EXIDE CORP -- LEAD-ACID BATTERY (ELECTRIC STORAGE BATTERY) -- 6140-01-203-4697
========== Product Identification ==========

Product ID:LEAD-ACID BATTERY (ELECTRIC STORAGE BATTERY)
MSDS Date:02/01/1996
FSC:6140
NIIN:01-203-4697
Status Code:A
MSDS Number: CKXVQ
=== Responsible Party ===
Company Name:EXIDE CORP
Address:645 PENN STREET
Box:14205
City:READING
State:PA
ZIP:19612-4205
Country:US
Info Phone Num:610-378-0500/0798
Emergency Phone Num:(800)424-9300
Preparer's Name
:ENVIRONMENTAL RESOURCES
Chemtrec Ind/Phone:(800)424-9300
CAGE:20038
=== Contractor Identification ===
Company Name:BATTERY OUTLET INC
Address:1608 CAMPOSTELLA RD
Box:City:CHESAPEAKE
State:VA
ZIP:23324
Country:US
Phone:757-545-4442
Contract Num:SP0411-01-M-E445
CAGE:0FGN2
Company Name:EXIDE CORP
Address:645 PENN STREET
Box:14205
City:READING
State:PA
ZIP:19612-4205
Country:US
Phone:610-378-0500/0798
CAGE:20038

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

Ingred Name:LEA

D
CAS:7439-92-1
RTECS #:OF7525000
= Wt:53.
Other REC Limits:0.10 MG/N3(NIOSH)
OSHA PEL:0.05 MG/M3
ACGIH TLV:0.15 MG/M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:ANTIMONY
CAS:7440-36-0
RTECS #:CC4025000
= Wt:.2
OSHA PEL:0.5 MG/M3
ACGIH TLV:0.5 MG/M3
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:ARSENIC
CAS:7440-38-2
RTECS #:CG0525000
Fraction by Wt: 0.003% %
OSHA PEL:0.01 MG/M3
ACGIH TLV:0.20 MG/M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:CALCIUM
CAS:7440-70-2
RTECS #:EV804000
0
= Wt:.02

Ingred Name:TIN
CAS:7440-31-5
RTECS #:XP7320000
= Wt:.06
OSHA PEL:2 MG/M3
ACGIH TLV:2 MG/M3

Ingred Name:ELECTROLYTE (SULFURIC ACID/WATER/SOLUTION)
CAS:7664-93-9
RTECS #:WS5600000
Minumum % Wt:30.
Maxumum % Wt:40.
Other REC Limits:1 MG/M3 (NIOSH)
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:CASE MATERIAL (POLYPROPYLENE)
CAS:9003-07-0
RTECS #:UD1842000
Minumum % Wt:5.
Maxumum % Wt:6.

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

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Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES
Health Hazards Acute and Chronic:ELECTROLYTE (WATER AND SULFURIC ACID SOLUTION): HARMFUL BY ALL ROUTES OF ENTRY. LEAD COMPOUNDS: HAZARDOUS EXPOSURE CAN OCCUR ONLY WHEN PRODUCT IS HEATED ABOVE MELTING POINT, OXIDIZED OR OTHERWISE PRO CESSED OR DAMAGED TO CREATE DUST, VAPOR, OR FUME. INHALATION: BREATHING OF SULFURIC ACID VAPORS OR MIST MAY CAUSE SEV
ERE RESPIRATORY IRRITATION. INHALATION
OF LEAD DUST OR FUMES MAY CAUSE IRRITATION O F UPPER RESPIRATORY TRACT AND LUNGS. INGESTION: ELECTROLYTE MAY CAUSE SEVERE IRRITATION OF MOUTH, THROAT, ESOPHAGUS AND STOMACH. ACUTE INGESTION OF LEAD COMPOUNDS MAY CAUSE ABDOMINAL PAIN, NAUSEA, VO MITING, (CONTD. SEE TOXICOLOGICAL)
Explanation of Carcinogenicity:ELECTROLYTE: IARCS CLASSIFIES "STRONG INORGANIC ACID MIST CONTAINING SULFURIC ACID" AS A CATEGORY I CARCINOGEN. THIS DO
ES NOT APPLY TO ELECTROLYTE IN BATTERIES. LEAD:
LISTED AS A 2B CARCINOGEN. PROOF OF CARCINOGENICITY IN HUMANS IS LACKING AT PRESENT. ARSENIC: LISTED BY NTP, IARC, OSHA, AND NIOSH AS A CARCINOGEN ONLY AFTER PROLONGED EXPOSURE AT HIGH LEVELS.
Effects of Overexposure:ACUTE: ELECTROLYTE (WATER AND SULFURIC ACID SOLUTION): SEVERE SKIN IRRITATION, DAMAGE TO CORNEA MAY CAUSE BLINDNESS, UPPER RESPIRATORY IRRITATION. LEAD COMPOUNDS: SYMPTOMS OF TOXICITY INCLUDE HEADACHE , FATIGUE
, ABDOMINAL PAIN, LOSS OF
APPETITE, MUSCULAR ACHES AND WEAKNESS, SLEEP DISTURBANCES AND IRRITABILITY. CHRONIC: ELECTROLYTE (WATER AND SULFURIC ACID SOLUTION): POSSIBLE EROSION OF TOOTH ENAMEL ; INFLAMMATION OF NOSE, THROAT AND BRONCHIAL TUBES. LEAD COMPOUNDS: ANEMIA; NEUROPATHY, PARTICULARLY OF THE MOTOR NERVES, WITH WRIST DROP; KIDNEY DAMAGE; REPRODUCTIVE CHANGES IN BOTH MALES AND FEMALES .
Medical Cond Aggravated by Exposure:SULFURIC ACID MIST MAY AGGRAVATE PULMONAR
Y CONDITIONS. ELECTROLYTE MAY AGGRAVATE SKIN DISEASES SUCH AS ECZEMA, CONTACT DERMATITIS. LEAD COMPOUNDS MAY AGGRAVATE KIDNEY, LIVER, NEUROLOGIC DISEASES.

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

First Aid:INHALATION: ELECTROLYTE ; MOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE OXYGEN. LEAD; MOVE FROM EXPOSURE, GARGLE, WASH NOSE AND LIPS; CONSULT PHYSICIAN. INGESTION: ELECTROLYTE: GIVE LARGE QUANTIT IES OF WATER; DO NOT INDUCE VOMITING; CONSU

LT PHYSICIAN.
LEAD; CONSULT PHYSICIAN IMMEDIATELY. SKIN: ELECTROLYTE: FLUSH WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING, INCLUDI NG SHOES. LEAD; WASH IMMEDIATELY WITH SOAP AND WATER. EYES: ELECTROLYTE AND LEAD: FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN IMMEDIATELY.

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

Lower Limits:4.1%(H2)
Upper Limits:74.2%(H2)
Extinguishing Media:CO2; FOAM; DRY
CHEMICAL.
Fire Fighting Procedures:USE POSITIVE PRESSURE, SCBA. BEWARE OF ACID SPLATTER DURING WATER APPLICATION. WEAR ACID-RESISTANT CLOTHING, GLOVES, FACE/ EYE PROTECTION. SHUT OFF POWER TO CHARGING EQUIPMENT, BUT, NOTE THAT STRINGS OF SERIES CONNECTED BATTERIES MAY STILL POSE RISK OF ELECTRIC SHOCK EVEN WHEN CHARGING EQUIPMENT IS SHUT DOWN.
Unusual Fire/Explosion Hazard:BATTERIES GENERATE FLAMMABLE HYDROGEN GAS. ALWAYS ASSUME BATTERIES CONTAIN THIS GAS WHICH, IF IGN
ITED BY
BURNING CIGARETTE, OR SPARK, MAY CAUSE EXPLOSION WITH DISPERSION OF CASING FRAGMENTS AND CORROS IVE LIQUID. CAREFULLY FOLLOW INSTALLATION AND SERVICE INSTRUCTIONS. AVOID SHORT CIRCUITING TERMINALS.

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

Spill Release Procedures:STOP LEAK. CONTAIN/ABSORB SMALL SPILL WITH NON-COMBUSTIBLE MATERIALS (DRY SAND, EARTH, VERMICULITE). NEUTRALIZE WITH SODA ASH, SODIUM BICARBONATE, LIME, ETC. WEAR ACID-RES
ISTANT CLOTHING, BOOTS, GLOVE S, FACE SHIELD. DO NOT ALLOW DISCHARGE OF UNNEUTRALIZED ACID TO SEWER. NEUTRALIZED ACID MUST BE MANAGED IAW LOCAL, STATE, FEDERAL REQUIREMENTS. CONSULT STATE ENVIRONMENTAL AGENCY AND/OR FEDERAL EPA.
Neutralizing Agent:SODA ASH, SODIUM BICARBONATE, LIME.

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

Handling and Storage Precautions:STORE UNDER ROOF IN COOL, DRY, WELL-VENTILATED AREAS SEPARATED FROM INCOMPATIBLE MATERIALS AND

ACTIVITIES WHICH MAY CREATE FLAMES, SPARKS, HEAT. STORE ON SMOOTH, IMPERVIOUS SURFACES PROVIDED WITH MEAS URES FOR LIQUID CONTAINMENT. AVOID SHORTING OF TERMINALS. HANDLE CAREFULLY.
Other Precautions:THERE IS RISK OF ELECTRIC SHOCK FROM CHARGING EQUIPMENT AND FROM SERIES CONNECTED BATTERIES. SHUT-OFF POWER TO CHARGERS WHENEVER NOT IN USE AND BEFORE DETACHMENT OF CIRCUIT CONNECTIONS. BATTERIES BEIN G CHARGED WILL GENERATE AND RELEASE FLAMMABLE HYDROGEN GAS. VENTILATE CH
ARGING AREA. PROHIBIT SMOKIN G
IN AREA.

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

Respiratory Protection:NONE REQUIRED UNDER NORMAL CONDITIONS. WHEN CONCENTRATIONS OF SULFURIC ACID MIST ARE KNOWN TO EXCEED PEL, USE NIOSH OR MSHA-APPROVED RESPIRATORY PROTECTION.
Ventilation:IF MECHANICAL VENTILATION IS USED, COMPONENTS MUST BE ACID-RESISTANT. STORE AND HANDLE IN WELL-VENTILATED AREA.
Protective Gloves:WEAR RUBBER OR PLASTIC-RESISTANT GLOVES WITH
ELB
OW-LENGTH GAUNTLET.
Eye Protection:WEAR CHEMICAL GOGGLES OR FACE SHIELD.
Other Protective Equipment:ACID-RESISTANT APRON. UNDER SEVERE EXPOSURE OR EMERGENCY CONDITIONS, WEAR ACID-RESISTANT CLOTHING, GLOVES AND BOOTS.
Work Hygienic Practices:EMERGENCY FLUSHING: IN AREAS WHERE WATER & SULFURIC ACID SOLUTIONS ARE HANDLED IN CONCENTRATIONS GREATER THAN 1%, EMERGENCY EYEWASH STATIONS & SHOWERS SHOULD BE PROVIDED, WITH UNLIMITED WATER SUPPLY.
Supplemental Safety and Health
HANDLE B
ATTERIES CAUTIOUSLY, DO NOT TIP TO AVOID SPILLS. MAKE CERTAIN VENT CAPS ARE ON SECURELY. AVOID BODILY CONTACT WITH INTERNAL COMPONENTS. WEAR PROTECTIVE CLOTHING, EYE AND FACE PROTECTION , WHEN FILLING OR HANDLING BATTERIES.

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

HCC:C1
Boiling Pt:>95.C, 203.F
B.P. Text:203F-240FB.P. RANGE
Vapor Pres:17 TO 11MM HG @ 77F,S. G.
Vapor Density:>1 (AIR=1)
Spec Gravity:1.230 TO 1.350 (H2O=1)
Evaporation Rate & Reference:

< 1 (BUTYL ACETATE = 1)
Solubility in Water:100%
Appearance and Odor:A BATTERY IS A MANUFACTURED ARTICLE; NO APPARENT ODOR.

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

Stability Indicator/Materials to Avoid:YES
ELECTROLYTE: CONTACT WITH COMBUSTIBLES, ORGANIC MATERIALS, METALS MAY CAUSE FIRE AND EXPLOSION. REACTS VIOLENTLY WITH STRONG REDUCING AGENTS, METALS, SULFUR TRIOXIDE GAS, STRONG OXIDIZERS, WATER.CONTACT WITH METALS MAY PROD
Stability Condition to
Avoid:PROLONGED OVERCHARGE AT HIGH CURRENT; SOURCES OF IGNITION.
Hazardous Decomposition Products:ELECTROLYTE: SULFUR TRIOXIDE, CARBON MONOXIDE, SULFURIC ACID MIST, SULFUR DIOXIDE, HYDROGEN. LEAD:TEMPERATURES ABOVE MELTING POINT MAY PRODUCE TOXIC METAL FUME, VAPOR OR DUST, HIGHLY TOXIC ARSINE GAS.

========== Toxicological Information ==========

Toxicological Information:(CONTD. FROM ACUTE HEALTH) DIARRHEA, AND SEVERE CRAMPING. THIS MAY LEAD RAPIDLY TO SYS
TEMIC TOXICITY. SKIN
CONTACT: ELECTROLYTE; SEVERE IRRITATION, BURNS, AND ULCERATION. LEAD COMPOUNDS ; NOT ABSORBED THROUGH SKIN. EYE CONTACT: ELECTROLYTE; SEVERE IRRITATION, BURNS, CORNEA DAMAGE, BLINDNESS. LEAD COMPOUNDS; MAY CAUSE IRRITATION. CHRONIC: ELECTROLYTE; POSSIBLE EROSION OF TOOTH ENAMAL, INFLAMMATION OF NOSE, THROAT, AND BRONCHIAL TUBES. LEAD COMPOUNDS; ANEMIA, NEUROPATY OF THE MOTOR NERVES, WITH WRIST DROP, KIDNEY DAMAGE, REPRODUCTIVE CHANGES IN BO
TH MALE AND FEMALES.

========== Ecological Information ==========

Ecological:CERCLA AND EPCRA: (RQ) FOR SPILLED 100% SULFURIC ACID IS 1,000 LBS. STATE, LOCAL QANTITIES MAY VARY. SULFURIC ACID IS LISTED "EXTREMELY HAZARDOUS SUBSTANCE" UNDER EPCRA, WITH THRESHOLD PLANNING QUANTI TY (TPQ) OF 1,000 LBS. EPCRA SECTION 302 NOTIFICATION IS REQUIRED IF 1,000 LBS OR MORE SULFURIC ACID IS PRESENT AT ONE SITE. AVERAGE AUTOMOBILE/COMMERCIAL BATTERY CONTAINS

APPROXIMATELY 5 LBS OF SULFU RIC ACID. EPCRA SECTION 312 TIER TWO: REPORTING REQUIRED FOR NON-AUTOMOTIVE BATTERIES IF SULFURIC ACID IS PRESENT IN QUANTITIES OF 500 LBS OR MORE AND/OR IF LEAD IS PRESENT IN QUANTITIES OF 10,000 LBS OR MORE. (CONTD. SEE SARA I I I)

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

Waste Disposal Methods:SPENT BATTERIES: SEND TO SECONDARY LEAD SMELTER. PLACE NEUTRALIZED ELECTROLYTE INTO SEALED ACID RESISTANT CONTAINERS AND DI
SPOSE OF AS HAZARDOUS WASTE. LARGE WATER-DILUTED SPILLS, AFTER NEUTRALIZATION AND TESTING, SHOULD BE MANAGED I/A/W APPROVED LOCAL, STATE , AND FEDERAL REQUIREMENTS. CONSULT STAT E ENVIRONMENTAL AGENCY AND/OR FEDERAL EPA.

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

Transport Information:U.S. DOT: WET (FILLED WITH ELECTRLYTE) BATTERIES ARE REGULATED BY U.S. DOT AS HAZARDOUS MATERIAL. PROPER SHIPPING NAME: BATTERY, WET, FILLED WITH ACID; HAZARD CLASS/
DIVISION: 8; UN 2794; PACKING GROUP : I I I; LABEL REQUIRED: CORROSIVE.

========== Regulatory Information ==========

SARA Title III Information:(CONTD. FROM ECOLOGICAL) SUPPLIER NOTIFICATION: THIS PRODUCT CONTAINS TOXIC CHEMICALS WHICH MAY BE REPORTABLE UNDER EPCRA SEC. 313 TOXIC CHEMICAL RELEASE INVENTORY (FORM R) REQUIREMENTS. FOR MFG FACIL ITY UNDER SIC CODES 20 THROUGH 39, FOLLOWING INFORMATION IS PROVIDED TO ENABLE YOU TO COMPLETE REQUIRED R
EPORTS: LEAD: 7439-92-1, WT 53%; SULFURIC ACID/WATER SOLUTION: 7664-93-9, WT 30-40%; ANTIMONY:7 440-36-0, WT 0.2%; ARSENIC: 7440-38-2, WT 0.003%. IF DISTRIBUTED TO OTHER MANUFACTURERS IN SIC CODES 20 THROUGH 39, THIS INFORMATION MUST BE PROVIDED WITH FIRST SHIPMENT OF EACH CALENDER YEAR. (CONTD. SEE FEDERAL)
Federal Regulatory Information:TSCA: INGREDIENTS IN EXIDE'S BATTERIES ARE LISTED IN THE TSCA REGISTRY AS FOLLOWS: ELECTROLYTE: SULFURIC ACID (H2SO4), 7664-93-9;

INORGANIC LEAD COMPOUND: LEAD (PB),
7439-92-1; LEAD OXIDE (PBO), 1317- 36-8; LEAD SULFATE (PBSO4),
7446-14-2; ANTMONY (SB), 7440-36-0; ARSENIC (AS), 7440-38-2;
CALCIUM (CA), 7440-70-2; TIN (SN), 7440-31-5. (CONTD. FROM SARA I I
I) NOTE: THE SECTION 313 SUPPLIER NOTIFICAT ION REQUIREMENT DOES
NOT APPLY TO BATTERIES WHICH ARE "CONSUMER PRODUCTS".
State Regulatory Information:CALIFORNIA PROPOSITION 65: WARNING: THIS
PRODUCT CONTAINS LEAD, A CHEMICAL KNOWN TO THE STATE OF CAL
IFORNIA
TO CAUSE CANCER, OR BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.
ECOLOGICAL DATA: CAA: EXIDE CO RP. SUPPORTS PREVENTATIVE ACTIONS
CONCERNING OZONE DEPLETION IN THE ATMOSPHERE DUE TO EMISSIONS OF
CFC'S AND OTHER OZONE DEPLETING CHEMICALS (ODC'S) DEFINED BY THE
USEPA AS CLASS 1 SUBSTANCES. PERSUAN T TO SECTION 611 OF THE CLEAN
AIR ACT AMENDMENTS (CAAA) OF 1990, FINALIZED ON JANUARY 19, 1993,
EXID E ESTABLISHED A POLICY TO ELIMINATE THE USE OF CLASS 1 ODC'S
PRIO
R TO THE MAY 15, 1993 DEADLINE.

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

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