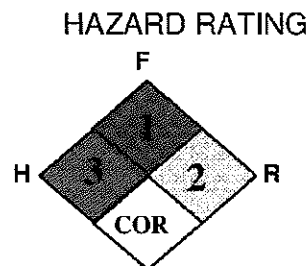




TROJAN BATTERY COMPANY LEAD / ACID BATTERY



MATERIAL SAFETY DATA SHEET

SECTION 1-- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER'S NAME:	TROJAN BATTERY COMPANY	EMERGENCY TELEPHONE NO.:	CHEMTREC 800-424-9300
ADDRESS:	12380 CLARK ST., SANTA FE SPRINGS, CA 90670	OTHER INFORMATION CALLS:	562-946-8381 800-423-6569
PERSON RESPONSIBLE FOR PREPARATION:	Ismael Pedroza, Jr.	Revision Date:	February 15, 2004

SECTION 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

C.A.S.	PRINCIPAL HAZARDOUS COMPONENT(S) (chemical & common name(s))	Hazard Category	%	ACGIH TLV	OSHA PEL-TWA
7439-92-1	Lead/Lead Oxide/Lead Sulfate	Acute-Chronic	60 - 97%	0.05 mg/m ³	0.05 mg/m ³
7440-36-0	Antimony	Chronic	1.5 - 6%	0.5 mg/m ³	0.5 mg/m ³
7440-38-2	Arsenic	Acute-Chronic	< 1%	0.01 mg/m ³	0.01mg/m ³
7664-93-9	Sulfuric Acid (Battery Electrolyte)	Reactive-Oxidizer Acute-Chronic	10 - 38%	1.0 mg/m ³	1.0 mg/m ³
7440-70-2	Calcium	Reactive	< 0.15%	Not established	Not established
7440-31-5	Tin	Chronic	< 0.3%	2.0 mg/m ³	Not established

NOTE: PEL's for individual states may differ from OSHA PEL's. Check with local authorities for the applicable state PEL's.

OSHA - Occupational Safety and Health Administration; ACGIH - American Conference of Governmental Industrial Hygienists; NIOSH - National Institute for Occupational Safety and Health.

COMMON NAME: (Used on label)

(Trade Name & Synonyms) Lead/Acid Storage Battery Chemical Family: Toxic and Corrosive Material Mixture

Chemical Name: Lead/Acid Storage Battery Formula: Lead and Acid (electrolyte)

SECTION 3 -- HAZARD IDENTIFICATION

Signs and Symptoms of Exposure	1. Acute Hazards	Do not open battery. Avoid contact with internal components. Internal components include lead and liquid electrolyte. Electrolyte - Electrolyte is corrosive and contact may cause skin irritation and chemical burns. Electrolyte causes severe irritation and burns of eyes, nose and throat. Ingestion can cause severe burns and vomiting. Lead -Direct skin or eye contact may cause local irritation. Inhalation or ingestion of lead dust or fumes may result in headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia and leg, arm and joint pain.				
2. Subchronic and Chronic Health Effects	Electrolyte - Repeated contact with sulfuric acid battery electrolyte fluid may cause drying of the skin which may result in irritation, dermatitis, and skin burns. Repeated exposure to sulfuric acid mist may cause erosion of teeth, chronic eye irritation and/or chronic inflammation of the nose, throat and lungs. Lead - Prolonged exposure may cause central nervous system damage, gastrointestinal disturbances, anemia, wrist-drop and kidney dysfunction. Pregnant women should be protected from excessive exposure to prevent lead from crossing the placental barrier and causing infant neurological disorders. California Proposition 65 Warning: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm, and during charging, strong inorganic acid mists containing sulfuric acid are evolved, a chemical Known to the State of California to cause cancer. Wash hands after handling.					
Medical Conditions Generally Aggravated by Exposure	If battery is broken or material is spilled, then persons with the following medical conditions must take precautions: pulmonary edema, bronchitis, emphysema, dental erosion and tracheobronchitis.					
Routes of Entry	Inhalation - YES Ingestion - YES		Eye Contact - YES Skin Contact - YES			
Chemical(s) Listed as Carcinogen or potential Carcinogen	Proposition 65 - YES	National Toxicology Program - YES	I.A.R.C. Monographs - YES	OSHA - NO	EPA CAG - YES	NIOSH - YES

SECTION 4 -- FIRST AID MEASURES

in Water	Electrolyte: 100% Soluble	in Water	Electrolyte - water reactive (1)
Appearance and Odor	Battery: Polypropylene or hard rubber case, solid. Lead: Gray, metallic, solid Electrolyte: Liquid, colorless, oily fluid; nuisance odor when hot or charging battery.		

SECTION 10 -- STABILITY AND REACTIVITY

Stability	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>	Conditions to Avoid	High temperatures - cases decompose at <320°F. Avoid overcharging and smoking, or sparks near battery surface and rapid overcharge.
Incompatibility (Materials to Avoid)	Sparks, Open flames. Keep battery case away from strong oxidizers.		
Hazardous Decomposition Products	An explosive hydrogen/oxygen mixture within the battery may occur during charging. Combustion can produce carbon dioxide (CO ₂) and carbon monoxide (CO). Molten metals produce fumes and/or vapor that may be toxic or respiratory irritants.		
Hazardous Polymerization	May Occur <input type="checkbox"/> Will Not Occur <input checked="" type="checkbox"/>	Do not overcharge.	

SECTION 11 -- TOXICOLOGICAL INFORMATION

GENERAL: The primary routes of exposure to lead are ingestion or inhalation of dust and fumes.

ACUTE:

INGESTION/INHALATION: Exposure to lead and its compounds may cause headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia, and pain in the legs, arms and joints. Kidney damage, as well as anemia, can occur from acute exposure.

CHRONIC:

INHALATION/INGESTION: Prolonged exposure to lead and its compounds may produce many of the symptoms of short-term exposure and may also cause central nervous system damage, gastrointestinal disturbances, anemia, and wrist drop. Symptoms of central nervous system damage include fatigue, headaches, tremors, hypertension, hallucinations, convulsions and delirium. Kidney dysfunction and possible injury has also been associated with chronic lead poisoning. Chronic over-exposure to lead has been implicated as a causative agent for the impairment of male and female reproductive capacity, but there is, at present, no substantiation of the implication. Pregnant women should be protected from excessive exposure. Lead can cross the placental barrier and unborn children may suffer neurological damage or developmental problems due to excessive lead exposure in pregnant women.

SECTION 12 -- ECOLOGICAL INFORMATION

In most surface water and groundwater, lead forms compounds with anions such as hydroxides, carbonates, sulfates, and phosphates and precipitates out of the water column. Lead may occur as sorbed ions or surface coatings on sediment mineral particles or may be carried in colloidal particles in surface water. Most lead is strongly retained in soil, resulting in little mobility. Lead may be immobilized by ion exchange with hydrous oxides or clays or by chelation with humic or fulvic acids in the soil. Lead (when in the dissolved phase) is bioaccumulated by plants and animals, both aquatic and terrestrial.

SECTION 13 -- DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Lead-acid batteries are completely recyclable. Return whole scrap batteries to distributor, manufacturer or lead smelter for recycling. For information on returning batteries to Trojan Battery Company for recycling call 800-423-6569. For neutralized spills, place residue in acid-resistant containers with sorbent material, sand or earth and dispose of in accordance with local, state and federal regulations for acid and lead compounds. Contact local and/or state environmental officials regarding disposal information.
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SECTION 14 -- TRANSPORT INFORMATION

U.S. DOT PROPER SHIPPING NAME: Batteries, wet, filled with acid
 U.S. DOT HAZARD CLASS: 8
 U.S. DOT ID NUMBER: UN 2794
 U.S. DOT PACKING GROUP: III
 U.S. DOT LABEL: Corrosive

IMO PROPER SHIPPING NAME: Batteries, wet, filled with acid
 IMO REGULATION PAGE NUMBER: 8120
 IMO U.N. CLASS: 8
 IMO U.N. NUMBER: UN 2794

IMO PACKING GROUP: III
IMO LABEL: Corrosive
IMO VESSEL STOWAGE: A

IATA PROPER SHIPPING NAME: Batteries, wet, filled with acid
IATA U.N. CLASS: 8
IATA U.N. NUMBER: UN 2794
IATA PACKING GROUP: III
IATA LABEL: Corrosive

SECTION 15 -- REGULATORY INFORMATION

U.S. Hazardous Under Hazard Communication Standard:

Lead - YES
Sulfuric Acid - YES
Antimony - YES
Arsenic - YES

Ingredients Listed on TSCA Inventory:

YES

CERCLA Section 304 Hazardous Substances:

Lead - YES	RQ: NA*
Sulfuric Acid - YES	RQ: 1000 pounds
Antimony - YES	RQ: 5000 pounds
Arsenic - YES	RQ: 1 pound

*Reporting not required when diameter of the pieces of solid metal released is equal to or exceeds 100 micrometers.

EPCRA Section 302 Extremely Hazardous Substance:

Sulfuric acid - YES

EPCRA Section 313 Toxic Release Inventory:

Lead - CAS NO: 7439-92-1
Sulfuric Acid - CAS NO: 7664-93-9
Antimony - CAS NO: 7440-36-0
Arsenic - CAS NO: 7440-38-2

SECTION 16 -- OTHER INFORMATION

THE INFORMATION ABOVE IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, TROJAN BATTERY COMPANY MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. ALTHOUGH REASONABLE PRECAUTIONS HAVE BEEN TAKEN IN THE PREPARATION OF THE DATA CONTAINED HEREIN, IT IS OFFERED SOLELY FOR YOUR INFORMATION, CONSIDERATION AND INVESTIGATION. THIS MATERIAL SAFETY DATA SHEET PROVIDES GUIDELINES FOR THE SAFE HANDLING AND USE OF THIS PRODUCT; IT DOES NOT AND CANNOT ADVISE ON ALL POSSIBLE SITUATIONS. THEREFORE, YOUR SPECIFIC USE OF THIS PRODUCT SHOULD BE EVALUATED TO DETERMINE IF ADDITIONAL PRECAUTIONS ARE REQUIRED.

Form MSDS Rev. 2/15/04