

PRODUCT IDENTIFICATION



Product Name: Hydrogen Peroxide 25% ACS Grade

CAS Number: 7722-84-1

Molecular Formula: H₂O₂

Molecular Weight: 34.015 g/mol

Grade: ACS Grade

Purity / Concentration: 25%

Synonyms: Hydrogen Dioxide, Peroxide Solution

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Hydrogen Peroxide 25% in ACS Grade, a versatile and powerful oxidizing agent. This clear, colorless liquid is characterized by extremely low impurity levels, including heavy metals and iron measured at just 0.05 ppm, making it ideal for demanding analytical and industrial processes.

Grade Significance: ACS Grade signifies that this chemical meets the rigorous purity standards set by the American Chemical Society, ensuring it is suitable for high-precision analytical and laboratory work.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	25.3	25	27	Titration
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.065	—	—	USP <841>
Residue After Ignition	%	0.0005	—	0.0020	ACS Method
Heavy Metals (as Pb)	ppm	0.05	—	1	ICP-MS
Iron (Fe)	ppm	0.05	—	0.5	ICP-MS
Chloride (Cl ⁻)	ppm	0.1	—	1	ISE
Nitrate (NO ₃ ⁻)	ppm	0.1	—	2	Ion Chromatography
Phosphate (PO ₄ ³⁻)	ppm	0.1	—	2	Spectrophotometry
Sulfate (SO ₄ ²⁻)	ppm	0.2	—	5	Turbidimetry
Acidity As H ₂ SO ₄	%	0.0005	—	0.0030	Titration

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Slightly sharp, reminiscent of bleach
Form	Liquid	Boiling Point	150°C (302°F)
Melting / Freezing Point	-0.43°C (31.2°F)	Specific Gravity	1.09
Solubility	Soluble in water, slightly soluble in organic solvents	Molecular Formula	H ₂ O ₂
Molecular Weight	34.015 g/mol	Vapor Pressure (20°C)	0.23 mmHg
Viscosity (25°C)	1.2 cP	Refractive Index (20°C)	1.406
Density (25°C)	1.11 g/mL	Decomposition Temp.	Unstable; decomposes upon heating; no fixed decomposition temp

APPLICATIONS

- Analytical Chemistry** — Serves as a high-purity reagent for precise laboratory testing and chemical synthesis where minimal contamination is critical.
- Textile Manufacturing** — Utilized as an effective bleaching agent to brighten fabrics while maintaining high standards of material integrity.
- Water Treatment** — Acts as a potent oxidant to neutralize organic contaminants and improve water quality in industrial treatment systems.
- Chemical Synthesis** — Functions as a reliable oxidizing agent in various complex chemical reactions requiring consistent concentration and purity.

STORAGE & HANDLING

Due to its status as a strong oxidizer, this product must be stored in a cool, well-ventilated area away from combustible materials to prevent fire hazards. Proper containment is essential to avoid severe skin burns and eye damage, ensuring the safety of your facility and personnel.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to prevent reactions.
- Avoid contact with organic materials and reducing agents.
- Ensure proper ventilation when handling to avoid inhalation of vapors.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.

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:

- H271: May cause fire or explosion; strong Oxidizer [Danger Oxidizing liquids; Oxidizing solids]
- H302: Harmful if swallowed [Warning Acute toxicity, oral]
- H314: Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]
- H332: Harmful if inhaled [Warning Acute toxicity, inhalation]

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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