Safety Data Sheet · OSHA HCS 2024

Hydrogen Peroxide 25% ACS Grade

ACS Grade · 25%

Standard	Revised	Emergency
OSHA HCS 2024 · GHS Rev. 7	2026-11-12	Chemtel 1-800-255-3924 (24/7)

1 Identification

Product Identifier	Hydrogen Peroxide 25% ACS Grade
Grade	ACS Grade
Concentration	25% w/w
CAS Number	7722-84-1
Chemical Formula	H2O2
Manufacturer	Alliance Chemical 204 South Edmond Street, Taylor, TX 76574
Emergency Phone	Chemtel 1-800-255-3924 (24/7)
Synonyms	Hydrogen dioxide; peroxide solution; H2O2
Recommended Use	Laboratory and analytical reagent (ACS grade); oxidizing and bleaching agent; cleaning.
Restrictions on Use	Oxidizer: keep away from combustibles, organic materials and metals. Never return unused peroxide to the original container (contamination causes decomposition and pressure). Not for medical, cosmetic or food use.

2 Hazard Identification



Oxidizer



Corrosive



Irritant / harmful

Classification

Oxidizing liquids

Acute toxicity (oral), Category 4

Skin corrosion/irritation, Category 1

Serious eye damage/eye irritation, Category 1

Acute toxicity (inhalation), Category 4

Specific target organ toxicity, single exposure, Category 3 (respiratory tract irritation)

Signal Word

Danger

Hazard Statements

H272 May intensify fire; oxidizer

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

H332 Harmful if inhaled

H335 May cause respiratory irritation

Precautionary Statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220 Keep away from clothing and other combustible materials.

P260 Do not breathe dust, fume, gas, mist, vapors or spray.

P261 Avoid breathing dust, fume, gas, mist, vapors or spray.

P264 Wash hands and face thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves, protective clothing, and eye/face protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

P312 Call a POISON CENTER or doctor if you feel unwell.

P321 Specific treatment (see first-aid information on this label).

P330 Rinse mouth.

P363 Wash contaminated clothing before reuse.

P370+P378 In case of fire: Use water spray or fog in large quantities to extinguish.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents and container in accordance with local, regional, national, and international regulations.

Classification, hazard (H) and precautionary (P) statements and pictograms per OSHA HCS 2024 (29 CFR 1910.1200, Appendices A–C), aligned with GHS Rev. 7.

3 Composition / Information on Ingredients

Component	CAS No.	Formula	Concentration
Hydrogen peroxide	7722-84-1	H2O2	24.5-25.5% (w/w)
Water	7732-18-5	H2O	Balance (w/w)

Concentrations are nominal; lot-specific values appear on the Certificate of Analysis. Components not contributing to classification are omitted.

4 First-Aid Measures

Eyes Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.

Skin Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.

Inhalation Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.
Most Important Symptoms and Effects	Causes burns to the skin, eyes and mucous membranes; eye contact may cause permanent damage including blindness; ingestion burns the mouth, throat and stomach. Inhalation may irritate the nose, throat and respiratory tract (coughing, sore throat). Ingestion may cause nausea, vomiting and abdominal pain; larger amounts may cause systemic poisoning. Inhalation may cause coughing, shortness of breath and headache; high concentrations may cause systemic poisoning.
Immediate Medical Attention and Special Treatment	Immediate medical attention is required after eye or skin contact or ingestion; tissue damage may continue after exposure ends.

5 Fire-Fighting Measures

Suitable Extinguishing Media	Water spray or fog in large quantities. Do NOT use dry chemical or CO2.
Unsuitable Extinguishing Media	Do not use dry chemical, CO2, or foam.
Specific Hazards Arising from the Chemical	Oxidizer: may intensify fire and ignite combustible materials (wood, paper, oil). Fire may release corrosive and toxic gases. Containers may rupture when heated.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Hazardous Combustion Products	Oxygen (supports combustion) and heat; pressure can build in closed or unvented containers.

6 Accidental Release Measures

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Hazard-Specific Precautions	Keep away from combustible materials. Do not absorb with sawdust, paper or other combustible absorbents. Do not touch spilled material without protective equipment. Neutralize residue only with a method suitable for the material, then collect.
Environmental Precautions	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7 Handling and Storage

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area away from combustible materials and heat. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.

Specific Storage Precautions	Store in the original vented container, cool and out of sunlight, away from combustibles, organics and metals. Never return material to the container. Use only clean, compatible equipment (high-purity aluminum, stainless steel, HDPE, glass).

8 Exposure Controls / Personal Protection

Occupational Exposure Limits

Limit	Value
OSHA PEL	1 ppm TWA
ACGIH TLV	1 ppm TWA (A3: confirmed animal carcinogen with unknown relevance to humans)
NIOSH REL	1 ppm TWA
IDLH	75 ppm
Other Limits	NIOSH IDLH 75 ppm

Engineering Controls	Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.
Eye/Face Protection	Wear chemical safety goggles or face shield.
Skin Protection	Wear chemical-resistant gloves and protective clothing.
Respiratory Protection	Use a NIOSH-approved respirator (N95/P100 for particulate, organic vapor or acid gas cartridge as appropriate to the substance) when exposure limits may be exceeded or visible mist or dust is generated.

Exposure limits sourced from NIOSH Pocket Guide, OSHA 29 CFR 1910.1000 and ACGIH TLVs.

9 Physical & Chemical Properties

Appearance	Clear, colorless liquid
Odor	Odorless to faintly sharp
Odor Threshold	No data available
pH	3–4
Melting Point / Freezing Point	Approx. −23 °C (−9 °F), freezing point (aqueous solution)
Boiling Point	Approx. 104 °C (219 °F) (aqueous solution)
Flash Point	Not applicable
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper/Lower Flammability or Explosive Limits	No data available
Vapor Pressure	13.5 mmHg at 20 °C
Vapor Density	1.1 (air = 1)
Relative Density	1.093 at 20/20 °C (water = 1)
Solubility	Completely miscible with water
Partition Coefficient (n-octanol/water)	No data available

Auto-ignition Temperature	No data available
Decomposition Temperature	Above 125 °C; decomposes slowly at room temperature, faster with heat, light and contamination
Viscosity	No data available
Particle Characteristics	Not applicable
Form	Liquid
Density	1.0910 g/cm^3 at 20 °C

Values shown reflect product-specific canonical data. Lot-specific ranges may vary; see the Certificate of Analysis for the shipped lot.

10 Stability and Reactivity

Reactivity	Oxidizer: reacts with combustible and reducing materials, which may cause fire.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Heat, sunlight and UV light, contamination of any kind, shock and friction. Containers must stay vented.
Incompatible Materials	Combustible and organic materials (paper, wood, oils, solvents such as acetone and alcohols); reducing agents; metals and metal salts, especially iron, copper, brass and lead (catalyze violent decomposition); cyanides and sulfides; strong acids and bases; ammonia.
Hazardous Decomposition Products	Oxygen (supports combustion) and heat; pressure can build in closed or unvented containers.

11 Toxicological Information

See below for route-specific acute toxicity data.

Likely Routes of Exposure	Inhalation, skin contact, eye contact, ingestion.
Symptoms	Causes burns to the skin, eyes and mucous membranes; eye contact may cause permanent damage including blindness; ingestion burns the mouth, throat and stomach. Inhalation may irritate the nose, throat and respiratory tract (coughing, sore throat). Ingestion may cause nausea, vomiting and abdominal pain; larger amounts may cause systemic poisoning. Inhalation may cause coughing, shortness of breath and headache; high concentrations may cause systemic poisoning.
Delayed and Chronic Effects	No delayed or chronic effects identified beyond the classification in Section 2.

Route	Value
LD50 Oral (rat)	910 mg/kg (20–60% aqueous solution)
LD50 Dermal (rabbit)	2,000–9,200 mg/kg (hydrogen peroxide)
LC50 Inhalation (rat, 4h)	2 mg/L (2,000 mg/m^3) (hydrogen peroxide)

Carcinogen Classification

Agency	Status
IARC	Group 3 — not classifiable as to its carcinogenicity to humans (Hydrogen peroxide; IARC agent: Hydrogen peroxide, Vol. 36, Sup 7, 71).
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12 Ecological Information

Ecotoxicity	Data not available. Avoid release to the environment.
Persistence & Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available

13 Disposal Considerations

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

EPA RCRA Waste Codes	D001 (ignitable: DOT oxidizer, 40 CFR 261.21(a)(4)). Not a P- or U-listed waste.

If discarded, this material may be an ignitable hazardous waste as an oxidizer (EPA RCRA D001, 40 CFR 261.21(a)(4)). If discarded, this material may be a corrosive hazardous waste (EPA RCRA D002, 40 CFR 261.22): aqueous with pH ≤ 2 or ≥ 12.5, or a liquid that corrodes steel at more than 6.35 mm per year. The waste generator must make the final hazardous-waste determination.

14 Transport Information

US DOT (49 CFR)

UN Number	UN2014
Proper Shipping Name	Hydrogen peroxide, aqueous solutions with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary)
Hazard Class	5.1
Subsidiary Hazard Class	8
Packing Group	II

IMDG / IATA classifications may differ from US DOT. Verify current regulations before international shipment.

15 Regulatory Information

Inventory / List	Status
California Proposition 65	Not listed
US EPA TSCA Active Inventory	Listed
EPCRA SARA 313 (TRI)	Not listed

CERCLA Reportable Quantity (RQ)	Not a CERCLA hazardous substance (no RQ). EPCRA section 302 applies to hydrogen peroxide only above 52% concentration; not an EPCRA section 313 chemical.

SARA 311/312 hazard categories correspond to the GHS classification in Section 2. Data retrieved as of: California Proposition 65 2026-11-02; US EPA TSCA Active Inventory 2026-11-02; EPCRA SARA 313 (TRI) 2026-11-02.

16 Other Information

Revision Date	2026-11-12
Format	16-section format per OSHA HCS 2024 (29 CFR 1910.1200, Appendix D), aligned with GHS Rev. 7.

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