

MATERIAL SAFETY DATA SHEET

10/01/05

PRODUCT NAME: Sealed, Maintenance Free, Lead Acid Batteries

SPILL OR LEAK PROCEDURES

STEPS TO TAKE IN CASE OF LEAKS OR SPILLS:

If sulfuric acid is spilled from a battery, neutralize the acid with sodium bicarbonate (baking soda), sodium carbon (soda ash) or calcium oxide (lime).

Flush the area with water and discard to the sewage systems. Do not allow non-neutralized 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 must be supplied to any scrap dealer or secondary smelter with battery.

PROTECTION

EXPOSURE	PROTECTION	COMMENTS
SKIN	Rubber gloves, Apron	Protective equipment must be worn if battery is cracked or otherwise opened.
RESPIRATORY	Respirator (for lead)	A respirator should be worn during reclaim operation if the TLV is exceeded.
EYES	Safety goggles, face shield	

ELECTRICAL SAFETY

Due to the battery's low internal resistance and high power density, High levels of short circuit can be developed across the battery terminals. Do not rest tools or cables on the battery. Use insulated tools only. Follow all installation instructions and diagrams when installing or maintaining battery systems.

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 or joint pain. Exposure to lead from a battery most often occurs during lead reclaim operations through the breathing or ingestion of lead dust and fumes.

THIS DATA MUST BE PASSED TO ANY SCRAP OR SMELTER WHEN A BATTERY IS RESOLD.

SULFURIC ACID: Sulfuric acid is a strong corrosive. Contact with acid can cause severe burns on the skin and in the eyes.

Ingestion of sulfuric acid will cause GI tract burns. Acid can be release if the battery case is damaged or if the vents are tampered with.

FIBERGLASS SEPARATOR: Fibrous glass is an irritant of the upper respiratory tract, skin and eyes. For exposure up to 10F/CC use MSA Comfoll with type H filter. Above 10F/CC up to 50F/CC use Ultra-Twin with type H filter.

This product is not considered carcinogenic by NTP or OSHA.

COMPONENTS

COMPONENTS	%WEIGHT	TLV	LD50 ORAL	LC50 INHALATN	LC50 CONTACT
Lead (Pb, PbO ₂ , PbSO ₄)	About 70%	N/A	□500□mg/kg	N/A	N/A
Sulfuric Acid	About 8%	N/A	N/A	N/A	N/A
Fiberglass Separator	About 12%	N/A	N/A	N/A	N/A
Styron R 478 (polystyrene)	About 10%	N/A	N/A	N/A	N/A

PHYSICAL DATA

COMPONENTS	DENSITY	MELTING POINT	SOLLUBILITY (H ₂ O)	ODOR	APPEARANCE
Lead	11.34	327.4 ⁰ C(Boiling)	None	None	Silver-Gray Metal
Lead Sulfate	6.2	1070 ⁰ C(Boiling)	40 mg/1(15 ⁰ C)	None	White Powder
Lead Dioxide	9.4	290 ⁰ C(Boiling)	None	None	Brown Powder
Fiberglass Sep.	N/A	N/A	Slight	None	White Fibrous Glass
478 polystyrene	N/A	N/A	None	None	Solid

FLAMMABILITY DATA

COMPONENTS	FLASHPOINT	EXPLOSIVE LIMITS	COMMENTS
Lead	None	None	
Hydrogen		4%-74.2%	Sealed batteries can emit hydrogen only if over charged(float voltage>2.4 Vpc)
Fiberglass Sep.	N/A	N/A	Toxic vapors may be released. In case of fire: wear self-contained breathing apparatus.
478 polystyrene	None	N/A	Temperatures over 300 ⁰ C (572 ⁰ F) may release combustible gases. In case of fire: wear positive pressure self-contained breathing apparatus.

FIRST AID**SULFURIC ACID PRECAUTIONS**

SKIN CONTACT: Flush with water, see physician if contact area is large or if blisters form.

EYE CONTACT: Call physician immediately and flush with water until physician arrives.

INGESTION: Call physician. 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

REGULATORY TRANSPORTATION INFORMATION

UN 2800: "Batteries, wet, non-spillable, electric storage." NMFC #60682, Class 60.

D.O.T Unregulated, meets the requirements of CFR-49 paragraph 173.159 (d).

I.A.T.A./I.C.A.O. - Unregulated, meets the requirements of Special Provision A67.

IMO - Unregulated.