

YUASA, INC -- LEAD-ACID BATTERY -- 6140-01-432-8276

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

Product ID:LEAD-ACID BATTERY

MSDS Date:04/20/2000

FSC:6140

NIIN:01-432-8276

MSDS Number: CKYGB

=== Responsible Party ===

Company Name:YUASA, 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:610-208-1975

Resp. Party Other MS

DS Num.:FORM#853020

Chemtrec Ind/Phone:(800)424-9300

CAGE:TO063

=== Contractor Identification ===

Company Name:BATTERY OUTLET OF HAMPTON INC

Address:2815 GEORGE WASHINGTON HWY

Box:City:TABB

State:VA

ZIP:23602

Country:US

Phone:804-867-8280

Contract Num:SPO-400-00-A-AC13

CAGE:0FTM0

Company Name:ENERGY TECHNOLOGIES CORP

Address:219 PARK AVENUE (E)

Box:City:MANSFIELD

State:OH

ZIP:44902-1845

Country:US

Phone:419-522-4466

CAGE:0XBF7

Company Name:J.G.B. ENTERPRISES

Address:115 METROPOLITAN DR

Box:209

C

ity:LIVERPOOL
State:NY
ZIP:13088
Country:US
Phone:315-451-2770
Contract Num:SPO-400-00-A-B989
CAGE:61125
Company Name:UNISOURCE LOGISTICS CORP.
Country:US
Contract Num:SPO-430-00-M-G332
CAGE:1LX38
Company Name:YUASA, INC
Address:2366 BERNVILLE ROAD
Box:14145
City:READING
State:PA
ZIP:19612-4145
Country:US
Phone:610-208-1975
CAGE:TO063

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

Ingred Name:ELECTROLYTE (SULFURIC ACID)
CAS:7664-93-9
RTECS #:WS5600000
Minumum % Wt:10.
Max
umum % Wt:30.
Other REC Limits:1000 UG.ME NIOSH
OSHA PEL:1000 UG/M3
ACGIH TLV:1000 UG/M3
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:LEAD
CAS:7439-92-1
RTECS #:OF7525000
= Wt:60.
Other REC Limits:100 UG/M3 NIOSH
OSHA PEL:50 UG/M3
ACGIH TLV:150 UG.M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:ANTIMONY
CAS:7440-36-0
RTECS #:CC4025000
= Wt:2.
Other REC Limits:100 UG/M3 NIOSH
OSHA PEL:500 UG/M3
ACGIH TLV:500 UG/M3
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:ARSENIC
CAS:7440

-38-2
RTECS #:CG0525000
= Wt:.2
Other REC Limits:--
OSHA PEL:10 UG/ME
ACGIH TLV:200 UG/M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:CALCIUM
CAS:7440-70-2
RTECS #:EV8040000
= Wt:.2
Other REC Limits:--
OSHA PEL:--
ACGIH TLV:--

Ingred Name:TIN
CAS:7440-31-5
RTECS #:XP7320000
= Wt:.2
Other REC Limits:--
OSHA PEL:2000 UG/M3
ACGIH TLV:2000 UG/M3

Ingred Name:POLYPROPYLENE (CASE MATERIAL)
CAS:9003-07-0
RTECS #:UD1842000

Ingred Name:POLYSTYRENE (CASE MATERIAL)
CAS:9003-53-6
RTECS #:WL6475000

Ingred Name:STYRENE ACRYLONITRILE (CASE MATERIAL)
CAS:9003-54-7
RTECS #:AT6978000

Ingred Name:ACRYLONITRILE-BUTADIENE-STYRENE (CASE MATERIAL)
CAS:9003-56-9
RTECS #:AT6970000

Ingred Name:STYRENE-BUTADIENE POLYMER (CASE MATERIAL)
CAS:9003-55-8
RTECS #:WL6478000

Ingred Name:POLYVINYL CHLORIDE (CASE MATERIAL)
CAS:9002-86-2
RTECS #:KV0350000

Ingred Name:POLYCARBONATE (CASE MATERIAL)

Ingred Name:HARD RUBBER (CASE MATERIAL)

Ingred Name:POLYETHYLENE (CASE MATERIAL)

===== Hazards Ide

ntification =====

LD50 LC50 Mixture:ORAL LD50(RAT):NOT SPECIFIED

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

Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES

Health Hazards Acute and Chronic:IACUTE: 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 ACHES & WEAKNESS, SLEEP DISTURBANCES & IRRITABILITY.

CHRONIC: SULFURIC ACID-POSSIBLE

EROSION OF TOOTH ENAMEL, INFLAMMATION OF NOSE, THROAT & BRONCHIAL TUBES. LEAD COMPOUNDS-ANEMIA; NEUROPATHY, PARTICULARLY OF THE MOTOR NERVES, WITH WRIST DROP; KIDNEY DAMAGE; REPRODUCTIVE CHANGES IN MALES & FEMALES.

Explanation of Carcinogenicity:SULFURIC ACID: IARC HAS CLASSIFIED

"STRONG ACID MIST CONTAINING SULFURIC ACID" AS A CATEGORY 1 CARCINOGEN, A SUBSTANCE THAT IS CARCINOGENIC TO HUMANS. THIS CLASSIFICATION DOES NOT APPLY TO LIQ

UID FORMS OF SULFURIC

ACID/SULFURIC ACID SOLUTIONS CONTAINED WITHIN A BATTERY. INORGANIC ACID MIST IS NOT GENERATED UNDER NORMAL USE OF THIS PRODUCT. "SEE OTHER"

Effects of Overexposure:INHALATION: SULFURIC ACID-BREATHING OF SULFURIC ACID VAPOR/MISTS MAY CAUSE SEVERE RESPIRATORY IRRITATION.

LEAD-INHALATION OF LEAD DUST/FUMES MAY CAUSE IRRITATION OF UPPER RESPIRATORY TRACT & LUNGS. INGESTION: SULFURIC ACID-MAY CAUSE SEVERE IRRITATION OF MOUTH, THROAT, ESOPHAGUS & STOM

ACH. LEAD-ACUTE

INGESTION MAY CAUSE ABDOMINAL PAIN, NAUSEA, VOMITING, DIARRHEA & SEVERE CRAMPING. THIS MAY LEAD RAPIDLY TO SYSTEMIC TOXICITY. SKIN: SULFURIC ACID-SEVERE IRRITATION, BURNS & ULCERATIONS. LEAD--NOT ABSORBED THROUGH THE SKIN. EYE: SULFURIC ACID-SEVERE IRRITATION, BURNS, CORNEA DAMAGE & BLINDNESS. LEAD-MAY CAUSE EYE IRRITATION.

Medical Cond Aggravated by Exposure:SULFURIC ACID: LUNG DAMAGE AND

PULMONARY CONDITIONS; ECZEMA AND DERMATITIS. LEAD:KIDNEY, LIVER,

AND NEUROLOGIC DISEASES.

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

First Aid:INHALATION: SULFURIC ACID-MOVE TO FRESH AIR; IF BREATHING IS HARD, GIVE OXYGEN. LEAD-REMOVE FROM EXPOSURE, GARGLE, WASH NOSE & LIPS; CONSULT PHYSICIAN. INGESTION: SULFURIC ACID-GIVE LARGE QUANTITY OF WATER, DO NOT INDUCE VOMITING, CONSULT PHYSICIAN. LEAD-CONSULT PHYSICIAN IMMEDIATELY. SKIN: SULFURIC ACID-FLUSH WITH WATER FOR AT LEAST 15 MINUTES; REMOVE CONTAMINATED CL

OTHING &

SHOES. LEAD-WASH IMMEDIATELY WITH SOAP & WATER. EYES: SULFURIC ACID & LEAD-FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES; CONSULT PHYSICIAN.

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Fire Fighting Measures
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Lower Limits:4.1(H₂ GAS)

Upper Limits:74.2(H₂ GAS)

Extinguishing Media:CO₂, FOAM, DRY CHEMICAL.

Fire Fighting Procedures:IF BATTERIES ARE ON CHARGE, SHUT OFF POWER.

USE POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS. WATER APPL

IED TO ELECTROLYTE GENERATES HEAT AND CAUSES IT TO SPLATTER.

WEAR ACID-RESISTANT CLOTHING.

Unusual Fire/Explosion Hazard:HIGHLY FLAMMABLE HYDROGEN GAS IS

GENERATED DURING CHARGING AND OPERATION OF BATTERIES.TO AVOID RISK OF FIRE OR EXPLOSION, KEEP SPARKS OR OTHER SOURCES OF IGNITION AWAY FROM BATTERIES. DO NOT ALLOW METALLIC MATERIALS TO SIMULTANEOUSLY CONTACT NEGATIVE AND POSITIVE TERMINALS OF CELL AND BATTERIES.

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Accidental Release Measures
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Spill Release Procedures:STOP FLOW OF MATERIAL, CONTAIN/ ABSORB SMALL SPILLS WITH DRY SAND, EARTH AND VERMICULITE. DO NOT USE COMBUSTIBLE MATERIALS. WEAR ACID RESISTANT CLOTHING, BOOTS, GLOVES AND FACE SHIELD. DO NOT ALLOW DISCHARGE OF UNNEUTRALIZED ACID TO SEWER.

Neutralizing Agent:SODA ASH, SODIUM BICARBONATE, LIME ETC.

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Handling and Storage
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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. SEPERATE FROM INCOMPATIBLE MATERIALS.

Other Precautions:STORE AND HANDLE IN AREAS WITH ADEQUATE WATER SUPPLY AND SPILL CONTROL. AVOID DAMAGE TO CONTAINER. KEEP AWAY FROM SPARKS AND HEAT.PRECAUTIONARY LABELING: POISON- CAUSES SEVERE BURNS. DANGER- CONTAINS SULFURIC ACID.

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Exposure Co

ntrols/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 WITH ELBOW-LENGTH GAUNTLET.

Eye Protection:CHEMICAL GOGGLES OR FACE SHIELD.

Other Prot

ective Equipment:ACID RESISTANT APRON. UNDER SEVERE OR EMERGENCY CONDITIONS, WEAR ACID-RESISTANT CLOTHING AND BOOTS. PROVIDE EYEWASH STATION AND SHOWER WITH UNLIMITED WATER SUPPLY.

Work Hygienic Practices:HANDLE BATTERIES CAUTIOUSLY TO AVOID SPILLS. MAKE CERTAIN VENT CAPS ARE ON SECURELY. AVOID CONTACT WITH INTERNAL COMPONENTS. WEAR PROTECTIVE CLOTHING WHEN FILLING OR HANDLING BATTERIES.

Supplemental Safety and Health

EMERGENCY FLUSHING: IN AREAS WHERE SULFURIC ACID IS HANDLE D IN

CONCENTRATIONS GREATER THAN 1%, EMERGENCY EYEWASH STATIONS AND SHOWERS SHOULD BE PROVIDED, WITH AN UNLIMITED SUPPLY OF WATER.

*CHEMICAL/T RADE NAME: LEAD-ACID BATTERY. CHEMICAL

FAMILY/CLASSIFICATION: ELECTRIC STORAGE BATTERY.

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

HCC:Z4

Boiling Pt:>95.C, 203.F

Vapor Pres:10MMHG

Vapor Density:>1

Spec Gravity:1.215 TO 1.350

Evaporation Rate & Reference: