



Material Safety Data Sheet



(10139)

I PRODUCT IDENTIFICATION

Chemical/Trade name (Identify used on label)	Lead Acid Battery
Chemical Family/Classification	Electric storage Battery
Company Name	Sanford Battery Manufacturing
Address	6-7 2380 Wycroft Road
Division or Department	Industrial Battery Division
Telephone number	(905) 544-4220
Transportation Emergencies	CANUTEC (613) 996-6666

APPROVED MATERIAL
SEP 09 2014
MSDS # 10139
APPROVED BY <i>[Signature]</i>

II HAZARDOUS INGREDIENTS

Material	% by Wt. or Vol.	CAS No.	Exposure Limits	
			OSHA	ACGIH
Lead	27-34	7439-92-1	.05mg/m ³	.15mg/m ³
Lead Oxides	39-48	1309-60-0	.05mg/m ³	.15mg/m ³
Electrolyte (Sulfuric acid and water)	11-23	7664-93-9	1.0mg/m ³	1.0mg/m ³
Case material: Polypropylene	6-10	9003-07-0	N/A	N/A
Hard Rubber	6-10	9003-55-8	N/A	N/A
Plate Separator Material: Polyethylene	1-2	9002-86-2	N/A	N/A

III PHYSICAL DATA

Materials (at normal temperature)	Electrolyte (Sulfuric acid and water)
Boiling Point (at 760 MM Hg)	229-248 F
Melting Point	Not Applicable
Specific Gravity (H ₂ O=1)	1.230 to 1.350
Vapor Density (AIR=1)	Greater than 1
% Volatiles by Weight	Not Applicable
Appearance & Odor	Electrolyte (Sulfuric acid and water) is a clear liquid with a sharp, penetrating, pungent odor.
Vapor Pressure (mm Hg at 20C)	10
Solubility in water	100%
Evaporation Rate (buty acetate =1)	Less Than 1

IV HEALTH HAZARD INFORMATION

ROUTES AND METHODS OF ENTRY

Inhalation	High levels of sulfuric acid vapors or mist may cause severe respiratory irritation
Skin Contact	Sulfuric acid may cause sever irritation, burns, and ulcerations
Skin absorption	Sulfuric acid is not readily absorbed through the skin. Lead compounds are not absorbed through the skin
Eye Contact	Sulfuric acid vapors or mist can cause sever irritation, burns, cornea damage and possible blindness. Lead compounds may cause eye irritation
Ingestion	Sulfuric acid may cause sever irritation of mouth, throat, esophagus, and stomach. Lead compounds may cause abdominal pain, nausea, headaches, vomiting, diarrhea, sever cramping. Acute ingestion should be treated by physician.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Acute effects	Sulfuric acid may cause sever skin irritation, burns, damage to cornea and possible blindness and upper respiratory irritation. Lead compounds may cause abdominal pain, nausea, headaches, vomiting, diarrhea, sever cramping and difficulty in sleeping.
Chronic effects	Sulfuric acid may lead to scarring of the cornea, inflammation of nose, throat and bronchial tubes and possible erosion of tooth enamel. Lead compounds may cause anemia, damage to the kidneys and nervous system. May cause reproductive changes in both males and females.

POTENTIAL TO CAUSE CANCER

	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.
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EMERGENCY AND FIRST AID PROCEDURES

Inhalation	Sulfuric acid: Remove to fresh air immediately. If breathing is difficult give oxygen. Lead Compounds: Remove from exposure, gargle, wash nose and eyes and consult physician.
Skin	Sulfuric acid: Flush with large amounts of water for at least 15 minutes, remove any contaminated clothing and do not wear until cleaned. If acid is splashed on shoes, remove and clean. Lead compounds are not absorbed through skin.
Eyes	Sulfuric acid: Flush immediately with cool water for at least 15 minutes, then consult physician. Lead Compounds: Flush immediately with cool water for at least 15 minutes, then consult physician.
Ingestion	sulfuric acid: Give large quantities of water- DO NOT induce vomiting- then consult physician. Lead Compounds: Consult a physician.

V FIRE AND EXPLOSION DATA

Flash Point	Not Applicable
Flammable Limits	Lower: 4.65% (Hydrogen gas) Upper: 93.9%
Extinguishing Media	CO ₂ ; foam; dry chemical
Special fire fighting procedures	If batteries are on charge turn off power. Use positive pressure, self-contained breathing apparatus. Water applied to electrolyte generates heat and causes it to splatter. Wear acid resistant clothing
Unusual fire and explosion hazards	hydrogen and oxygen gases are produced in the cells 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. To avoid risk of fire or explosion, keep sparks and other sources of ignition away from the battery. Do not allow metallic material to simultaneously contact both the positive and negative terminal of batteries. Follow manufacturer's instructions for installation.

VI REACTIVITY DATA

Stability	<input type="checkbox"/> Unstable <input checked="" type="checkbox"/> Stable
Conditions to avoid	Sparks and other sources of ignition. Prolonged overcharge.
Incompatibility (Material to avoid)	combination of sulfuric acid with combustibles, and organic material may cause fire and explosion. Also avoid strong reducing agents, most metals, carbides, chlorates, nitrates, picrate. Lead Compound: potassium, carbides, sulfides, peroxides, phosphorus, and sulfur.
Hazardous decomposition products	Sulfuric acid: hydrogen sulfur trioxides and sulfuric acid mist
Hazardous polymerization	<input type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will Not Occur

VII CONTROL MEASURES

Engineering Control	Store and handle lead acid batteries in well ventilated areas.
Work practices	make certain that vent caps are on tightly. Place a minimum of two layers of cardboard between layers of batteries. Do not stack more than three layers high. Do not allow metallic materials to simultaneously contact carrier to lift a positive and negative terminals of the batteries. Use a battery carrier to lift a battery or place hands on an opposite corners to avoid spilling acid through the vents. Avoid contact with internal components of the batteries.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection	None are required under normal conditions. If concentrations of sulfuric acid mist are known to exceed PEL, use NOISH or OSHA approved respiratory protection
Eyes and face	Chemical splash goggles or shield.
Hands, arms, body	Rubber or plastic acid resistant gloves with elbow length gauntlet.
Other special clothing and equipment	Acid resistant apron. Under severe exposure or emergency conditions, wear acid resistant clothing and boots.

VIII SAFE HANDLING PRECAUTIONS

Hygiene practices	Wash hands thoroughly before eating, drinking or smoking after handling batteries.
Protective measures to be taken during non routine tasks including equipment maintenance	Not applicable

SPILL OR LEAK PROCEDURES

Protective measures to be taken if material is released or spilled	Remove combustibles materials and all sources of ignition. Stop flow of material and contain spill by diking with soda ash (sodium carbonate) or quick lime (calcium oxide). Carefully neutralize spill with soda ash, etc. make certain mixture is neutral then collect residue and place in a drum or other suitable container with a label specifying "contains hazardous waste" or if uncertain call distributor regarding proper labeling procedures. Dispose of as hazardous waste. If battery is leaking, place battery in a heavy duty plastic bag. Wear acid resistant boots, face shield, chemical splash goggles and acid resistant gloves. DO NOT RELEASE UNNEUTRALIZED ACID.
Waste disposal methods	Sulfuric acid: Neutralize as described above for spill, collect residue and place in a container labeled as hazardous waste. Dispose of as a hazardous waste. If uncertain of labeling procedures call your local battery distributor or contact listed on page 1 of this MSDS. DO NOT FLUSH LEAD CONTAMINATED ACID TO SEWER. Batteries: Send to lead recycling facility following applicable federal, state and local regulations. Contact Sanford Battery Environmental and Health Assurance for further information on proper routine disposition of spent batteries.

IX OTHER

REGULARITY INFORMATION

NFPA hazard rating for sulfuric acid	flammability (Red) = 0 Health (Blue) = 3 Reactivity (Yellow) = 2	
MOT identification and description for batteries and acid is as follows:	Batteries, wet, filled with acid Battery Fluid, acid	UN 2794 III Class S UN 2794 II Class 8

Lead acid batteries do not contain any ozone depleting materials.

The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mist Containing sulfuric acid" as a category 1 carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product such as overcharging, may however result in the generation of sulfuric acid mist.

A battery is manufactured using lead, CAS No. 7439-92-1 and sulfuric acid, CAS No. 7664-93-9 which are subject to the reporting requirements of EPCRA Section 313 (40 CFR 372)

Signature: KEN BEATTY

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Date: January 2nd, 2014

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