GNB TECHNOLOGIES, AUTOMOTIVE BATTERY DIVISION -- LEAD ACID BATTERY -- 6140-01-372-6218

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

Product ID:LEAD ACID BATTERY
MSDS Date:08/01/1998
FSC:6140
NIIN:01-372-6218
Status Code:A
MSDS Number: CJQYD
=== Responsible Party ===
Company Name:GNB TECHNOLOGIES, AUTOMOTIVE BATTERY DIVISION
Address:375 NORTHRIDGE RD
City:ATLANTA
State:GA
ZIP:30350
Country:US
Info Phone Num:
770-673-2470
Emergency Phone Num:770-673-2470
Preparer's Name:STEVE EMMONS/R THOMPSON
Chemtrec Ind/Phone:(800)424-9300
CAGE:TO368
=== Contractor Identification ===
Company Name:GNB TECHNOLOGIES, AUTOMOTIVE BATTERY DIVISION
Address:375 NORTHRIDGE RD
Box:City:ATLANTA
State:GA
ZIP:30350
Country:US
Phone:770-673-2470
CAGE:TO368
Company Name:MITEL, INC
Address:205 VAN BUREN STREET SUITE 400
Box:City:HERNDON
State:VA
ZIP:20170
Country:US
Phone:703-736-3207/FX703904-0565
CAGE:5R478

========== Comp

osition/Information on Ingredients ==========

Ingred Name:LEAD
CAS:7439-92-1
RTECS #:OF7525000
Minumum % Wt:27.
Maxumum % Wt:34.
OSHA PEL:0.05 MG/M3
ACGIH TLV:0.15 MG/M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:LEAD OXIDES
CAS:1309-60-0
RTECS #:OG0700000
Minumum % Wt:39.
Maxumum % Wt:48.
OSHA PEL:0.05 MG/M3
ACGIH TLV:0.15 MG/M3

Ingred Name:ELECTROLYTE (SULFURIC ACID AND WATER)
CAS:7664-93-9
RTECS #:WS5600000
Minumum % Wt:11.
Maxumum % Wt:23.
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3
ACGIH S
TEL:3 MG/M3
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:POLYPROPYLENE (CASE MATERIAL: THIS AND NEXT INGREDIENTS)
CAS:9003-07-0
RTECS #:UD1842000
Minumum % Wt:6.
Maxumum % Wt:10.

Ingred Name:HARD RUBBER
CAS:9003-55-8
RTECS #:WL6478000
Minumum % Wt:6.
Maxumum % Wt:10.

Ingred Name:PLATE SEPARATOR MATERIAL: POLYETHYLENE
CAS:9002-86-2
RTECS #:KV0350000
Minumum % Wt:1.
Maxumum % Wt:2.

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

Routes of Entry: Inhalation:YES S

kin:YES Ingestion:YES
Health Hazards Acute and Chronic:INHALATION: HIGH LEVEL OF SULFURIC ACID VAPORS/MIST MAY CAUSE SEVERE RESPIRATORY IRRITATION. SKIN CONTACT: SULFURIC ACID MAY CAUSE SEVERE IRRITATION, BURNS AND ULCERATION. NOT READILY ABSORBED THROUGH SKIN. EYE CONTACT: SULFURIC ACID VAPORS/MIST CAN CAUSE SEVERE IRRITATION, BURNS, CORNEA DAMAGE AND POSSIBLE BLINDNESS. LEAD MAY CAUSE IRRITATION. INGESTION: SULFURIC ACID MAY CAUSE SEVERE IRRITATION OF MOUTH, THRO
AT, ESOPHAGUS AND STOMACH. LEAD COMPOUNDS MAY CAUSE ABDOMINAL PAIN, NAUSEA, HEADACHES, VOMITING, DIARRHEA, SEVERE CRAMPING. INGESTION SHOULD BE TREATED BY PHYSICIAN.
Explanation of Carcinogenicity:LEAD HAS BEEN TESTED FOR ABILITY TO CAUSE CANCER. THE RESULTS SHOWED THAT THERE IS INSUFFICIENT EVIDENCE TO SHOW THAT LEAD CAN OR CANNOT CAUSE CANCER.
Effects of Overexposure:ACUTE EFFECTS: SULFURIC ACID MAY CAUSE SEVERE SKIN IRRITATION, BURNS, DAMAGE TO CORNEA AND POSSIBLE BLINDNES
S AND
UPPER RESPIRATORY IRRITATION. LEAD COMPOUNDS MAY CAUSE ABDOMINAL PAIN, NAUSEA, HEADACH ES, VOMITING, DIARRHEA, SEVERE CRAMPING AND DIFFICULTY IN BREATHING. CHRONIC EFFECTS: SULFURIC ACID MAY LEAD TO SCARRING OF CORNEA, INFLAMMATION OF NOSE, THROAT AND BRONCHIAL TUBES AND POSSIBLE EROSIO N OF TOOTH ENAMEL. LEAD COMPOUNDS MAY CAUSE ANEMIA, DAMAGE TO KIDNEYS AND NERVOUS SYSTEM. MAY CAUSE REPRODUCTIVE CHANGES IN BOTH MALES AND FEMALES.

========== Firs
t Aid Measures ==========

First Aid:INHALATION: SULFURIC ACID: REMOVE TO FRESH AIR IMMEDIATELY. IF BREATHING IS DIFFICULT, GIVE OXYGEN. LEAD COMPOUNDS: REMOVE FROM EXPOSURE, GARGLE, WASH NOSE AND LIPS. CONSULT PHYSICIAN. SKIN: SULFURIC ACID: FLUSH WITH WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. LEAD COMPOUNDS ARE NOT ABSORBED THROUGH THE SKIN. EYES: SULFURIC ACID AND LEAD COMPOUNDS: FLUSH IMMEDIATELY WITH WATER FOR AT LEAST15 M
INUTES, THEN CONSULT
PHYSICIAN. INGESTION: SULFURIC ACID: GIVE LARGE QUANTITIES OF WATER - DO NOT INDUCE VOMITING - THEN CONSULT A PHYSICIAN.. LEAD COMPOUNDS: CONSULT A PHYSICI AN.

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

Lower Limits:4.65 (H2)
Upper Limits:93.9
Extinguishing Media:CO2,FOAM,DRY CHEMICAL
Fire Fighting Procedures:IF BATTERIES ON CHARGE,TURN OFF POWER.USE POSITIVE PRESSURE,SELF-CONTAINED BREATHING APPARATUS.WATER APPLIED TO ELECTROL

YTE GENERATES HEAT AND CAUSES IT TO SPLATTER.WEAR ACID RESISTANT CLOTHING.

Unusual Fire/Explosion Hazard:HYDROGEN AND OXYGEN GASES ARE PRODUCED DURING NORMAL BATTERY OPERATION OR WHEN ON CHARGE(HYDROGEN IS HIGHLY FLAMMABLE AND OXYGEN SUPPORTS COMBUSTION).THESE GASES ENTER THE AIR THROUGH THE VENT CAPS. T O AVOID RISK OF EXPLOSION,KEEP SPARKS AND OTHER SOURCES OF IGNITION AWAY FROM BATTERY.

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

Spill Release Pro

cedures:REMOVE COMBUSTIBLES AND SOURCES OF IGNITION. STOP FLOW AND CONTAIN SPILL BY DIKING WITH SODA ASH (SODIUM CARBONATE) OR QUICK LIME (CALCIUM OXIDE). CAREFULLY NEUTRALIZE SPILL WITH SODA ASH, ETC. COLLEC T RESIDUE AND PLACE IN A DRUM WITH A LABEL SPECIFYING "CONTAINS HAZARDOUS WASTE". IF BATTERY IS LEAKING, PLACE IT IN A HEAVY DUTY PLASTIC BAG. WEAR PROPER EQUIPMENTS. DO NOT RELEASE UNNEUTRALIZED ACID

Neutralizing Agent:SODA ASH (SODIUM CARBONATE), QUICK LIME (CALCIU

M

OXIDE)

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

Respiratory Protection:NONE REQUIRED UNDER NORMAL CONDITIONS. IF CONCENTRATIONS OF SULFURIC ACID MIST ARE KNOWN TO EXCEED PEL,USE NIOSH OR OSHA APPROVED RESPIRATORY PROTECTION.

Protective Gloves:RUBBER OR PLASTIC ACID RESISTANT GLOVES WITH ELBOW LENGTH GAUNTLET.

Eye Protection:CHEMICAL SPLASH GOGGLES OR FACE SHIELD

Other Protective Equipment:ACID RESISTANT APRON.UNDER SEVERE EXPOSURE OR EMERGENCY C

ONDITIONS, WEAR ACID RESISTANT CLOTHING AND BOOTS.

Work Hygienic Practices:MAKE CERTAIN VENT CAPS ARE ON TIGHTLY. PLACE MINIMUM OF 2 LAYERS OF CARBOARD BETWEEN LAYERS OF BATTERIES. DO NOT STACK MORE THAN 3 LAYERS HIGH.

Supplemental Safety and Health

DO NOT ALLOW METALLIC MATERIALS TO SIMULTANEOUSLY CONTACT BOTH THE POSITIVE AND NEGATIVE TERMINALS OF THE BATTERIES. USE BATTERY CARRIER TO LIFT A BATTERY OR PLACE HANDS ON OPPOSITE CORNERS TO AVOID SPILLING ACID THROUGH THE VEN

TS. AVOID CONTACT WITH INTERNAL
COMPONENTS OF THE BATTERY.

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

HCC:C1
Boiling Pt:=109.4C, 229.F
B.P. Text:TO 248F
Vapor Pres:10 @ 20C/68F
Vapor Density:>1
Spec Gravity:1.230-1.350
Evaporation Rate & Reference: