

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

Sulfuric Acid 70% Technical Grade is a clear, viscous, and highly effective chemical reagent essential for industrial manufacturing and processing. With a verified specific gravity of 1.611 g/mL and low impurity levels, this solution provides consistent performance for demanding applications like energy storage and pH regulation.

Grade Significance: Technical Grade indicates that this product is manufactured to meet industrial performance standards where efficiency and cost-effectiveness are prioritized over the ultra-high purity requirements of laboratory-grade reagents.

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 a reliable electrolyte in lead-acid batteries to facilitate efficient power supply and storage.
- 2. Chemical Manufacturing** — Acts as a primary reagent in the synthesis of fertilizers and various industrial explosives.
- 3. Wastewater Treatment** — Used to precisely adjust pH levels in industrial effluent, ensuring compliance with environmental standards.
- 4. Organic Synthesis** — Serves as a powerful catalyst to accelerate reaction rates in various complex organic chemical processes.

STORAGE & HANDLING

Proper storage is critical because Sulfuric Acid 70% is highly corrosive to metals and poses severe risks of skin burns and eye damage. Containers must be kept in a cool, well-ventilated, and dedicated corrosive-storage area to prevent accidental exposure and structural damage to storage facilities.

- 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.

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