

PRODUCT IDENTIFICATION



Product Name: Hydrogen Peroxide 12% Technical Grade

CAS Number: 7722-84-1

Molecular Formula: H₂O₂

Molecular Weight: 34.015 g/mol

Grade: Technical Grade

Purity / Concentration: 12%

Synonyms: H₂O₂ 12%, Hydrogen Peroxide Solution

PRODUCT OVERVIEW

Hydrogen Peroxide 12% Technical Grade is a clear, colorless oxidizing agent characterized by a 12.1% assay and low impurity levels, such as 0.1 ppm iron. This reliable solution is widely utilized across industrial and laboratory settings for its effective bleaching and oxidation capabilities.

Grade Significance: Technical Grade indicates that this product is manufactured to meet industrial performance standards, offering a cost-effective balance of purity and utility for non-pharmaceutical applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	12.1	11.5	12.5	Titration with KMnO ₄
Color (APHA)	APHA	5	—	10	Visual Comparison
Specific Gravity (20°C)	g/mL	1.047	1.045	1.05	Hydrometer
Residue After Ignition	%	0.0050	—	0.02	Gravimetric
Heavy Metals (as Pb)	ppm	0.1	—	1	ICP-OES
Iron (Fe)	ppm	0.1	—	1	Spectrophotometry
Chloride (Cl ⁻)	ppm	0.5	—	2	Turbidimetry
Phosphate (PO ₄ ³⁻)	ppm	0.2	—	1	Spectrophotometry
Acidity As H ₂ SO ₄	ppm	50	—	100.0	Titration with NaOH

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Slightly sharp, characteristic odor
Form	Liquid	Boiling Point	150°C (302°F)
Melting / Freezing Point	-0.43°C (31.2°F)	Specific Gravity	1.035
Solubility	Soluble in water	Molecular Formula	H ₂ O ₂
Molecular Weight	34.015 g/mol	Vapor Pressure (20°C)	0.4 mmHg
Viscosity (25°C)	1.2 cP	Refractive Index (20°C)	1.4060
Density (25°C)	1.11 g/mL	Decomposition Temp.	Not fixed; decomposes exothermically; storage temp recommended 2-8 °C for stability

APPLICATIONS

1. **Water Treatment** — It serves as a powerful oxidant to improve water quality by breaking down organic contaminants and removing odors.
2. **Textile Manufacturing** — This product is used as a bleaching agent to lighten fabrics and prepare fibers for uniform dyeing processes.
3. **Chemical Synthesis** — It acts as a versatile reagent in various chemical reactions where a controlled oxidative environment is required.
4. **Laboratory Research** — The solution is utilized as a standard reagent for experimental procedures requiring consistent concentrations of hydrogen peroxide.

STORAGE & HANDLING

Proper storage is critical because hydrogen peroxide is a strong oxidizer that can pose fire or explosion risks if exposed to incompatible materials. It must be kept in a cool, well-ventilated area to maintain stability and prevent the decomposition of the solution.

- 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.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.
- Ensure adequate ventilation in storage areas.

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.

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

Disclaimer: The information contained herein is believed to be accurate and represents the best information currently available to us. However, Alliance Chemical makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.