

TECHNICAL DATA SHEET

# Hydrogen Peroxide 3% Technical Grade

Technical Grade · 3%

|            |                                     |            |
|------------|-------------------------------------|------------|
| CAS NUMBER | ALLIANCE CODE                       | GENERATED  |
| 7722-84-1  | hydrogen-peroxide-3-technical-grade | 2026-07-18 |

## 1. IDENTITY & COMPOSITION

|                                      |                                     |
|--------------------------------------|-------------------------------------|
| PRODUCT NAME                         | ALLIANCE CODE                       |
| Hydrogen Peroxide 3% Technical Grade | hydrogen-peroxide-3-technical-grade |
| GRADE                                | CONCENTRATION                       |
| Technical Grade                      | 3%                                  |
| CAS NUMBER                           | FORMULA                             |
| 7722-84-1 <a href="#">PubChem</a>    | H2O2 <a href="#">PubChem</a>        |
| MOLECULAR WEIGHT                     | PRODUCT TYPE                        |
| 34.015 <a href="#">PubChem</a>       | solution                            |

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

| GRADE                                 | CONCENTRATION | TYPICAL ASSAY | SKU                                  |
|---------------------------------------|---------------|---------------|--------------------------------------|
| <div>THIS GRADE</div> Technical Grade | 3%            | —             | current                              |
| ACS Grade                             | 30%           | —             | hydrogen-peroxide-30-acs-grade       |
| ACS Grade                             | 25%           | —             | hydrogen-peroxide-25-acs-grade       |
| Technical Grade                       | 25%           | —             | hydrogen-peroxide-25-technical-grade |
| ACS Grade                             | 15%           | —             | hydrogen-peroxide-15-acs-grade       |

| GRADE           | CONCENTRATION | TYPICAL<br>ASSAY | SKU                                  |
|-----------------|---------------|------------------|--------------------------------------|
| Technical Grade | 15%           | —                | hydrogen-peroxide-15-technical-grade |
| ACS Grade       | 12%           | —                | hydrogen-peroxide-12-acs-grade       |
| Technical Grade | 12%           | —                | hydrogen-peroxide-12-technical-grade |
| ACS Grade       | 10%           | —                | hydrogen-peroxide-10-acs-grade       |
| Technical Grade | 10%           | —                | hydrogen-peroxide-10-technical-grade |
| ACS Grade       | 6%            | —                | hydrogen-peroxide-6-acs-grade        |
| Technical Grade | 6%            | —                | hydrogen-peroxide-6-technical-grade  |
| ACS Grade       | 5%            | —                | hydrogen-peroxide-5-acs-grade        |

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

## PHYSICAL & CHEMICAL PROPERTIES

One or more physical-property values are temporarily suppressed pending verification against vendor COA data. For complete properties refer to the Safety Data Sheet (SDS) or contact [sales@alliancechemical.com](mailto:sales@alliancechemical.com).

### FORM

Liquid **Product record**

### PH

Weak acid; H<sub>2</sub>O<sub>2</sub> concn wt% = 35, 50, 70, 90;  
corresponding true pH: 4.6, 4.3, 4.4, 5.1

**Product record**

### DENSITY

1.01 (3% w/w aqueous solution, 20 °C)

**Product record**

### MELTING POINT

Not characterized for the 3% solution

**Product record**

### SOLUBILITY (WATER)

greater than or equal to 100 mg/mL at 72 °F  
(NTP, 1992) **Product record**

### ODOR

... Slightly sharp odor ... **Product record**

### SPECIFIC GRAVITY (20 °C)

1.01 **Product record**

### BOILING POINT

Not characterized for the 3% solution

**Product record**

### VAPOR PRESSURE

1 mmHg at 59.5 °F (NTP, 1992) **Product record**

Oxidizer — decomposition rate and gas-evolution data may apply. Consult the SDS for material-of-construction guidance under shipping and storage conditions.

## MATERIALS OF CONSTRUCTION SERVICE ENVELOPE ≈ 3%

| MATERIAL                  | RATING                 | MAX T (°C) | NOTES                                                 | SOURCE                                                                  |
|---------------------------|------------------------|------------|-------------------------------------------------------|-------------------------------------------------------------------------|
| Buna-N (NBR)<br>Elastomer | <b>Not recommended</b> | —          | Rapid degradation; never use with oxidizers.          | <a href="#">Parker O-ring Chemical Compatibility</a>                    |
| EPDM<br>Elastomer         | <b>Fair</b>            | 60         | Service below 35 %; swelling and embrittlement above. | <a href="#">Parker O-ring Chemical Compatibility</a>                    |
| Viton (FKM)<br>Elastomer  | <b>Poor</b>            | —          | Use EPDM or PTFE for sealing                          | <a href="#">Solvay H<sub>2</sub>O<sub>2</sub> Safety &amp; Handling</a> |
| PTFE<br>Fluoropolymer     | <b>Excellent</b>       | 100        | Gaskets, lining; best-in-class                        | <a href="#">Solvay H<sub>2</sub>O<sub>2</sub> Safety &amp; Handling</a> |

| MATERIAL                              | RATING          | MAX T<br>(°C) | NOTES                                                                 | SOURCE                                                |
|---------------------------------------|-----------------|---------------|-----------------------------------------------------------------------|-------------------------------------------------------|
| PVDF<br>Fluoropolymer                 | Excellent       | 80            | Preferred fluoropolymer for piping                                    | <a href="#">Solvay H2O2 Safety &amp; Handling</a>     |
| PVDF (Kynar)<br>Fluoropolymer         | Excellent       | 100           | Standard for high-purity peroxide service.                            | <a href="#">Solvay H2O2 Materials of Construction</a> |
| Borosilicate Glass<br>Glass Ceramic   | Excellent       | 100           | Inert to all oxidizers within normal service temperatures.            | <a href="#">Cole-Parmer Chemical Compatibility</a>    |
| Concrete (untreated)<br>Glass Ceramic | Not recommended | —             | Reactive; line with HDPE/FRP                                          | <a href="#">Solvay H2O2 Safety &amp; Handling</a>     |
| 304 stainless steel<br>Metal          | Good            | 40            | May darken; acceptable for short-term storage                         | <a href="#">Solvay H2O2 Safety &amp; Handling</a>     |
| 304 Stainless Steel<br>Metal          | Fair            | 40            | Surface oxidation at higher concentrations; passivate before service. | <a href="#">Cole-Parmer Chemical Compatibility</a>    |
| 316 stainless steel<br>Metal          | Excellent       | 40            | Passivated surfaces preferred                                         | <a href="#">Solvay H2O2 Safety &amp; Handling</a>     |
| 316L stainless steel<br>Metal         | Excellent       | 60            | Welds require post-weld passivation                                   | <a href="#">Solvay H2O2 Safety &amp; Handling</a>     |
| 316L Stainless Steel<br>Metal         | Good            | 60            | Passive layer stable; avoid prolonged service above 60 °C.            | <a href="#">Solvay H2O2 Materials of Construction</a> |
| Aluminium 1100/3003<br>Metal          | Good            | 40            | Limit to dilute service                                               | <a href="#">Solvay H2O2 Safety &amp; Handling</a>     |
| Brass<br>Metal                        | Not recommended | —             | Copper-induced decomposition                                          | <a href="#">Solvay H2O2 Safety &amp; Handling</a>     |

| MATERIAL                       | RATING          | MAX T (°C) | NOTES                                             | SOURCE                                             |
|--------------------------------|-----------------|------------|---------------------------------------------------|----------------------------------------------------|
| Carbon steel<br>Metal          | Not recommended | —          | Catalytic decomposition; not for any service      | <a href="#">Solvay H2O2 Safety &amp; Handling</a>  |
| Carbon Steel<br>Metal          | Not recommended | —          | Rapid corrosion; never use with oxidizers.        | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| Copper<br>Metal                | Not recommended | —          | Catalytic decomposition; severe                   | <a href="#">Solvay H2O2 Safety &amp; Handling</a>  |
| CPVC<br>Thermoplastic          | Good            | 60         | Acceptable to 60 °C                               | <a href="#">Solvay H2O2 Safety &amp; Handling</a>  |
| HDPE<br>Thermoplastic          | Good            | 50         | Concentrations ≤ 50%; vented containers only      | <a href="#">Solvay H2O2 Safety &amp; Handling</a>  |
| Polypropylene<br>Thermoplastic | Good            | 25         | Service below 35 % at ambient; avoid above 25 °C. | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| PVC<br>Thermoplastic           | Fair            | 40         | Embrittlement risk above 40 °C                    | <a href="#">Solvay H2O2 Safety &amp; Handling</a>  |

Ratings reflect the service envelope (concentration × temperature) shown. Always confirm against your specific duty cycle and contact-time before equipment selection. The most cautious rating across overlapping references is shown.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

Not regulated **Adjudicated**

PACKING GROUP

Not regulated **Adjudicated**

HAZARD CLASS

Not regulated **Adjudicated**

PROPER SHIPPING NAME

Not regulated **Adjudicated**

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Danger **Adjudicated**

H-CODES (HAZARD STATEMENTS)

H315, H318 **Adjudicated**

P-CODES (PRECAUTIONARY STATEMENTS)

P264, P280, P302+P352, P305+P351+P338, P310, P321, P332+P313, P362, P501 **Adjudicated**

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

1 ppm TWA **OSHA 29 CFR 1910.1000**

ACGIH TLV

— **unknown**

NIOSH REL

1 ppm TWA **NIOSH Pocket Guide**

NIOSH IDLH

75 ppm **NIOSH Pocket Guide**

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

Supplier Qualification Packet

One zipped download containing the TDS, SDS, latest lot COA (when available), and a fresh Letter of Continuing Guaranty for Hydrogen Peroxide 3% Technical Grade. Every file included is SHA-256 hashed and listed in a manifest your QA team can audit.

CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

HONEYWELL

| SKU                   | GRADE | CONC. | MATCH        | NOTES                  |
|-----------------------|-------|-------|--------------|------------------------|
| <a href="#">95302</a> | ACS   | 30%   | <b>Exact</b> | Fluka brand, ACS grade |

SIGMA-ALDRICH

| SKU                    | GRADE       | CONC. | MATCH | NOTES                   |
|------------------------|-------------|-------|-------|-------------------------|
| <a href="#">216763</a> | ACS Reagent | 30%   | Exact | Stabilized; ACS Reagent |

Cross-references are informational. Confirm against the manufacturer's current specification before substitution. Competitor trademarks are property of their respective owners.

## APPLICATION GUIDANCE

Hydrogen Peroxide 3% Technical Grade (Technical Grade) is supplied for applications where controlled, selective oxidation is required. Grade selection drives the choice between bulk industrial oxidation, electronics/semiconductor cleaning, and pharmaceutical-grade disinfection.

- Pulp and textile bleaching
- Wastewater treatment and odor control
- Etching and surface cleaning (electronics-grade only)
- Disinfection and sterilization (food/pharma-grade only)
- Chemical synthesis and polymerization initiation

Materials of construction must be rated for the concentration and temperature in service. Avoid contact with reducing agents, transition metals, and organic combustibles.

## STORAGE & HANDLING

### RECOMMENDED STORAGE

Cool, well-ventilated area, away from heat, sunlight, and combustibles. Vented containers only — pressure may develop from slow...

### INCOMPATIBILITIES

Combustible materials, organic compounds, reducing agents, transition metal salts (catalytic decomposition), strong bases.

### HANDLING PRECAUTIONS

Use PPE including face shield, chemical-resistant gloves, and apron. Avoid contamination — never return unused material to the original container....

### SHELF LIFE

24 months from date of manufacture in sealed, original packaging

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

## REVISION HISTORY

Last reviewed 2026-07-17 by Andre Taki, DOT Hazmat Specialist.

| VERSION | DATE       | CHANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | TRIGGER          |
|---------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1.1     | 2026-07-17 | <p>Canonical data re-verified: 8 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable).</p> <ul style="list-style-type: none"> <li>countryOfOrigin · canonical adjudication / reground (coa.data_provenance)</li> <li>dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance)</li> <li>ghsClassification · canonical adjudication / reground (coa.data_provenance)</li> <li>hazard_h_codes · canonical adjudication / reground (coa.data_provenance)</li> <li>hazard_p_codes · canonical adjudication / reground (coa.data_provenance)</li> <li>hsCode · canonical adjudication / reground (coa.data_provenance)</li> <li>physicalProperties · canonical adjudication / reground (coa.data_provenance)</li> <li>signalWord · canonical adjudication / reground (coa.data_provenance)</li> </ul> | canonical_change |
| 1.0     | 2026-05-20 | Initial URL-first TDS published from canonical chemistry registry.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | initial          |

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.

ALLIANCE CHEMICAL

## Order Hydrogen Peroxide 3% Technical Grade

Bulk & packaged sizes · COA/SDS ships with every order