

### PRODUCT IDENTIFICATION



**Product Name:** Hydrogen Peroxide 12% ACS Grade

**CAS Number:** 7722-84-1

**Molecular Formula:** H<sub>2</sub>O<sub>2</sub>

**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 (wt%)	%	12.1	11	13	Titration with KMnO <sub>4</sub>
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.045	—	—	USP <841>
Residue After Ignition	%	0.0005	—	0.0020	ACS Reagent Chemicals
Heavy Metals (as Pb)	ppm	0.05	—	1	ICP-MS
Iron (Fe)	ppm	0.05	—	0.5	ICP-MS
Chloride (Cl <sup>-</sup> )	ppm	0.1	—	1	Ion Chromatography
Nitrate (NO <sub>3</sub> <sup>-</sup> )	ppm	0.2	—	2	Ion Chromatography
Phosphate (PO <sub>4</sub> <sup>3-</sup> )	ppm	0.1	—	2	Spectrophotometry
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	ppm	0.2	—	5	Ion Chromatography

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

### PHYSICAL & CHEMICAL PROPERTIES

<b>Appearance</b>	Clear, pale blue liquid with transparent quality	<b>Form</b>	Liquid
<b>Boiling Point</b>	150.2°C (302.4°F)	<b>Melting / Freezing Point</b>	-0.43°C (31.2°F)
<b>Flash Point</b>	54°C (129.2°F)	<b>Specific Gravity</b>	1.035
<b>Solubility</b>	Fully miscible with water, polar organic solvents	<b>Molecular Formula</b>	H <sub>2</sub> O <sub>2</sub>
<b>Molecular Weight</b>	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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