

## Material Safety Data Sheet

## LEAD / ACID BATTERY

Manufacturer's Name	Douglas Battery Manufacturing Co.	Emergency Telephone No.	CHEMTREC 1-800-424-9300 1-800-368-4527
Address	500 Battery Drive, Winston-Salem, NC 27107	Other Information Calls	919-788-7561
Signature of Person Responsible for Preparation	<i>Kirk L. Rife</i> Kirk L. Rife	Date Prepared	3 / 28 / 88

### SECTION 1 - IDENTITY

Common Name: (used on label) **Lead/Acid Storage Battery** DOT - UN 2794  
 (Trade Name & Synonyms)

Chemical Name	Lead/Acid Storage Battery	Chemical Family	Toxic and Corrosive Material Mixture
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Formula  
Lead/Acid

### SECTION 2 - HAZARDOUS INGREDIENTS

C.A.S.	Principal Hazardous Component(s) (chemical & common name(s))	Hazard Category	%	TLV
7439-92-1	Lead/Lead Oxide/Lead Sulfate	Acute-Chronic	60%	0.05 mg/m <sup>3</sup>
7440-36-0	Antimony	Chronic	1 - 5%	0.5 mg/m <sup>3</sup>
7440-38-2	Arsenic	Acute-Chronic	< 1%	0.01 mg/m <sup>3</sup>
7664-93-9	Sulfuric Acid	Reactive-Oxidizer Acute-Chronic	10 - 30%	1.0 mg/m <sup>3</sup>

### SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS (Fire & Explosion Data) Hydrogen

Bolling Point	Approx. 235°			
Percent Volatile by Volume (%)	No Information Found	Vapor Density	lighter than air	Evaporation Rate (H <sub>2</sub> O = 1) less than 1
Solubility in Water	1	Reactivity in Water	None	
Appearance and Odor	Clear, Oderless, Colorless			

Flash Point	675 F°	Flammable Limits In Air % by Volume	Lower 4.0%	Upper 74.2%	Extingulsher Media	Halon, dry chemical	Auto-Ignition Temperature	No Information Found
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Special Fire Fighting Procedures Halon or dry chemical Cool exterior of battery if exposed to fire to prevent rupture. The acid mist and vapors in a fire are corrosive. Wear special respiratory protection (self contained breathing apparatus) and protective clothing.

Unusual Fire and Explosion Hazards Hydrogen gas and sulfuric acid vapors are generated upon overcharge. Ventilate charging areas as per

ACGIH Industrial Ventilation A Manual of Recommended Practice and National Fire Code, 1980 Vol. 1, P. 12, B-9, 10.

**SECTION 4 - PHYSICAL HAZARDS**

Stability  Unstable  Stable  Conditions to Avoid  Avoid overcharging and smoking, or sparks near battery surface.

Incompatibility (Materials to Avoid) Sparks, Open flames.

Hazardous Decomposition Products An explosive hydrogen/oxygen mixture within the battery may occur during charging.

**SECTION 5 - HEALTH HAZARDS**

Threshold Limit Value Permissible exposure limit - Acid mist. 1.0 mg/m<sup>3</sup> (milligram per cu. meter)

Signs and Symptoms of Exposure 1. Chronic Overexposure Acid can cause irritation of eyes, nose, throat. Breathing mist produces respiratory difficulty, contact with skin and eyes causes irritation and skin burn.

2. Acute Exposure Repeated contact with sulfuric acid battery electrolytes fluid may cause drying of the skin which may result in irritation and dermatitis. Prolonged inhalation of a mist of sulfuric acid can cause inflammation of the upper respiratory tract leading to chronic bronchitis. Short term liquid or vapor contact may result in eye irritation and acid burns. Prolonged contact to strong acid fumes may result in erosion of the teeth enamel.

Medical Conditions Generally Aggravated by Exposure Sulfuric acid mist causes coughing and will burn eyes and skin.

Chemical Listed as Carcinogen or Potential Carcinogen No Info. Found  National Toxicology Program  Yes  No  I.A.R.C. Monographs Yes  No  OSHA Yes  No

Emergency and First Aid Procedures Sulfuric Acid Mist

1. Inhalation Move to Ventilated Area

2. Eyes Wash the eyes with copious quantities of running water for 15 minutes. Obtain medical attention.

3. Skin Flush area with plentiful amounts of running water. Remove contaminated clothing and obtain medical attention.

4. Ingestion Wash out mouth with running water. Give milk to drink. Do not induce vomiting. Call Physician.

**SECTION 6 - SPECIAL PROTECTION INFORMATION**

Respiratory Protection (Specify Type) Sulfuric Acid Mist - half mask with dust and acid mist filter.

Ventilation Change air every 15 min. Local Exhaust No Mechanical (General) No Information Found

Protective Gloves Rubber Gloves Eye Protection Goggles or face shield.

Other Protective Clothing or Equipment Acid-resistant rubber or plastic apron, boots and protective clothing.

**SECTION 7 - SPECIAL PRECAUTIONS AND SPILL / LEAK PROCEDURES**

Precautions to be Taken in Handling and Storage Keep away from flames during and immediately after charge.

Other Precautions Avoid prolonged overcharge. Soda bicarbonate, soda ash, sand or lime should be kept in same general area for spill remediation.

Steps to be Taken in Case Material is Released or Spilled: Wash with water or neutralize with sodium carbonate or bicarbonate.

Waste Disposal Methods Neutralize with sodium carbonate or bicarbonate. Contact local environmental officials for information.