

PRODUCT IDENTIFICATION



Product Name: Sulfuric Acid 37% - Battery Acid Technical Grade

CAS Number: 7664-93-9

Molecular Formula: $\text{H}_2\text{O}_4\text{S}$

Molecular Weight: 98.08 g/mol

Grade: Technical Grade

Purity / Concentration: 37%

Synonyms: Battery Acid, Sulfuric Acid Solution

PRODUCT OVERVIEW

Alliance Chemical offers high-quality Sulfuric Acid 37%, commonly known as battery acid, formulated to meet technical grade specifications for consistent performance. This clear, colorless solution features a specific gravity of 1.2778 and strictly controlled impurity levels, making it the ideal electrolyte for reliable energy storage applications.

Grade Significance: Technical Grade indicates that this product is manufactured to meet industrial performance standards, ensuring it is reliable for functional applications where precise chemical purity is required but analytical reagent grade is not necessary.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	37	36	38	Titration
Color (APHA/Hazen)	APHA	5	0	10	Spectrophotometry
Specific Gravity (20°C)	g/mL	1.2778	1.2758	1.2798	Hydrometer @ 20°C
Non-Volatile Residue	%	0.0030	—	0.01	Residue on Ignition
Arsenic Antimony As As	ppm	0.0012	—	0.0040	ICP-MS
Heavy Metals As Pb	ppm	0.15	0	0.5	ICP-MS (as Pb)
Iron (Fe)	ppm	0.024	0	0.08	ICP-MS
Chloride Cl	ppm	0.024	0	0.08	ICP
Nitrate No3	ppm	0.057	0	0.19	ICP
Mercury Hg	ppm	0.579	—	1.93	ICP-MS
Sulfite So3	ppm	2	0	3.5	ICP
Turbidity	NTU	0.3	0	1	EPA 180.1

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Odorless
Form	Liquid	Boiling Point	Not characterized for the 37% solution
Melting / Freezing Point	Not characterized for the 37% solution	Flash Point	Non-flammable
Specific Gravity	1.28	Solubility	Fully miscible with water, many organic solvents
Molecular Formula	H ₂ O ₄ S	Molecular Weight	98.08 g/mol
Vapor Pressure (20°C)	0.3 mmHg	Viscosity (25°C)	1.0 cP
Refractive Index (20°C)	1.406	Density (25°C)	1.2 g/mL

APPLICATIONS

1. **Energy Storage** — Serves as the primary electrolyte in lead-acid batteries to facilitate the ion exchange necessary for effective power storage and supply.
2. **Chemical Manufacturing** — Acts as a vital reactant in the large-scale synthesis of various industrial chemicals, including fertilizers and explosives.
3. **Wastewater Treatment** — Used effectively to adjust and neutralize pH levels in industrial wastewater streams to ensure compliance with environmental regulations.
4. **Metalworking** — Utilized in the pickling process to remove scale, rust, and impurities from metal surfaces to prepare them for subsequent coating or processing.

STORAGE & HANDLING

Proper storage is critical because this solution is highly corrosive and can cause severe skin burns or damage to metal containers. It must be stored in compatible, acid-resistant materials within a cool, well-ventilated area to prevent hazardous reactions and ensure the integrity of the chemical remains stable.

- Store in a cool, dry, well-ventilated area away from incompatible materials.
- Use corrosion-resistant containers (e.g., HDPE, glass) for storage.
- Avoid contact with strong bases, organic materials, and reducing agents.
- Ensure proper PPE is worn, including gloves and eye protection, when handling.
- Use in a fume hood or well-ventilated area to minimize inhalation exposure.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



Hazard Statements:

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

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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