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YUASA-EXIDE INC -- LEAD-ACID BATTERY -- 6140-00-538-9986
========== Product Identification ==========

Product ID:LEAD-ACID BATTERY
MSDS Date:06/01/1996
FSC:6140
NIIN:00-538-9986
Status Code:A
MSDS Number: CLJBG
=== Responsible Party ===
Company Name:YUASA-EXIDE INC
Address:2366 BERNVILLE ROAD
Box:14145
City:READING
State:PA
ZIP:19612-4145
Country:US
Info Phone Num:610-208-1975
Emergency Phone Num:(800)424-
9300
Preparer's Name:HENRY SIMMONS
Chemtrec Ind/Phone:(800)424-9300
CAGE:77280
=== Contractor Identification ===
Company Name:YUASA-EXIDE INC
Address:2366 BERNVILLE ROAD
Box:14145
City:READING
State:PA
ZIP:19612-4145
Country:US
Phone:610-208-1975
CAGE:77280

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

Ingred Name:LEAD
CAS:7439-92-1
RTECS #:OF7525000
= Wt:60.
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:CALCIUM
CAS:7440-70-2
RTECS #:EV8040000
= Wt:.2

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

Ingred Name:ELECTROLYTE (SULFURIC ACID)
CAS:7864-93-9
Minumum % Wt:10.
Maxumum % Wt:30.

Ingred Name:POLYPROPYLENE
CAS:9003-07-0
RTECS #:UD1842000

Ingred Name:POLYSTYRENE
CAS:9003-53-6
RTECS #:WL6475000

Ingred Name:STYRENE ACRYONITRILE
CAS:9003-54-7
RTECS #:AT6978000

Ingred
Name:ACRYONITRILE BUTADIENE STYRENE
CAS:9003-56-9
RTECS #:AT6970000

Ingred Name:STYRENE BUTADIENE
CAS:9003-55-8
RTECS #:WL6478000

Ingred Name:POLY(VINYL CHLORIDE)
CAS:9002-86-2
RTECS #:KV0350000

Ingred Name:POLYCARBONATE

Ingred Name:HARD RUBBER

Ingred Name:POLYETHYLENE

Ingred Name:SILICA DIOXIDE
CAS:60676-86-0
RTECS #:VV7328000
= Wt:10.
OSHA PEL:SEE TABLE Z-3
ACGIH TLV:0.1 MG/M3

fication ==========

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Health Hazards Acute and Chronic:ACUTE: SULFURIC ACID: SEVERE SKIN IRRITATION, DAMAGE TO CORNEA, UPPER RESPIRATORY IRRITATION. LEAD COMPOUNDS: SYMPTOMS OF TOXICITY INCLUDE HEADACHE, FATIGUE, ABDOMINAL PAIN, LOSS OF APPETITE, MUSCULAR ACHE AND WEAKNESS, SLEEP DISTURBANCES AND IRRITABILITY. CHRONIC: SULFURIC ACIDS: POSSIBLE EROSION OF TOOTH ENAMEL, INFLAMMATION OF NOSE, THROAT AND BRO
NCHIAL TUBE. SULFURIC ACID: THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CLASSIFIED ?STRONG INORGANIC ACID MIST CONTAINING SULFURIC ACID CONTAINING SULFURIC ACID AS A CATEGORY CARCINOGEN. A SUBSTANCE THAT IS CARCINOGENIC TO HUMANS.
Explanation of Carcinogenicity:SULFURIC ACID. THE INTERNATIONAL AEGNCY FOR RESEARCH ON CANCER (IARC) HAS CLASSIFIED "STRONG INORGANIC SUBSTANCE MIST CONTAINING SULFURIC ACID AS A CATEGORY 1 CARCINOGEN, A SUBSTANCE THAT IS CARCIN
OGE NIC TO HUMANS. THIS CLASSIFICATION DOES NOT APPLY TO LIQUID FORMS OF SULFURIC ACID OR SULFURIC ACIDS SOLUTIONS CONTAINED WITHIN A BATTERY.
Effects of Overexposure:INHALATION: SULFURIC ACID: BREATHING OF SULFURIC ACID VAPORS OR MISTS MAY CAUSE SEVERE RESPIRATORY IRRITATION. LEAD COMPOUNDS: HAZARDOUS OF LEAD DUST OR FUMES MAY CAUSE IRRITATION OF UPPER RESPIRATORY TRACT AND LUNGS. INGESTION: SULFURIC ACID: MAY CAUSE SEVERE IRRITATION, (MOUTH, THROAT, ESOPHAGUS AND S
TOMACH. LEAD COMPOUNDS: ACUTE INGESTION CAUSE ABDOMINAL PAIN. NAUSEA. VOMITING, DIARRHEA AND SEV ERE CRAMPING. THIS MAY LEAD RAPIDLY TO SYSTEMICTOXICITY AND MUST BE TREATED AS A PHYSICIAN. SKIN CONTACT: SULFURIC ACID: SEVERE IRRITATION, BURNS AND ULCERATION. LEAD COMPOUNDS: NOT ABSORBED THROUGH T HE SKIN.
Medical Cond Aggravated by Exposure:OVEREXPOSURE TO SULFURIC ACID MAY CAUSE LUNG DAMAGE AND AGGRAVATE PULMONARY CONDITIONS. CONTACT OF SULFURIC ACID WITH SKIN MAY AGGREV
ATE SKIN DIEASES SUCH AS ECZEMA AND CONTACT DERMATITIS.

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

First Aid:INHALATION: SULFURIC ACID: REMOVE TO FRESH AIR IMMEDIATELY. IF BREATHING IS DIFFICULT, GIVE OXYGEN. LEAD: REMOVE FROM EXPOSURE, WASH NOSE AND LIPS, CONSULT PHYSICIAN. INGESTION: SULFURIC ACID: GIVE L ARGE QUANTITIES OF WATER, DO NOT INDUCE VOMITING, CONSULT PHYSICIAN. SKIN: SULFURIC ACID: FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 1

5 MINUTES. REMOVE CONTAMINATED CLOTHING COMPLETELY,
INCLUDING SHOES. LEAD: WASH IMMEDIATELY WITH SOAP AND WATER.
EYES: ACID AND LEAD: FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER
FOR AT LEAST 15 MINUTES. CONSULT IT IMMEDIATELY. CONSULT PHYSICIAN

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

Lower Limits:4.1%
Upper Limits:74.2%
Extinguishing Media:CO, FOAM, DRY CHEMICAL
Fire Fighting Procedures:IF BATTERIES ARE ON CHARGE, SHUT OFF POWER.
USE POSITIVE P
RESSURE, SELF-CONTAINED BREATHING APPARATUS. WATER
APPLIED TO ELECROTROLYTE GENERATES HEAT AND CAUSE IT TO SPATTER.
WEAR ACID-RESISTANT CLOTHI NG.
Unusual Fire/Explosion Hazard:HIGHLY FLAMMABLE HYDROGEN GAS IS
GENERATED CHARGING AND OPERATIONS OF BATTERIES. TO AVOID RISK OF
FIRE OR EXPLOSION, KEEP SPARKS OR OTHER SOURCES OF IGNITION SOURCES
OF IGNITION AWAY FROM BATTERIES. D O NOT ALLOW METALLIC MATERIALS
TO SIMULTANEOUSLY CONTACT NEGATIVE AND POSITIVE OF BATTERIES.

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

Spill Release Procedures:STOP FLOW OF MATERIAL, CONTAIN/ABSORB SMALL
SPOILS WITH DRY SAND, EARTH, VERMICULITE. DO NOT USE COMBUSTIBLE
MATERIALS. IF POSSIBLE, CAREFULLY NEUTRALIZE SPILLED ELECTROLYTE
MATERIALS. IF POSSIBLE, CA REFULLY NEUTRALIZE SPILLED ELECTROLYTE
WITH SODA ASH. SODIUM BICARBONATE, LIME, ETC. WEAR ACID-RESISTANT
CLOTHING, BOOTS, GLOVES, AND FACE SHIELD. DO NOT ALLOW DISCHARGE OF
UNNEUTRALIZE
D ACID TO SEWER

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

Handling and Storage Precautions:STORE BATTERIES IN COOL, DRY,
WELL-VENTILATED AREAS WITH IMPERVIOUS SURFACES AND ADEQUATE
CONTAINMENT IN THE EVENT OF SPILLS. BATTERIES SHOULD ALSO BE STORED
UNDER ROOF FOR PROTECTION AGAINST ADVERSE WEATHER CONDITIONS.
SEPARATE FROM INCOMPATIBLE MATERIALS.

========== 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:STORE AND HANDLE IN WELL-VENTILATED AREA. IF MECHANICAL VENTILATION IS USED. COMPONENTS MUST BE ACID-RESISTANT.
Protective Gloves:RUBBER OR PLASTIC ACID-RESISTANT GLOVES WITH ELBOW-LENGTH GAUNTLET.
Eye Protection:CHEMICAL GOGGLES ARE FACE SHIELD.
Other Protective Equipment:ACID-RESISTANT APRON. UNDER SEVERE EXPOSURE OR EME
RGENCY CONDITIONS, WEAR ACID-RESISTANT CLOTHING AND BOOTS.
Work Hygienic Practices:IN AREAS WHERE SULFURIC ACID IS HANDLE IN CONCENTRATION GREATER THAN 1%, EMERGENCY EYEWASH STATION AND SHOWERS AND SHOWERS SHOULD BE PROVIDED, WITH UNLIMITED WATER SUPPLY.
Supplemental Safety and Health
HANDLE BATTERIES CAUTIOUSLY TO AVOID SPILLS. MAKE CERTAIN VENT CAPS ARE ON SECURELY. AVOID CONTACT WITH INTERNAL COMPONENTS. WEAR PROTECTIVE CLOTHING WHEN FILLING OR LANDING BATTERIES.

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

Boiling Pt:=95.C, 203.F
B.P. Text:203-240F
Vapor Pres:10
Vapor Density:> 1
Spec Gravity:1.215 TO 1.315
Solubility in Water:100%
Appearance and Odor:MANUFACTURED ARTICLE; NO APPARENT ODOR. ELECTROLYTE IS A CLEAR LIQUID, PUNGENT

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

Stability Indicator/Materials to Avoid:YES
SULFURIC ACID. CONTACT WITH COMBUSTIBLES AND ORGANIC MATERIALS MAY CAUSE FIRE AND EXPLOSIO
N. ALSO REACTS VIOLENTLY WITH STRONG
REDUCING AGENTS, METALS SULFUR TRIOXIDE GAS, STRONG OXIDIZERS AND WATER. LEAD COMPONDS: AVOID C
Stability Condition to Avoid:PROLONGED OVERCHARGE: SOURCES OF IGNITION.
Hazardous Decomposition Products:SULFURIC ACID: SULFUR TRIOXIDE, CARBON MONOXIDE, SULFURIC ACID MIST, SULFUR DIOXIDE HYDROGEN. LEAD COMPOUNDS: HIGH TEMPEATURES LIKELY TO PRODUCE TOXIC METAL FUME, VAPOR OR DUST.

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

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Waste Disposal Methods:SPEND BATTERIES: SEND TO SECONDARY LEAD SMELTER FOR RECYCLING. PLACE NEUTRALIZED SLURRED INTO SEALED CONTAINERS AND DISPOSED AS HAZARDOUS WASTE, AS APPLICABLE. LARGE WATER-DILUTED SPILLS, AFTER NEUTRA LIZATION AND TESTING, SHOULD BE MANAGED IN ACCORDANCE WITH APPROVED LOCAL, STATE, AND FEDERAL REQUIR EMENTS. CONSULT STATE ENVIRONMENTAL AGENCY.

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

Federal Regulatory Information:WE
T (FILLED WITH ELECTROLYTE) BATTERIES
ARE REGULATED BY U.S DOT AS HAZARDOUS MATERIAL. RCRA: SPENT LEAD ACID BATTERIES ARE NOT REGULATED AS HAZARDOUS WASTE WHEN RECYCLED. SPILLED SULFURIC ACID IS A C HARACTERISTIC HAZARDOUS WASTE; EPA HAZARDOUS NUMBER DOO2 (CORROSIVITY). CERCLA (SUPERFUND) AND EPCRA. (A) REPORTABLE QUANITY FOR SPILLED 100% SULFURIC ACID UNDER CERCLA AND EPCRA IS 1000 LBS. STATE AN D LOCAL REPORTABLE QUANITIES FOR SPILLED USFURIC ACID MAY VARY. (B) SULF
URIC ACID IS LISTED "EXTREME
LY HAZARDOUS " UNDER EPCRA WITH A THRESHOLD PLANNING QUANITITY (PQ) OF 1000 LBS.
State Regulatory Information: