

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION		
DISTRIBUTOR Exide Technologies 13000 Deerfield Parkway, Bldg. 200 Milton, GA 30004	CHEMICAL/TRADE NAME (as used on label)	Battery Electrolyte
FOR INFORMATION Primary: MACTEC Engineering and Consulting, Inc. Telephone: (770) 421-3485 Secondary: Environmental, Safety & Health Attention: Eric Murray (800) 523-4622 Fred Ganster (610) 921-4052	CHEMICAL FAMILY/ CLASSIFICATION	Battery Fluid, Acid
FOR EMERGENCY CHEMTREC (800) 424-9300 24-hour Emergency Response Contact Ask for Environmental Coordinator		DATE ISSUED: February 1, 2011 Page 1 of 4 CHEMTREC INTERNATIONAL (703) 527-3887 – Collect

II. HAZARDOUS INGREDIENTS/IDENTITY INFORMATION					
		Approximate Air Exposure Limits (µg/m ³)			
Components	CAS Number	% by Wt.	OSHA	ACGIH	NIOSH
Sulfuric Acid (H ₂ SO ₄)	7664-93-9	30-40	1000	200	1000
Water (H ₂ O)	-	60-70	-	-	-

NOTE: Sulfuric Acid is water-reactive if concentrated.

III. PHYSICAL DATA			
Boiling Point @ 14.7 psia	203° F	Specific Gravity (H ₂ O=1) @ 60°F	1.245 to 1.295
Melting Point	Not Applicable	Vapor Pressure (mm Hg) 18° F	10
Solubility in Water	100%	Vapor Density (AIR=1)	Greater than 1
Evaporation Rate (Butyl acetate=1)	Less Than 1	% Volatiles by Weight	Not Applicable
Appearance and Odor	A clear liquid with a sharp, penetrating, pungent odor.		

IV. FIRE AND EXPLOSION HAZARD DATA	
Flash Point:	Not Combustible
Flammable Limits:	Not Applicable
Extinguishing media:	CO ₂ ; dry chemical; water fog; water
Special Fire Fighting Procedures: Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection.	
Unusual Fire and Explosion Hazards: Reacts violently with metals, nitrates, chlorates, carbides, and other organic material. Reacts with most metals to yield explosive/flammable hydrogen gas.	

V. REACTIVITY DATA

Stability: Stable X
Unstable

Conditions to Avoid: Contact with organic materials, combustibles, strong reducing agents, metals, strong oxidizers, and water.

Incompatibility: (materials to avoid)
Contact with metals may produce toxic sulfur dioxide fumes and sulfur dioxide.

Hazardous Decomposition Products:
Sulfur trioxide, carbon monoxide, sulfuric acid fumes, and sulfur dioxide.

Hazardous Polymerization:
Will not occur.

Conditions to avoid:
Not applicable

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, blindness.

Effects of Overexposure - Acute:
Severe skin irritation, damage to cornea may cause blindness, upper respiratory irritation.

Effects of Overexposure - Chronic:
Possible erosion of tooth enamel; inflammation of nose, throat, and bronchial tubes.

Carcinogenicity:
The National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC) have classified "strong inorganic acid mist containing sulfuric acid" as a substance that is carcinogenic to humans. This classification does not apply to sulfuric acid solutions in static liquid state or to electrolyte in batteries. Inorganic mist (sulfuric acid mist) is not generated during normal use of this product.

Medical Conditions Generally Aggravated by Exposure:
Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions. Contact of electrolyte (water and sulfuric acid solution) with skin may aggravate skin diseases such as eczema and contact dermatitis. Contact of electrolyte (water and sulfuric acid solution) with eyes may damage cornea and/or cause blindness.

Emergency and First Aid Procedures

Inhalation:
Remove to fresh air immediately. If breathing is difficult, give oxygen.

Ingestion:
Give large quantities of water; **do not** induce vomiting; consult physician.

Skin: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely, including shoes.

Eyes: Flush immediately with large amounts of water for at least 15 minutes; consult physician immediately.

VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storage:

Storage/handling areas should be equipped with eyewashes/safety showers. Handle cautiously; avoid contact with skin and eyes. Handling/storage areas should be equipped with proper containment to capture and neutralize spills.

Spill or Leak Procedures:

Stop flow of material. For small spills, neutralize with soda ash, lime, or sodium bicarbonate. Dilute cautiously with water. Wear acid-resistant protective clothing and equipment.

Waste Disposal Methods:

Place neutralized slurry in sealed containers and dispose of as hazardous waste, as applicable. Large water-diluted spills, after neutralization and testing, should be managed in accordance with local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

Precautionary Labeling:

POISON - CAUSES SEVERE BURNS
DANGER - EXPLOSIVE GASES
CORROSIVE - CONTAINS SULFURIC ACID
KEEP AWAY FROM CHILDREN

VIII. CONTROL MEASURES

Respiratory Protection:

None required under normal conditions. When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection.

Local Exhaust:

150 ppm

Special:

Acid-resistant ventilation components

Protective gloves:

Rubber/plastic with elbow length gauntlet

Eye Protection:

Chemical goggles; safety glasses/face shield

Other Protective Clothing or Equipment:

Acid-resistant apron, boots

Work/Hygiene Practices:

Handle cautiously; avoid contact with skin and eyes.

IX. OTHER REGULATORY INFORMATION

NFPA Hazard Rating for sulfuric acid:

Flammability (Red)	=	0
Health (Blue)	=	3
Reactivity (Yellow)	=	2

Sulfuric acid is water-reactive if concentrated.

WHMIS Classification for sulfuric acid:

This material has a WHMIS classification of E – Corrosive.

U.S. Department of Transportation:

Proper shipping name:	Battery fluid, acid
Hazard Class/Division:	8
ID Number:	UN2796
Packing Group:	II
Label Required:	Corrosive

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

Other Canadian Regulations:

All chemical substances in this product are listed on the CEPA DSL/NDSL or are exempt from list requirements.

CERCLA (Superfund) and EPCRA:

- (a) Reportable Quantity (RQ) for spilled 100% sulfuric acid under CERCLA (Superfund) and EPCRA (Emergency Planning and 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. Battery electrolyte contains 30-40% sulfuric acid. Contact your Exide representative for additional information.
- (d) EPCRA Section 312 Tier Two reporting is required for non-automotive 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 that may be reportable under EPCRA Section 313 Toxic Chemical Release Inventory (Form R) requirements. For 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 Weight</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.

Note: The Section 313 supplier notification requirement does not apply to batteries that are "consumer products".

CAA:

Exide Technologies 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, Exide established a policy to eliminate the use of Class I ODC's prior to the May 15, 1993 deadline.

TSCA:

Ingredients in Exide's batteries are listed in the TSCA Registry as follows:

<u>Electrolyte</u>	<u>CAS NO.</u>	<u>TSCA Status</u>
Sulfuric acid (H ₂ SO ₄)	7664-93-9	Listed

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