WET CELL LEAD-ACID

MATERIAL SAFETY DATA SHEET

	DATE Jan. 31, 1996
PRODUCT NAME: Lead acid battery	TELEPHONE NO.: Not Applicable
HAZARDOUS COMPONENTS: Lead, Sulfuric Acid	

HAZARDOUS COMPONENTS

COMPONENT	% WEIGHT	OSHAPEL(TLV)	LD_{50} ORAL	LC_{50} INHALATION	LD_{50} CONTACT
Lead (as Pb, PbO_2, $PbSO_4$)	65-75%	0.050 mg/m^3	<500 mg/kg	<20 mg/m^3	N/A
Sulfuric Acid	17-30%	1 mg/m^3	2.140 kg/kg	18 mg/m^3	135 mg/kg

PHYSICAL DATA

COMPONENT	DENSITY	MELTING POINT (BOILING)	SOLUBILITY IN WATER	ODOR	APPEARANCE
Lead	11.34 gm/cm^3	621.5˚F	None	None	Silver-Gray Metal
Lead Sulfate	6.2 gm/cm^3	2132˚ F	.43 mg/1	None	White Powder
Lead Dioxide	9.375 gm/cm^3	d. 554˚ F	None	None	Brown Powder
Sulfuric Acid	1.265-1300gm/cm^3	235˚ F	100%	Acidic	Clear Colorless Liquid

FLAMMABILITY DATA

COMPONENT	FLASHPOINT	EXPLOSIVE LIMITS	COMMENTS
Lead	None	None	Use Class "B" fire extinguisher
Sulfuric Acid	None	None	Use Class "B" fire extinguisher
Hydrogen	<0˚ F	4.0%-74.2%	Batteries on charge give off hydrogen gas, which can explode. Keep sparks, etc. away

HEALTH HAZARD DATA

LEAD The toxic effects of lead are accumulative, and slow to appear. It affects the kidneys, reproductive, and central nervous system. The symptoms of lead overexposure are anemia, vomiting, headache, stomach pain (lead colic), dizziness, loss of appetite, and muscle and joint pain. Exposure to lead from a battery most often occurs during lead reclaim operations through the breathing or ingestion of lead dusts and fumes. THIS SHEET MUST BE PASSED TO ANY SCRAP DEALER OR SMELTER WHEN THE BATTERY IS RESOLD.

SULFURIC ACID Sulfuric acid is a strong corrosive. Contact with the acid can cause severe burns to the skin and eyes. Ingestion of sulfuric acid will cause GI tract burns. Inhalation of mists and vapors will cause throat and lung irritation. Proper protective equipment must be worn. SEE OTHER SIDE FOR FIRST AID INSTRUCTIONS.

REACTIVITY DATA

COMPONENT	Sulfuric Acid
STABILITY	Stable at all temperatures
POLYMERIZATION	Will not polymerize
INCOMPATIBILITY	Reactive metals, strong bases, most organic compounds
DECOMPOSITION PRODUCTS	Sulfur dioxide, trioxide, hydrogen sulfide
CONDITIONS TO AVOID	Prohibit smoking, sparks, flames, etc. from battery charging area. Avoid mixing acid with other chemicals.

SPILL OR LEAK PROCEDURES

STEPS TO TAKE IN CASE OF LEAK OR SPILL

If sulfuric acid is spilled from a battery, neutralize the acid with sodium bicarbonate (baking soda), sodium carbonate (soda ash) or calcium oxide (lime). Flush the area with water. Do not allow unneutralized acid into the sewage system.

WASTE DISPOSAL METHOD

Neutralized acid may be flushed down the sewer. Spent batteries must be treated as hazardous waste; and disposed of according to Local, State and Federal regulations. A copy of this material safety data sheet must be supplied to any scrap dealer or secondary lead smelter.

PROTECTION

EXPOSURE SITE	PROTECTION	COMMENTS
SKIN	Rubber gloves, apron	NIOSH-approved HEPA mask for lead dusts
RESPIRATORY	Ventilation, mist-type mask	
EYES	Safety goggles, face shield	

HANDLING AND STORAGE

Batteries should be stored in a cool, dry location, not in contact with concrete floors. Batteries should never be stacked without supports. Battery rooms or areas should have means of dissipating any hydrogen gas given off during charging.

FIRST AID

Sulfuric Acid

Skin Contact - Flush with water, see physician if contact area is large, or if blisters form.

Eye Contact - Call physician immediately, flush with water until physician arrives.

Ingestion - Call physician. DO NOT INDUCE VOMITING. If patient is conscious, flush mouth with water, have the patient drink milk, or sodium bicarbonate solution. DO NOT GIVE ANYTHING TO AN UNCONSCIOUS PERSON.