SAFETY DATA SHEET

Sulfuric Acid, Electrolyte (Battery Grade)

Revised: 07/01/2026

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sulfuric Acid, Electrolyte (Battery Grade)
Synonyms: sulfuric acid
CAS Number: 7664-93-9
Grade/Purity: Battery Electrolyte / Government (Federal Specification O-S-801F)
Product Type: Inorganic Acid (Corrosive Liquid)
Product Use: Industrial, Manufacturing or Laboratory use
Manufacturer/Supplier: Alliance Chemical, 204 South Edmond St, Taylor, Texas 76574
Information: 512-365-6838 | www.alliancechemical.com
Emergency: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Signal Word: Danger

GHS Pictograms:



Hazard Statements:

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary Statements:

P234	Keep only in original packaging.
P260	Do not breathe mist, vapors or spray.
P264	Wash hands and exposed skin thoroughly after handling.
P280	Wear protective gloves, protective clothing, and eye/face protection (chemical splash goggles and face shield).
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses if present and easy; continue rinsing.
P310	Immediately call a POISON CENTER or doctor.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P406	Store in a corrosion-resistant container with a resistant inner liner.
P501	Dispose of contents and container in accordance with all applicable regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	% MIN	% MAX	CAS #	EINECS# / ELINCS#	FORMULA	MOLECULAR WEIGHT
sulfuric acid	~35%	~35%	7664-93-9	231-939-5	H_2SO_4	98.08 g/mol

Water	65	65	7732-18-5	231-791-2	H_2O	18.02 g/mol

4. FIRST-AID MEASURES

Eyes	Immediately flush eyes with plenty of water for at least 30 minutes, lifting upper and lower eyelids and removing contact lenses if present and easy to do. Get immediate medical attention; chemical eye burns can cause permanent damage.
Skin	Immediately remove all contaminated clothing and shoes. Flush affected skin with plenty of water for at least 30 minutes. Do NOT neutralize. Get immediate medical attention. Wash contaminated clothing before reuse.
Inhalation	Remove person to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get immediate medical attention; effects (including pulmonary edema) may be delayed.
Ingestion	Do NOT induce vomiting. Rinse mouth thoroughly with water. If conscious and able to swallow, give one or two glasses of water to dilute. Never give anything by mouth to an unconscious person. Get immediate medical attention. Note to physician: risk of esophageal/gastric perforation; avoid gastric lavage and emetics.

5. FIRE-FIGHTING MEASURES

Suitable Media	Dry chemical, CO2, water spray. Use water spray to cool containers.
Unsuitable Media	Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Combustion Products	May include sulfur oxides (sulfur dioxide SO2 and sulfur trioxide SO3) - NOT carbon oxides. On contact with metals it liberates flammable hydrogen gas. See Section 10.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7. HANDLING AND STORAGE

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Use corrosion-resistant containers. Keep away from: Water (dilution violently exothermic - add acid to water), bases, active metals (release hydrogen), organics/ combustibles, oxidizers, chlorates, carbides, cyanides, sulfides. Keep containers tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.

Occupational Exposure Limits:

AGENCY	EXPOSURE LIMIT
OSHA PEL	1 mg/m3 (8-hr TWA) [29 CFR 1910.1000 Table Z-1].
ACGIH TLV	0.2 mg/m3 (8-hr TWA, thoracic). ACGIH A2 for sulfuric acid in strong inorganic acid mists.
NIOSH REL	1 mg/m3 (10-hr TWA).
IDLH	15 mg/m3.

Eyes	Wear chemical safety goggles or face shield.
Skin	Wear chemical-resistant gloves and protective clothing.
Inhalation	

	For mist or aerosol applications (e.g., spray, atomization, pressure washing), use a NIOSH-approved half-face air-purifying respirator with combination acid gas / P100 cartridges. For dust exposure, an N95 or P100 particulate filter is acceptable. Ensure local exhaust ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless to slightly yellow, oily liquid
Odor	Odorless when cold and dilute; sharp, choking odor when hot or misting.
Median Particle Size	Not Applicable
Particle Size Distribution	Not Applicable
Particle Shape	Not Applicable
Surface Area	Not Applicable
Dustiness	Not Applicable
Hygroscopicity	Not Applicable
pH	< 1 (strongly acidic; approximately 0 for the ~35% electrolyte).
Melting Point	Freezing point very low for ~35% electrolyte (approx. -49 to -60 C; resists freezing at full charge). Pure H2SO4 freezes near ~10.3 C - that value does NOT apply to this dilute product.
Boiling Point	~108 C for the ~35% solution. Pure/concentrated H2SO4 boils at ~337 C - that value does NOT apply to this dilute electrolyte.
Flash Point	Not applicable (non-combustible aqueous acid). Reacts with active metals to liberate flammable hydrogen gas.
Vapor Pressure	Low; solution vapor is essentially water vapor.
Specific Gravity	~1.265-1.285 at 25 C (fully-charged lead-acid electrolyte, ~35-37% H2SO4). Pure H2SO4 is ~1.84 - not applicable here.
Solubility	Miscible with water in all proportions. Dilution is violently exothermic - ALWAYS add acid to water, never water to acid.
Molecular Formula	H_2SO_4
Molecular Weight	98.08 g/mol

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Hazardous Reactions	Reactive. Dilution/contact with water is violently exothermic (splattering) - always add acid to water, never water to acid. Reacts violently with bases (neutralization heat). Attacks most metals to liberate flammable hydrogen. Chars and can ignite organic materials, sugars, and cellulose (strong dehydrating action). Reacts dangerously with chlorates, carbides, fulminates, cyanides, sulfides, and strong oxidizers.
Conditions to Avoid	Adding water to the acid (exothermic spattering); contact with bases, active metals, organics/ combustibles, oxidizers, and the other incompatibles listed below; excessive heat.
Incompatible Materials	Water (dilution violently exothermic - add acid to water), bases, active metals (release hydrogen), organics/combustibles, oxidizers, chlorates, carbides, cyanides, sulfides
Decomposition Products	Heated to decomposition it produces toxic, corrosive sulfur oxide fumes (SO2, SO3), not carbon oxides. On contact with active metals it liberates flammable hydrogen gas, which can form explosive mixtures with air.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: See below for route-specific data.

ROUTE	VALUE
LD50 Oral	2140 mg/kg (rat, oral).
LD50 Dermal	No reliable quantitative data (corrosive; dermal injury is a chemical burn).

LC50 Inhalation	0.375 mg/L (375 mg/m3), 4 hr, rat (mist/aerosol).

IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Fish LC50: 96-hr LC50 goldfish 17-134 mg/L; toxicity is pH-driven (acid effect), not a specific mode of action.; Daphnia EC50: ~29 mg/L (Daphnia magna, 48 hr); pH-driven effect. [PubChem]
Persistence	Not applicable (inorganic acid); neutralized and buffered by the receiving environment. Classified for effects via pH; not a bioaccumulative or persistent organic.
Bioaccumulation	BCF: Not expected to bioaccumulate (dissociates to ions in water); BCF low.
Mobility in Soil	Log Kow: Not applicable (strong acid, fully ionizes). Mobility in soil: high; neutralized/buffered by soil, and the acid moves with water.

13. DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

14. TRANSPORT INFORMATION

US DOT	UN2796, Sulfuric acid with not more than 51% acid (Battery fluid, acid), 8, PG II
IMDG	UN2796, Sulfuric acid with not more than 51% acid (Battery fluid, acid), 8, PG II
IATA/ICAO	UN2796, Sulfuric acid with not more than 51% acid (Battery fluid, acid), 8, PG II
Marine Pollutant	No

15. REGULATORY INFORMATION

TSCA: Listed. SARA 313 (TRI): Listed ONLY as sulfuric acid ACID AEROSOLS/MISTS (the non-aerosol liquid form was delisted in 1994). CERCLA: RQ 1000 lb. EPCRA Section 302: Extremely Hazardous Substance, TPQ 1000 lb. California Proposition 65: 'Strong inorganic acid mists containing sulfuric acid' is a listed CARCINOGEN (the acid MIST, not the neat liquid). State Right-to-Know: listed (NJ, PA, MA). US DOT: Class 8, UN2796, PG II.	
SARA 311/312	See Section 2 for hazard classifications.

16. OTHER INFORMATION

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