



MATERIAL SAFETY DATA SHEET

Form # MSDS 853022

Revised: 07/05/09

Supersedes: 07/08/04

ECO #: 1000751

I. PRODUCT IDENTIFICATION			
Chemical Trade Name (as used on label): Battery Electrolyte		Chemical Family/Classification: Acid / Corrosive	
Manufacturer's Name/Address: EnerSys P.O. Box 14145 2366 Bernville Road Reading, PA 19612-4145		Telephone: For information and emergencies, contact EnerSys' Environmental, Health & Safety Dept. at (610) 208-1996 24-Hour Emergency Response Contact: CHEMTREC DOMESTIC: 800-424-9300 CHEMTREC INTERNATIONAL: 703-527-3877	
II. HAZARDOUS INGREDIENTS/IDENTIFY INFORMATION			
Components	OSHA PEL	ACGIH TLV	% (Optional)
Sulfuric Acid	1000 ug/m ³	1000 ug/m ³	30 - 40
Water (H ₂ O)	--	--	60 - 70
CAS # 7664-93-9			
NFPA Hazard Rating: Flammability (Red) = 0 Health (Blue) = 3 Reactivity (Yellow) = 2			
Sulfuric acid is water-reactive if concentrated.			
III. PHYSICAL DATA			
Electrolyte:			
Boiling Point:	203 - 240° F	Specific Gravity (H₂O = 1):	1.215 to 1.350
Melting Point:	N/A	Vapor Pressure (mm Hg):	10
Solubility in Water:	100%	Vapor Pressure (AIR = 1):	Greater than 1
Evaporation Rate: (Butyl Acetate = 1)	Less than 1	% Volatile by Weight:	N/A
Appearance and Odor:	Electrolyte is a clear liquid with a sharp, penetrating, pungent odor.		
IV. FIRE AND EXPLOSION HAZARD DATA			
Flash Point: N/A	Flammable Limits: LEL = N/A		UEL = N/A
Extinguishing Media: CO ₂ ; foam; dry chemical; water; water fog.			
Special Fire Fighting Procedures: Water applied to sulfuric acid generates heat and causes acid to splatter. Wear full-cover sulfuric acid resistant clothing.			
Unusual Fire and Explosion Hazards: Reacts violently with metals, nitrates, chlorates, carbides and other organic materials. Reacts with most metals to yield explosive and flammable hydrogen gas.			
V. REACTIVITY DATA			
Stability: 100% Stable			
Conditions To Avoid: Contact with organic materials, combustibles, strong reducing agents, metals, strong oxidizers, water.			
Incompatibility: (Materials to avoid) Contact with metals may produce toxic sulfur dioxide fumes and/or hydrogen gas.			
Hazardous Decomposition Products: Sulfur trioxide, carbon monoxide, sulfuric acid fumes, sulfur dioxide.			
Hazardous Polymerization: Will not occur.			
VI. HEALTH HAZARD DATA			
Routes of Entry: Sulfuric acid is harmful by all routes of entry.			
Inhalation: Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation.			
Ingestion: May cause severe irritation of mouth, throat, esophagus and stomach.			
Skin Contact: Severe irritation, burns and ulceration.			
Eye Contact: Severe irritation, burns, cornea damage, and blindness.			
Effects of Overexposure - Acute: Severe skin irritation, damage to cornea, upper respiratory irritation.			
Effects of Overexposure - Chronic: Erosion of tooth enamel, inflammation of nose, throat and bronchial tubes.			



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IX. OTHER REGULATORY INFORMATION (Cont.)

The shipping information is as follows:

Proper Shipping Name: Battery Fluid, Acid
Hazardous Class: 8
UN Identification: UN2796

Packing Group: II
Label/Placard Required: Corrosive

When battery fluid is shipped in a carton with a dry battery, CFR 49, 172.102 special provision N6 states that this combination packaging must conform either section 173.159 (g) or (h).

IATA:

The international transportation of electrolyte is regulated by the International Air Transport Association (IATA). These regulations also classify electrolyte as a hazardous material. Electrolyte must be packed according to IATA Packing Instruction Y809.

The shipping information is as follows:

Proper Shipping Name: Battery Fluid, Acid
Hazardous Class: 8
UN Identification: UN2796

Packing Group: II
Label/Placard Required: Corrosive

IMDG:

The international transportation of electrolyte is regulated by the International Maritime Dangerous Goods code (IMDG). These regulations also classify electrolyte as a hazardous material. Electrolyte must be packed according to IMDG code page 8230.

The shipping information is as follows:

Proper Shipping Name: Battery Fluid, Acid
Hazardous Class: 8
UN Identification: UN2796

Packing Group: II
Label/Placard Required: Corrosive

RCRA:

Spilled sulfuric acid is a characteristic hazardous waste; EPA hazardous waste number D002 (corrosivity).

CERCLA (Superfund) and EPCRA:

- (a) Reportable Quantity (RQ) for spilled 100% sulfuric acid under CERCLA (Superfund) and EPCRA (Emergency Planning Community Right to Know Act) is 1,000 lbs. State and local reportable quantities for spilled sulfuric acid may vary.
- (b) Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA, with a Threshold Planning Quantity (TPQ) of 1,000 lbs.
- (c) EPCRA Section 302 notification is required if 1,000 lbs. or more of sulfuric acid is present at one site. The quantity of sulfuric acid will vary by battery type. Contact your EnerSys representative for additional information.
- (d) EPCRA Section 312 Tier 2 reporting is required for batteries if sulfuric acid is present in quantities of 500 lbs. or more and/or if lead is present in quantities of 10,000 lbs. or more.
- (e) Supplier Notification: This product contains toxic chemicals, which may be reportable under EPCRA Section 313 Toxic Chemical Release Inventory (Form R) requirements. If you are a manufacturing facility under SIC codes 20 through 39, the following information is provided to enable you to complete the required reports:

<u>Toxic Chemical</u>	<u>CAS Number</u>	<u>Approximate % by Wt.</u>
Sulfuric Acid	7664-93-9	30 - 40

If you distribute this product to other manufacturers in SIC Codes 20 through 39, this information must be provided with the first shipment of each calendar year.

TSCA:

Ingredients in battery electrolyte are listed in the BCA Registry as follows:

<u>Components</u>	<u>CAS Number</u>	<u>TSCA Status</u>
Sulfuric Acid (H ₂ SO ₄)	7664-93-9	Listed

CAA:

EnerSys supports preventative actions concerning ozone depletion in the atmosphere due to emissions of CFC's and other ozone depleting chemicals (ODC's), defined by the USEPA as Class I substances. Pursuant to Section 611 of the Clean Air Act Amendments (CAAA) of 1990, finalized on January 19, 1993, EnerSys established a policy to eliminate the use of Class I ODC's prior to the May 15, 1993 deadline.