

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 oxidizing agent featuring a clear, pale blue appearance and strict quality control standards. With a verified assay of 12.1% and ultra-low impurity levels like 0.05 ppm for heavy metals, this solution is engineered for precision in demanding analytical and industrial applications.

Grade Significance: ACS Grade signifies that this product meets the rigorous specifications set by the American Chemical Society, ensuring the reliability and purity necessary for critical analytical and research 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** — This grade is ideal for use in titrations and complex laboratory analytical methods where high purity is required to ensure accurate results.
2. **Textile and Paper** — It acts as a powerful bleaching agent, effectively removing pigments and impurities during the manufacturing of textiles and paper products.
3. **Water Treatment** — The solution is utilized for the oxidative treatment of wastewater, helping to break down contaminants and improve overall water quality.
4. **Chemical Manufacturing** — It serves as a versatile reactant in various chemical synthesis processes that require a reliable and controlled oxidizing environment.
5. **Recreational Water** — It is frequently employed in swimming pool maintenance as an effective sanitizer that aids in maintaining water clarity and safety.

STORAGE & HANDLING

Proper storage is critical because hydrogen peroxide is a strong oxidizer that can cause fire or explosions if it comes into contact with incompatible materials. The container must be kept in a cool, ventilated area to prevent pressure buildup and decomposition, while strictly avoiding contaminants that could trigger hazardous reactions.

- 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:

- 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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