

SAFT AMERICA INC TRANSPORTATION DIV -- NICKEL CADMIUM AIRCRAFT
BATTERY,021930-000,43B050AC01G2 -- 6140-01-022-5437

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Product Identification
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Product ID:NICKEL CADMIUM AIRCRAFT BATTERY,021930-000,43B050AC01G2

MSDS Date:07/05/1999

FSC:6140

NIIN:01-022-5437

Status Code:A

MSDS Number: CLBQQ

=== Responsible Party ===

Company Name:SAFT AMERICA INC TRANSPORTATION DIV

Address:711 INDUSTRIAL BLVD

Box:1886

City:VALDOSTA

State:GA

ZIP:31601-1886

Country:US

Info Phone Num:912-247-2331

Emergency Phone Num:800-424-9300

Chemtrec 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:SP0430-01-C-0778

CAGE:09052

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Composition/Information on Ingredients
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Ingred Name:CADMIUM

CAS:7440-43-9

RTECS #:EU9800000

OSHA PE

L:SEE 1910.1027
EPA Rpt Qty:10 LBS
DOT Rpt Qty:10 LBS

Ingred Name:CADMIUM HYDROXIDE
CAS:21041-95-2
RTECS #:EV1260000

Ingred Name:CADMIUM OXIDE
CAS:1306-19-0
RTECS #:EV1925000

Ingred Name:TOTAL CADMIUM
= Wt:8.

Ingred Name:NICKEL
CAS:7440-02-0
RTECS #:QR5950000
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3

Ingred Name:NICKEL HYDROXIDE
CAS:12054-48-7
RTECS #:QR7040000
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

Ingred
Name:TOTAL NICKEL
= Wt:36.

Ingred Name:ELECTROLYTE SOLUTION (18-28% 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:COBALT HYDROXIDE (AS COBALT METAL)
CAS:7440-48-4
RTECS #:GF8750000
= Wt:1.
OSHA PEL:0.1 MG/M3
ACGIH TLV:0.02 MG/M3

Ingred Name:STEEL
= Wt:34.

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

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogeni

city:NTP:UNKNOWN IARC:YES OSHA:YES

Health Hazards Acute and Chronic:EYES: ELECTROLYTE CAUSES VERY RAPID, SEVERE DAMAGE. MAY RESULT IN PERMANENT BLINDNESS. NICKEL OXIDE MAY CAUSE MINOR IRRITATION. SKIN: ELECTROLYTE MAY CAUSE SERIOUS BURNS. NICKEL COMPOUNDS MAY CAUSE SKIN SENSITIZATION. INGESTION: ELECTROLYTE CAUSES TISSUE DAMAGE TO THROAT AREA & GASTRO/RESPIRATORY TRACT. NICKEL COMPOUNDS CAUSES INTESTINAL DISORDERS. INHALATION: MIST GENERATED MAY CAUSE VARYING DEGREES

OF IRRITATION TO THE NASAL MUCOUS MEMBRANES & RESPIRATORY TRACT TISSUES. CADMIUM OXIDE MAY CAUSE IRRITATION- EXCESS EXPOSURE MAY RESULT IN PULMONARY EDEMA, BREATHING DIFFICULTY, PROSTRATION, & KIDNEY DAMAGE.

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

Effects of Overexposure:EYES: ELECTROLYTE EXTREMELY CORROSIVE TO EYE TISSUES. SKIN: ELECTROLYTE MAY CAUSE SERIOUS BURNS. NICKEL COMPOUNDS MAY CAUSE

SE CHRONIC ECZEMA OR NICKEL ITCH. INGESTION: CADMIUM AND/OR NICKEL COMPOUNDS CAUSES NAUSEA. INHALATION: MIST GENERATED MAY CAUSE MILD IRRITATION OF NASAL MUCOUS MEMBRANES TO DAMAGE OF LUNG TISSUES. CADMIUM OXIDE MAY CAUSE DRY THROAT, COUGH, HEADACHE, VOMITING, CHEST PAIN, CHILLS, EXCESSIVE OVEREXPOSURE MAY RESULT IN PULMONARY EDEMA, BREATHING DIFFICULTY, PROSTRATION, AND KIDNEY DAMAGE.

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

First Aid:BAT

TERY ELECTROLYTE-EYE: FLUSH WITH PLENTY OF WATER FOR AT LEAST 20 MINUTES. GET IMMEDIATE MEDICAL ATTENTION. SKIN: REMOVE CONTAMINATED CLOTHING AND FLUSH AFFECTED AREAS WITH PLENTY OF WATER FOR AT LEAST 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 CONTACT: WASH WITH COLD WATER AND SOAP.

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

Extinguishing Media:CO2, SAND

Fire Fighting Procedures:USE SCBA TO AVOID BREATHING TOXIC FUMES. WEAR PROTECTIVE CLOTHING AND EQUIPMENT TO PREVENT POTENTIAL BODY CONTACT WITH ELECTROLYTE SOLUTION OR MIXTURE OF WATER AND ELECTROLYTE SOLUTION. DISCONNECT OR CUT ALL CABLES TO AND FROM BATTERY-ESPECIALLY GROUND CONNECTION.

IN CASE OF FIRE, DO NOT
BREATH SMOKE AND FUMES!

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

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

Spill Release Procedures:ELECTROLYTE SOLUTION 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 SEWERS, STREAMS, OR STORM CONDUITS. RECOVER MATERIAL WITH VACUUM TRUCK AND DISPOSE OF PROPERLY. REPORTABLE QUANTITY: 1000 POUNDS. 40 CFR-117.13.

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

Handling and Storage Precautions:THESE CELLS AND THE BATTERIES
CONSTRUCT

ED FROM THEM MAY BE HIGHLY CHARGED & 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, UNCONTROLLED ELECTRICAL, CHEMICAL, OR HEAT ENERGY RELEASE. DO NOT BREAK CELLS OPEN.

Other Precautions:DO NOT SHORT CIRCUIT-MAY CAUSE BURNS OR FIRE. DO NOT TRANSPORT ACTIVATED BATTERIES W/OUT 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/ SPARK TO COME NEAR THE CELLS.

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

Respiratory Protection:USE NIOSH APPROVED MIST RESPIRATOR DURING ACTIVATION AND ACTUAL USAGE TO MAINTAIN EXPOSURE LEVELS BELOW THE TWA.

Ventilation:PERFORM BATTERY 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:RUBBER BOOTS, RUBBER APRON OR RAINWEAR, OR
EQUIVALENT IF EXPOSURE TO ELECTROLYTE SOLUTION IS LIKELY. DO NOT
USE LEATHER OR WOOL.

Supplemental Safety and Health

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

HCC:C1

Vapor Pres:2 MM HG @68F

Spec Gravity:1.17

0 -1.250(ELECTROLYTE)

Evaporation Rate & Reference:NOT DETERMINED

Solubility in Water:ELECTROLYTE SOLUTION

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

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

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

Haza

rdous Decomposition Products:NICKEL OXIDE, CADMIUM, CADMIUM OXIDE,
AND POTASSIUM HYDROXIDE. NOTE THAT NORMAL REACTIONS INSIDE BATTERY
LIBERATE FLAMMABLE HYDROGEN GAS. DO NOT SEAL BATTERY FROM
ATMOSPHERE.

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 EL

ELECTROLYTE SOLUTION ARE CORROSIVE. IF NOT
RECYCLED, MUST BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL,
STATE, AND LOCAL REGULATIONS.

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

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