

PRODUCT IDENTIFICATION

**Product Name:** Hydrogen Peroxide 12% ACS Grade**CAS Number:** 7722-84-1**Molecular Formula:** H_2O_2 **Molecular Weight:** 34.015 g/mol**Grade:** ACS Grade**Purity / Concentration:** 12%**Synonyms:** Hydrogen Dioxide, Peroxide Solution

PRODUCT OVERVIEW

Hydrogen Peroxide 12% ACS Grade is a high-purity, clear liquid formulated to meet rigorous analytical standards. Featuring an assay of 12.56% and strictly controlled trace metal impurities, such as copper at 0.04 ppm, this product serves as a reliable oxidizing agent for laboratory and industrial processes.

Grade Significance: ACS Grade indicates that the chemical meets the high-purity standards set by the American Chemical Society, ensuring it is suitable for demanding laboratory and analytical applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Permanganate)	%	12.56	11.5	13	Permanganate Titration
Residue On Evaporation	ppm	8	0	20	Evaporation
Aluminum Al	ppm	0.4	0	1	ICP-MS
Arsenic Antimony As As	ppm	0.0040	0	0.01	ICP-MS
Calcium Ca	ppm	0.4	0	1	ICP-MS
Cobalt Co	ppm	0.2	0	0.5	ICP-MS
Copper	ppm	0.04	0	0.1	ICP
Iron	ppm	0.2	0	0.5	ICP
Lead Pb	ppm	0.2	0	0.5	ICP-MS
Magnesium Mg	ppm	0.04	0	0.1	ICP-MS
Manganese	ppm	0.4	0	1	ICP
Nickel Ni	ppm	0.04	0	0.1	ICP-MS
Potassium K	ppm	0.4	0	1	ICP-MS
Sodium Na	ppm	0.4	0	1	ICP-MS
Zinc Zn	ppm	0.4	0	1	ICP-MS
Chloride Cl	ppm	1	0	2	ICP
Phosphate Po4	ppm	1	0	2	ICP
Sulfate So4	ppm	2	0	5	ICP
Barium Ba	ppm	0.4	0	1	ICP-MS
Boron B	ppm	0.2	0	0.5	ICP-MS
Cadmium Cd	ppm	0.4	0	1	ICP-MS
Free Acid As H2So4	ueq/g	0.1	0	0.6	Titration
Silicon Si	ppm	0.4	0	1	ICP-MS
Silver Ag	ppm	0.2	0	0.5	ICP-MS
Strontium Sr	ppm	0.4	0	1	ICP-MS
Tin Sn	ppm	0.4	0	1	ICP-MS

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, pale blue liquid with transparent quality	Form	Liquid
Boiling Point	Not characterized for the 12% solution	Melting / Freezing Point	Not characterized for the 12% solution
Flash Point	54°C (129.2°F)	Specific Gravity	1.04
Solubility	Fully miscible with water, polar organic solvents	Molecular Formula	H ₂ O ₂
Molecular Weight	34.015 g/mol		

APPLICATIONS

1. **Analytical Chemistry** — Used as a precise reagent in titrations and complex analytical methods where purity is critical for accurate results.
2. **Textile Manufacturing** — Serves as an effective bleaching agent to brighten fibers and prepare fabrics for dyeing processes.
3. **Water Treatment** — Utilized for the oxidation of contaminants and odor control in wastewater treatment facilities.
4. **Pulp and Paper** — Acts as a bleaching agent to improve the whiteness and quality of paper products during production.
5. **Aquatics** — Applied in swimming pool maintenance as a powerful oxidizer to sanitize water and break down organic matter.

STORAGE & HANDLING

Proper storage is essential because Hydrogen Peroxide is a strong oxidizer that can intensify fires when in contact with combustible materials. It must be kept in a cool, well-ventilated area in its original vented container to prevent pressure buildup and maintain chemical stability.

- 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.
- Maintain in a well-ventilated area to minimize vapor accumulation.
- 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:

- H272: May intensify fire; oxidiser
- H302: Harmful if swallowed
- H318: Causes serious 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.

Alliance Chemical | 204 South Edmond St, Taylor, Texas 76574 | 512-365-6838 | www.alliancechemical.com

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