YUASA EXIDE INC -- LEAD-ACID BATTERY,NP 24-12 -- 6140-01-393-1813
========== Product Identification ==========

Product ID:LEAD-ACID BATTERY,NP 24-12
MSDS Date:11/01/1993
FSC:6140
NIIN:01-393-1813
MSDS Number: CCMDD
=== Responsible Party ===
Company Name:YUASA EXIDE INC
Address:257 SPRING VALLEY RD
City:LAURELDALE
State:PA
ZIP:19605
Country:US
Info Phone Num:215-921-4480
Emergency Phone Num:215-921-4480
CAGE:0RN21
=== Contractor Identification ===
Company Name:BATTERY OU
TLET INC.
Box:UNKNOW
CAGE:0GFN2
Company Name:YUASA EXIDE INC
Address:257 SPRING VALLEY RD
Box:City:LAURELDALE
State:PA
ZIP:19605
Country:US
Phone:215-921-4480
CAGE:0RN21

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

Ingred Name:LEAD (SARA 313) (CERCLA)
CAS:7439-92-1
RTECS #:OF7525000
Fraction by Wt: 60%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:SEE 1910.1025
ACGIH TLV:0.05MG/M3, A3; 9596
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:ANTIMONY (SARA 313) (CERCLA)
CAS:744

0-36-0
RTECS #:CC4025000
Fraction by Wt: 2%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:0.5 MG/M3
ACGIH TLV:0.5 MG (SB)/M3; 9596
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:ARSENIC (SARA 313) (CERCLA)
CAS:7440-38-2
RTECS #:CG0525000
Fraction by Wt: 0.2%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:SEE 1910.1018
ACGIH TLV:0.01 MG/M3, A1; 9596
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:CALCIUM, METAL
CAS:7440-70-2
RTECS #:EV8040000
Fraction by Wt: 0.2%
Other REC Limits:NONE RECOMMENDED

Ingred Name:TIN
CAS:7440-31-5
RTECS #:XP7320000
Fraction by Wt: 0.2%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:2 MG/M3
ACGIH TLV:2 MG/M3; 9596

Ingred Name:SULFURIC ACID (SARA 302/313) (CERCLA)/ELECTROLYTE
CAS:7664-93-9
RTECS #:WS5600000
Fraction by Wt: 10 - 30%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3/3 STEL; 9596
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:CASE MATERIAL (POLYPROPYLENE, POLYSTYRENE, STYRENE
ACRYLONITRILE, STYRENE BUTADIENE, POLYCARB

ONATE, HARD RUBBER ETC.)
Fraction by Wt: 5 - 10%
Other REC Limits:NONE RECOMMENDED

Ingred Name:SILICA, CRYSTALLINE - FUSED/SILICON DIOXIDE (GEL CELL BATTERIES ONLY)
CAS:60676-86-0
RTECS #:VV7328000
Fraction by Wt: 10%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:SEE TABLE Z-3
ACGIH TLV:0.1 MG/M3 RDUST;9596

Ingred Name:SHEET MOLDING COMPOUND (GLASS-REINFORCED POLYESTER)
Fraction by Wt: 10%
Other REC Limits:NONE RECOMMENDED

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

LD50 LC50 Mixture:LD50 (ORAL, RAT) IS NOT RELEVANT.
Routes of Entry: Inhalation:NO Skin:NO Ingestion:YES
Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES
Health Hazards Acute and Chronic:TARGET ORGANS:EYE, SKIN, CNS, LUNG, GI TRACT. ACUTE- LEAD MAY CAUSE GI UPSET, DIARRHEA, CRAMPING & FATIGUE. SULFURIC ACID MAY CAUSE EYE, SKIN & RESPIRATORY TRACT IRRITATION, BURNS, CORNEAL & LUNG DAMA GE. CHRONIC- LEAD MAY CAUSE ANEMIA, KIDNEY & NERVOUS SYSTEM DAMAGE. ACID CAN CAUSE BR
ONCHITIS,
EROSION OF TOOTH ENAMEL.
Explanation of Carcinogenicity:CONTAINS ARSENIC WHICH IS LISTED BY NTP AND IARC AND REGULATED BY OSHA AS A CARCINOGEN. ALSO CONTAINS LEAD.
Effects of Overexposure:GI UPSET, LOSS OF APPETITE, DIARRHEA, CONSTIPATION, CRAMPING, LACK OF SLEEP, FATIGUE, IRRITATION, BURNS, CORNEAL AND LUNG DAMAGE
Medical Cond Aggravated by Exposure:LEAD AND ITS COMPOUNDS CAN AGGRAVATE CHRONIC FORMS OF KIDNEY, LIVER AND NEUROLOGIC DISEASES. CONTACT OF SULFURIC
ACID WITH SKIN MAY AGGRAVATE DISEASES SUCH AS ECZEMA. ACID MIST AGGRAVATES LUNG DISEASE

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

First Aid:OBTAIN MEDICAL ATTENTION IMMEDIATELY IN ALL CASES OF EXPOSURE. EYES/SKIN:IMMEDIATELY FLUSH WITH WATER FOR 15 MINUTES. KEEP EYELIDS OPEN. INHALATION:MOVE TO FRESH AIR. INGESTION:DO NOT INDUCE VOMITING. IF CONSCIOUS, DRINK LARGE AMOUNT OF WATER OR MILK FOLLOWED BY MILK OF MAGNESIA, BEATEN EGGS OR VEGETABLE OIL.

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

Flash Point:NON-FLAMMABLE
Extinguishing Media:USE CARBON DIOXIDE, SAND, HALON/DRY CHEMICAL. WATER APPLIED TO ELECTROLYTE GENERATES HEAT AND CAUSES IT TO SPATTER.
Fire Fighting Procedures:WEAR ACID-RESISTANT CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE MODE.
Unusual Fire/Explosion Hazard:BATTERY CELLS MAY RUPTURE WHEN EXPOSED TO EXCESSIVE
HEAT. THIS COULD RESULT IN RELEASE OF CORROSIVE MATERIALS. HYDROGEN GAS, IF PRESENT, IS EXPLOSIVE/FLAMMABLE.

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

Spill Release Procedures:WEAR PROTECTIVE EQUIPMENTS. REMOVE COMBUSTIBLES & IGNITION SOURCES (H2 MAY BE PRESENT). CONTAIN BY DIKING AND COVER SPILL WITH SODA ASH OR QUICKLIME. MIX WELL. CHECK THAT MIXTURE IS NEUTRAL. COLLECT A ND PLACE IN A DRUM. DO NOT FLUSH TO SEWER.
Neutralizing Agent:SODA ASH (SOD
IUM CARBONATE), QUICKLIME (CALCIUM OXIDE)

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

Handling and Storage Precautions:STORE NEAR EYEWASH FOUNTAIN AND SAFETY SHOWER. STORAGE AREA SHOULD BE EQUIPPED WITH A DRAIN WHICH CAPTURES SPILLS OF ACID FOR PROPER DISPOSAL.
Other Precautions:KEEP TERMINALS COVERED. AVOID SHORTING BATTERIES. DO NOT CRACK OR OVERCHARGE BATTERIES. KEEP LIGHTED CIGARETTES, SPARKS, AND FLAMES AWAY FROM CHARGING BATTERIES. KEEP OUT OF
REACH OF CHILDREN.

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

Respiratory Protection:NOT REQUIRED UNDER NORMAL USE. USE NIOSH-APPROVED ACID-MIST FILTER RESPIRATOR IF 1 MG/M3 TWA IS EXCEEDED (ACID).
Ventilation:ADEQUATE GENERAL VENTILATION
Protective Gloves:RUBBER
Eye Protection:SPLASH-PROOF CHEMICAL GOGGLES
Other Protective Equipment:RUBBER APRON AND BOOTS. EYES WASH STATION AND SAFETY SHOWER. USE ACID-PROOF CLOTHING FOR MAJOR SPILLS.
Work Hygienic Prac

tices:REMOVE METALLIC JEWELRY-SHOCK POTENTIAL. WASH
THOROUGHLY AFTER HANDLING AND BEFORE EATING AND DRINKING.
Supplemental Safety and Health

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

HCC:C1
NRC/State Lic Num:NOT RELEVANT
Spec Gravity:NOT RELEVANT
Viscosity:NOT RELEVANT
Evaporation Rate & Reference:NOT RELEVANT
Solubility in Water:NOT RELEVENT
Appearance and Odor:BATTERY CONTAINING SULFURIC ACID AND LEAD.

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

Stability Indicator/Materials to Avoid:YES
SOLVENTS THAT DISSOLVE BATTERY CASE MATERIAL, ORGANIC MATERIALS, STRONG
REDUCING AGENTS, METALS, WATER, STRONG OXIDIZERS
Stability Condition to Avoid:HIGH HEAT, OPEN FLAMES, OVERCHARGING,
SMOKING, SPARKS
Hazardous Decomposition Products:LEAD OXIDE, HYDROGEN, SULFUR DIOXIDE,
SULFUR TRIOXIDE, CARBON MONOXIDE, METAL FUME, VAPOR OR DUST, ARSINE
GAS

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

Waste Dis
posal Methods:DISPOSE AS HAZARDOUS WASTE. OBSERVE ALL FEDERAL,
STATE AND LOCAL ENVIRONMENTAL REGULATIONS FOR ACID OR LEAD SCRAP.
SEND BATTERIES TO LEAD SMELTER FOR RECLAMATION FOLLOWING APPLICABLE
FEDERAL, STATE AN D LOCAL REGULATIONS.