

PRODUCT IDENTIFICATION



Product Name: Sulfuric Acid 70% 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: 70%

Synonyms: Sulfuric Acid Solution, Oil of Vitriol

PRODUCT OVERVIEW

Alliance Chemical offers high-quality Sulfuric Acid 70% in Technical Grade, a clear and viscous solution characterized by a specific gravity of 1.61 g/mL. This concentration serves as a versatile reagent across industrial applications, balancing performance with handling requirements.

Grade Significance: Technical Grade indicates that this product is formulated for industrial and manufacturing processes where high-purity standards are maintained, ensuring consistent performance for large-scale applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	70	69	71	Titration
Color (APHA/Hazen)	APHA	5	0	10	Spectrophotometry
Specific Gravity (20°C)	g/mL	1.611	1.609	1.613	Hydrometer @ 20°C
Non-Volatile Residue	%	0.0030	—	0.01	Residue on Ignition
Arsenic Antimony As As	ppm	0.0022	—	0.0073	ICP-MS
Heavy Metals As Pb	ppm	0.219	0	0.73	ICP-MS (as Pb)
Iron (Fe)	ppm	0.045	0	0.15	ICP-MS
Chloride Cl	ppm	0.045	0	0.15	ICP
Nitrate No3	ppm	0.108	0	0.36	ICP
Mercury Hg	ppm	1.095	—	3.65	ICP-MS
Sulfite So3	ppm	5	0	7.3	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 viscous liquid	Odor	Odorless
Form	Liquid	Boiling Point	Not characterized for the 70% solution
Melting / Freezing Point	Not characterized for the 70% solution	Flash Point	Not applicable
Specific Gravity	1.61	Solubility	Complete water miscibility, strong acid interaction
Molecular Formula	H ₂ O ₄ S	Molecular Weight	98.08 g/mol
Vapor Pressure (20°C)	0.3 mmHg	Viscosity (25°C)	20.1 cP
Refractive Index (20°C)	1.405	Density (25°C)	1.184 g/mL

APPLICATIONS

- 1. Energy Storage** — Functions as the essential electrolyte in lead-acid batteries to facilitate reliable power supply and energy storage.
- 2. Chemical Manufacturing** — Acts as a critical reagent in the synthesis of various industrial chemicals, including fertilizers and explosive compounds.
- 3. Wastewater Treatment** — Used effectively to adjust and neutralize pH levels in industrial effluent treatment processes.
- 4. Organic Synthesis** — Serves as a powerful catalyst in organic reactions to improve reaction kinetics and overall product yield.

STORAGE & HANDLING

Due to its classification as a corrosive substance that causes severe skin burns and eye damage, sulfuric acid must be stored in specialized, corrosion-resistant containment. Proper storage prevents structural degradation of vessels and protects personnel from hazardous exposure to acidic fumes or leaks.

- 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 personal protective equipment (PPE) is worn, including gloves and goggles.
- Use in a fume hood or well-ventilated area to minimize inhalation risks.

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
- H350: May cause cancer

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.

Disclaimer: The information contained herein is believed to be accurate and represents the best information currently available to us. However, Alliance Chemical makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.