POWER
Power for a World of Applications

MATERIAL SAFETY DATA SHEET

BATTERY TYPES
CG-SLC, CV, FT, CSL, MC, MC-P, PL-C, PM, PM-F, PRC, PS, SL, SLF, TC, TG, TL, TL-SLC, WC.
Date: March, 25th, 2006 Rev.12

EMERGENCY PLEASE CALL 1-800-424-9300 (SERVICES 24 HOURS)

HAZARDOUS COMPONENTS

COMPONENT	NO. CAS	% WEIGHT	OSHAPEL (TLV)	LD_{50} ORAL	LD_{50} INHALATION	LD_{50} CONTACT
Lead Pb, PbO_2, $PbSO_4$	7439-92-1	65-75 %	0.050 mg/m³	<500 mg/kg	<20 mg/m³	n/a
Sulfuric Acid	7664-93-9	17-30 %	1 mg/m³	2.140 kg/kg	18 mg/m³	135 mg/kg

PHYSICAL DATA

COMPONENT	DENSITY	MELTING POINT (BOILING)	SOLUBILITY (IN WATER)	ODOR	APPEARANCE
Lead	11.34 gm/cm³	621.5 °F	none	none	Silver-gray metal
Lead Sulfate	06.20 gm/cm³	2133 °F	.43 mg/l	none	White powder
Lead Dioxide	9.375 gm/cm³	d 554 °F	none	none	Brown powder
Sulfuric Acid	1.290 gm/cm³	1 235 °F	100%	none	Clear liquid

FLAMMABILITY

COMPONENT	FLASHPOINT	EXPLOSIVE LIMITS	COMMENTS
Lead	none	none	Use "ABC" Type fire extinguisher for battery fires
Sulfuric acid	none	none	
Hydrogen	<0°F	4%-74.2%	POWER batteries can emit hydrogen only if over charged (float voltage 2.40 VPC or greater)

HEALTH HAZARD DATA

Lead: The toxic effects of lead are accumulative, and slow to appear. It affects the kidneys, reproductive and central nervous systems. The symptoms of lead over exposure are anemia, vomiting, headache, stomach pain (lead colic), dizziness, loss of appetite and muscles and joints pain. Exposure to lead from a battery most often occurs during lead reclaim operation 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 gastro intestinal tract burns.

First aid – Sulfuric acid: Skin contact: Flush with water for 15 minutes. Remove contaminated clothing.
Call 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. DO NOT GIVE ANYTHING TO AN UNCONSCIOUS PERSON.

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, Sulfur Trioxide, Hydrogen Sulfide, Hydrogen.
Conditions to avoid: Smoking, sparks, flames, etc., from battery charging area. Mixing acid with other chemicals.
Spill or leak procedures: 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... and dispose of as hazardous waste.

Waste disposal method: 1) Spent lead acid batteries are disposed of using three (3) acceptable methods: send the batteries to: (a) licensed secondary lead smelters for recycling (b) reputable battery handlers (c) reputable scrap dealers. 2) If the user has to transport these batteries to the smelters, the user must follow department of transportation (DOT) regulations.
A copy of this material safety data sheet must be supplied to any scrap dealer or secondary lead smelter.
Follow applicable Federal, State, and Local regulations.

Protection: Skin – rubber gloves, apron **Respiratory** – protective equipment must be worn if the battery is cracked or otherwise damaged.
HEPA respirator should be worn during reclaim operations, if the OSHA PEL is exceeded. Eyes – safety goggles, face shield.

Electrical safety: due to the low internal resistance of POWER batteries and high power density, high levels of short circuit current can be developed across the battery terminals. Do not rest tools or cables on the battery. Use insulated tools only. Follow any installation instructions and diagrams when installing or maintaining battery systems.

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