

**GHS
SAFETY DATA SHEET**

I. PRODUCT IDENTIFICATION		
MANUFACTURER/SUPPLIER GNB Industrial Power A division of Exide Technologies 3950 Sussex Avenue Aurora, IL 60504-7932	CHEMICAL/TRADE NAME (as used on label)	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	Sulfuric Acid Solution
	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 H332 H302 H351 P201 P202 P260 P264 P280 P301+P330+P331 P303+P361+P353 P304+P340 P305+P351+P338 P310 P363	Causes severe skin burns & eye damage Harmful if inhaled Harmful if swallowed Suspected of causing cancer Obtain special instructions before use Do not handle until all safety precautions have been read and understood Do not breathe dust/fume/gas/mist/vapors/spray Wash affected area thoroughly Wear protective gloves/clothing/eye protection/face protection IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.
Handling:	P391 P405 P273 P501 P102 P233	Collect spillage Store locked up Avoid release to the environment Dispose of contents/container in accordance with local/national regulations. Keep out of reach of children Keep container tightly closed

WARNING: Not applicable

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.
Electrolyte	7664-93-9	20-40
Non-Hazardous Ingredients	N/A	60-80

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: CO₂; 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

Ingredient:	Occupational Exposure Limits (mg/m ³)					
	US OSHA	US ACGIH	US NIOSH	Quebec PEV	Ontario OEL	EU OEL
Electrolyte (sulfuric acid)	1	0.2	1	1	0.2	0.05(a)

NOTE:

(a) thoracic fraction

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 severe exposure or emergency conditions, wear acid resistant clothing and boots.

Eye Protection:

Chemical splash 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	215 to 237° F	Specific Gravity @ 77°F (H ₂ O=1)	1.1394 to 1.3028
Melting Point	-33.67 - -9.44° F	Vapor Pressure (mm Hg at 25° C)	13.5 to 20.8
% Solubility in Water	Infinite	pH	0.3 (1 N Solution)
Evaporation Rate (Butyl acetate=1)	Less Than 1	Vapor Density (AIR=1)	3.4
Appearance and Odor Threshold	Colorless and odorless viscous liquid.	Viscosity	21 mPas @25°C
Octanol Water Partition Coefficient (K _{ow})	Not Applicable	% Volatiles by Volume @70°F	Not Applicable

Note: The properties above reflect 20-40% Sulfuric acid

X. STABILITY & REACTIVITY DATA

Stability: Stable

Conditions to Avoid:

Contact with organic materials, combustibles, strong reducing agents, metals, strong oxidizers, and water. May ignite finely divided combustible materials on contact. Runoff to sewer may create fire or explosion hazard. No further concern for mechanical impact.

Incompatibilities: (materials to avoid)

Electrolyte: Iron, powdered metals, zinc, and steel react with sulfuric acid and release flammable hydrogen gas. Contact with metals may produce toxic sulfur dioxide fumes and sulfur dioxide.

Hazardous Decomposition Products:

Electrolyte: Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, hydrogen sulfide, hydrogen.

Hazardous Polymerization: Will Not Occur

XI. TOXICOLOGICAL DATA**Routes of Entry:**

Sulfuric acid is harmful by all routes of entry.

Acute Toxicity:

Inhalation LD₅₀: LC₅₀ rat: 375 mg/m³; LC₅₀: guinea pig: 510 mg/m³
Oral LD₅₀: 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:

Sulfuric acid vapors or mist can cause severe irritation, burns, cornea damage, or 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 Toxicity:** Aquatic Toxicity:

Sulfuric acid: 24-hr LC₅₀, freshwater fish (*Brachydanio rerio*): 82 mg/L
 96 hr- LOEC, freshwater fish (*Cyprinus carpio*): 22 mg/L
 48-hr LC₅₀, freshwater shrimp: 80-90 mg/L
 48-hr LC₅₀, salt water prawn: 42.5 ppm
 48-hr LC₅₀, flounder: 100-330 mg/L

XIII. DISPOSAL INFORMATION**US**

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**United States:****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

20-40

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:

<u>Electrolyte</u>	<u>CAS NO.</u>	<u>TSCA Status</u>
Sulfuric acid (H ₂ SO 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.

OSHA: Considered hazardous under Hazard Communication Act (29CFR1910.1200)

NFPA Hazard Rating for sulfuric acid:

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

US State Notifications & Warnings:	Identification	Notifications/Warning						
IL	disclosure to employee act	IL						
NY	release report list	NY						
MA, MN, NJ, PA, RI, TN	right-to-know	MA, MN, NJ, PA, RI, TN						
CA	California Proposition 65	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; 20-40% 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/NDL or are exempt from list requirements.	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS 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: <table> <thead> <tr> <th><u>Chemical</u></th> <th><u>CAS #</u></th> <th><u>%wt</u></th> </tr> </thead> <tbody> <tr> <td>Sulfuric acid</td> <td>7664-93-9</td> <td>20-40</td> </tr> </tbody> </table>	<u>Chemical</u>	<u>CAS #</u>	<u>%wt</u>	Sulfuric acid	7664-93-9	20-40
	<u>Chemical</u>	<u>CAS #</u>	<u>%wt</u>					
Sulfuric acid	7664-93-9	20-40						
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.

PREPARED BY: GNB INDUSTRIAL POWER
A DIVISION OF EXIDE TECHNOLOGIES
3950 SUSSEX AVENUE
AURORA, IL 60504-7932

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