GHS
SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

MANUFACTURER/SUPPLIER
Exide Technologies
13000 Deerfield Parkway, Bldg. 200
Milton, GA 30004

CHEMICAL/TRADE NAME Battery Electrolyte

PRODUCT ID UN2796

FOR FURTHER INFORMATION
Primary Contact:
Exide SDS Support (770) 421-3485
Secondary Contact:
Joe Bolea (423) 989-6377
Fred Ganster (610) 921-4052

CHEMICAL FAMILY/ CLASSIFICATION Battery Fluid, Acid

FOR EMERGENCY
CHEMTREC (800) 424-9300
(703) 527-3887 – Collect
24-hour Emergency Response Contact
Ask for Environmental Coordinator

II. HAZARD IDENTIFICATION

Signal Word: Danger

Category:		GHS Codes	Description
Health:	**Skin Corr. 1A** **Eye Damage/Irritation 1**	H314	Causes severe skin burns & eye damage
		H332	Harmful if inhaled
		H302	Harmful if swallowed
		H351	Suspected of causing cancer
		P201	Obtain special instructions before use
		P202	Do not handle until all safety precautions have been read and understood
		P260	Do not breathe dust/fume/gas/mist/vapors/spray
		P264	Wash affected area thoroughly
		P280	Wear protective gloves/clothing/eye protection/face protection
		P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
		P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
		P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
		P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P310	Immediately call a POISON CENTER or doctor/physician.
		P363	Wash contaminated clothing before reuse.
Handling:		P102	Keep out of reach of children
		P233	Keep container tightly closed
		P391	Collect spillage
		P405	Store locked up
		P273	Avoid release to the environment
		P501	Dispose of contents/container in accordance with local/national regulations.

WARNING: None

Reactivity: Organic materials, chlorates, carbides, fulminates, water, powdered metals. Reacts violently with water with evolution of heat. Corrosive to metals.

III. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	*CAS Number*	*% by Wt.*
Sulfuric Acid (H_2SO_4)	7664-93-9	30-40
Water (H_2O)	N/A	60-70

NOTE:
Sulfuric Acid is water-reactive if concentrated.

IV. FIRST AID MEASURES

Take proper precautions to ensure you own health and safety before attempting to rescue a victim and provide first aid.

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

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

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

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

V. FIRE FIGHTING MEASURES

Flash Point: Not Combustible

Flammable Limits: Not Applicable

Extinguishing media: CO_2; dry chemical; water fog; water

Fire Fighting Procedures:

Move electrolyte containers from fire area if possible. Cool containers exposed to flames from side until well after fire is out. Use positive pressure, self-contained breathing apparatus. Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection.
Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection.

Hazardous Combustion Products:

Reacts violently with metals, nitrates, chlorates, carbides, and other organic material. Reacts with most metals to yield explosive/flammable hydrogen gas.

VI. ACCIDENTAL RELEASE MEASURES

Stop flow of material. Neutralize with soda, ash, lime, or sodium bicarbonate. Dilute cautiously with water. Wear acid-resistant protective clothing and equipment. Remove combustible materials and all sources of ignition. Stop flow of material and contain spill by diking with soda ash, etc. 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. Avoid electrolyte contact with eyes, skin, or clothing. Avoid breathing electrolyte vapor. No smoking regulations if possibility of hydrogen evolution. DO NOT RELEASE UNNEUTRALIZED ACID.

VII. HANDLING AND STORAGE

Handling:

Areas should be equipped with eyewashes/safety showers and should be equipped with proper containment to capture and neutralize spills. Handle cautiously; avoid contact with skin and eyes.

Storage:

Areas should be equipped with eyewashes/safety showers and should be equipped with proper containment to capture and neutralize spills. STORE ELECTROLYTE ONLY IN APPROVED CONTAINERS.

VIII. EXPOSURE CONTROLS AND PERSONAL PROTECTION

	Occupational Exposure Limits (mg/m^3)					
Ingredient:	US OSHA	US ACGIH	US NIOSH	Quebec PEV	Ontario OEL	EU OEL
Sulfuric Acid (H_2SO_4)	1	0.2	1	1	0.2	0.05(a)
Water (H_2O)	N/A	N/A	N/A	N/A	N/A	N/A

NOTE:

(a) Thoracic fraction

N/A = not applicable

Engineering Controls (Ventilation):

Acid-resistant ventilation components. Local exhaust to outside air. Mechanical (general) to outside air.

Hygiene Practices:

Handle cautiously; avoid contact with skin and eyes. Wash hands thoroughly before eating, drinking or smoking after handling batteries. Wash protective equipment with water after use..

Respiratory Protection (NIOSH/MSHA approved):

None required under normal conditions. When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection (supplied-air respirator operated in continuous flow mode OR powered, air-purifying respirator w/acid gas cartridge in combination w/HEPA filter OR chemical cartridge respirator w/full facepiece and acid gas cartridges in combination w/N100, R100 or P100 filter.

Skin Protection:

Rubber or plastic acid resistant gloves with elbow-length gauntlet, apron, boots, and polyester clothing. Under sever exposure or emergency conditions, wear acid resistant clothing and boots

Eye Protection:

Chemical goggles; safety glasses/face shield

Other Protection:

In areas where water and sulfuric acid solutions are handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply.

IX. PHYSICAL AND CHEMICAL PROPERTIES - ELECTROLYTE

Boiling Point@760 mm Hg	226 to 237° F	Specific Gravity @ 77°F (H_2O=1)	1.2185 to 1.3028
Melting Point	10.35°C	Vapor Pressure (mm Hg)	13.5 to 17.8
% Solubility in Water	100%	pH	0.3(1N solution)
Evaporation Rate (Butyl acetate=1)	Less Than 1	Vapor Density (AIR=1)	3.38
		Viscosity	21mPas @25°C
Appearance and Odor Threshold	Electrolyte: A clear liquid with a sharp, penetrating, pungent odor.	% Volatiles by Weight	Not Applicable
Octanol Water Partition Coefficient (K_{ow})	Not Applicable		

Note: The properties above reflect 30-40% Sulfuric acid

X. STABILITY & REACTIVITY DATA

Stability: Stable X
Unstable __

Conditions to Avoid:

Contact with incompatible materials, excess heat(>150°F) , combustibles, organic materials strong reducing agents, metals, strong oxidizers, amines, bases, and water.

Incompatibilities:

Contact with metals may produce toxic sulfur dioxide fumes and sulfur dioxide, hydrogen gas. Avoid contact of acid with organic materials (chlorates, carbides, fulminates, picrates), alkaline materials and water may cause fires and explosions. Contact with hypochlorites (e.g., chlorine bleach), sulfides, or cyanides will product toxic gases. No further concern for mechanical impact.

Hazardous Decomposition Products:

Sulfur trioxide, carbon monoxide, sulfuric acid fumes, and sulfur dioxide.

Hazardous Polymerization: Will Not Occur

XI. TOXICOLOGICAL DATA

Routes of Entry:

Sulfuric acid is harmful by all routes of entry.

Acute Toxicity:

Inhalation LD_{50}: mouse – 320 mg/m^3/2H; rat – 510 mg/m^3/2H; guinea pig: 50 mg/m^3
Oral LD_{50}: rat: 2140 mg/kg

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. Sulfuric acid is not readily absorbed through the skin and is not a dermal sensitizer.

Eye Contact:

Severe irritation, burns, cornea damage, blindness.

Synergistic Products:

Electrolyte: No known synergistic products

Additional Information:

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.

XII. ECOLOGICAL INFORMATION

Environmental Fate: When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Environmental Toxicity: Aquatic Toxicity:

Sulfuric acid:
- 24-hr LC_{50}, freshwater fish (*Brachydanio rerio*): 82 mg/L
- 96 hr- LOEC, freshwater fish (*Cyprinus carpio*): 22 mg/L
- 48-hr LC_{50}, freshwater shrimp: 80-90 mg/L
- 48-hr LC_{50}, salt water prawn: 42.5 ppm
- 48-hr LC_{50}, flounder: 100-330 mg/L

XIII. DISPOSAL INFORMATION

Sulfuric Acid: Neutralize as described above for a spill, collect residue and place in a container labeled as containing hazardous waste. Dispose of as a hazardous waste. If uncertain about labeling procedures, call your local battery distributor or listed contact. 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.

XIV. TRANSPORT INFORMATION

GROUND – US-DOT/CAN-TDG/EU-ADR/APEC-ADR:

Battery Fluid, Acid
UN2796, 8, PG II
Label: "Corrosive"

AIRCRAFT – ICAO-IATA:

Battery Fluid, Acid
UN2796, 8, PG II
Label: "Corrosive"
Reference IATA packing instructions 851 and 855

VESSEL – IMO-IMDG:

Battery Fluid, Acid
UN2796, 8, PG II
Label: "Corrosive"
Reference IMDG packing instructions P001.

Additional Information:

- Transport may require packaging and paperwork, including the Nature and Quantity of goods, per applicable origin/destination/customs points as-shipped.

XV. REGULATORY INFORMATION

US:

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:

Toxic Chemical	CAS Number	Approximate % by Weight
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".

TSCA: Sulfuric acid is listed in the TSCA Registry as follows:

Electrolyte	CAS NO.	TSCA Status
Sulfuric acid (H_2SO_4)	7664-93-9	Listed

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

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.

NFPA:

Flammability: = 0
Health: = 3
Reactivity: = 2

US State Notifications & Warnings:	**Identification**	**Notifications/Warning**
IL	disclosure to employee act	
NY	release report list	
MA, MN, NJ, PA, RI, TN	right-to-know	
California	California Director's List of Hazardous Substance	The following chemicals identified to exist in the finished product as distributed into commerce are known to the State of California to cause cancer, birth defects or to cause reproductive harm: 1. Strong inorganic acid mists including sulfuric acid; CAS #: NA; 30-40% wt
	Consumer Product Volatile Organic Compound Emissions	This product is not regulated as a consumer product for purposes of CARB/OTC VOC Regulations, as sold for the intended purpose and into the industrial/commercial supply chain.

Country/Organization	**Identification**	**Notifications/Warning**
Canada	All chemical substances in this product are listed on the CEPA DSL/NDSL or are exempt from list requirements.	This material has a WHMIS classification of D-1A: material causing immediate and serious toxic effects (VERY TOXIC) E –Corrosive liquid This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. Refer to the Controlled Products Regulations for product labeling requirements
	NPRI and Ontario Regulation 127/01	This product contains the following chemicals subject to the reporting requirements of Canada NPRI and/or Ont. Reg. 127/01: Chemical / CAS # / %wt Sulfuric acid / 7664-93-9 / 30-40
	Toxic Substances List	Not listed
EU	European Inventory of Existing Commercial Chemical Substances (EINECS):	All ingredients remaining in the finished product as distributed into commerce are exempt from, or included on, the European Inventory of Existing Commercial Chemical Substances.

XVI. OTHER INFORMATION

DATE ISSUED: September 11, 2013

OTHER INFORMATION:	Distribution into Quebec to follow Canadian Controlled Product Regulations (CPR) 24(1) and 24(2). Distribution into the EU to follow applicable Directives to the Use, Import/Export of the product as-sold.
SOURCES OF INFORMATION:	International Agency for Research on Cancer (1987), IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: Overall Evaluations of Carcinogenicity: An updating of IARC Monographs Volumes 1-42, Supplement 7, Lyon, France. Ontario Ministry of Labor Regulation 654/86. Regulations Respecting Exposure to Chemical or Biological Agents.

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