CELLS PROPERLY TO AVOID SHORTING OR MISUSE THAT WILL RESULT IN RAPID UNCONTROLLED ELECTRICAL, CHEMICAL OR HEAT ENERGY RELEASE.

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

Respiratory Protection:USE NIOSH/MSHA APPROVED RESPIRATOR DURING LEVEL CHARGING TO MAINTAIN EXPOSURE LEVELS BELOW THE TWA. Ventilation:PERFORM LEVEL CHARGING PROCEDURES IN A WELL VENTILATED AREA. BATTERY OPERAATING AREAS MUST BE WELL VENTILATED. Protective Gloves:SYNTHETIC RUBBER--NOT LEATHER OR WOOL. Eye Protection:SPLASH GOGGLES OR FACE SHIELD Other Protective Equipment:RUBBER BOOTS AND/OR APRON OR EQUIVALENT IF EXPOSURE TO ELECTROLYTE IS LIKELY. Work Hygienic Practices:WASH HANDS THOROUGHLY WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. Supplemental Safety and Health NONE SPECIFIED BY MANUFACTURER.

===== Physical/Chemic

al Properties =====

HCC:B1

Boiling Pt:B.P. Text:NOT GIVEN

Melt/Freeze Pt:M.P/F.P Text:NOT GIVEN

Vapor Pres:NOT GIVEN

Vapor Density:NOT GIVEN

Spec Gravity:1.250-1.30, ELECTROLTYE

Evaporation Rate & Reference:NOT GIVEN

Solubility in Water:ELECTROLYTE SOLUBLE

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

Stability Indicator/Materials to Avoid:YES

ALUMINUM, ZINC, TIN & OTHER ACTIVE METALS, ACID, CHLORINATED & AROMATIC  
HYDROCARBONS, NITROCARBONS, HALOCAR

BONS. TRCHOLOROETHYLENE WILL

REACT WITH ELECTROLYTE SOL'N & IS COMBUSTIBLE.

Stability Condition to Avoid:PHYSICAL DAMAGE, SHORT CIRCUITING

Hazardous Decomposition Products:NICKEL OXIDE, CADMIUM, CADMIUM OXIDE,  
AND POTASSIUM HYDROXIDE. NORMAL REACTIONS INSIDE BATTERY LIBERATE  
FLAMMABLE HYDROGEN GAS.

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

Waste Disposal Methods:THE STORAGE BATTERY IS A HAZARDOUS WASTE UNDER  
RCRA. IT MAY BE RETURNED TO SAFT FOR RECYCLI

NG. 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.

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