

Common Name: **HYDROGEN PEROXIDE**

Synonyms: Hydrogen Dioxide

CAS No: 7722-84-1

Molecular Formula: H₂O₂

RTK Substance No: 1015

Description: Colorless, odorless liquid. Pure **Hydrogen Peroxide** is unstable and an explosion risk so it is usually in a water solution.

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
3 - Health 0 - Fire 3 - Reactivity DOT#: UN 2015 ERG Guide #: 143 Hazard Class: 5.1 (Oxidizer)	Hydrogen Peroxide is not combustible but it is a STRONG OXIDIZER which enhances the combustion of other substances. Flood with water to extinguish fire. DO NOT USE DRY CHEMICAL extinguishing agents. POISONOUS GASES ARE PRODUCED IN FIRE. CONTAINERS MAY EXPLODE IN FIRE. Use water spray to keep fire-exposed containers cool. Hydrogen Peroxide may ignite combustibles (wood, paper and oil).	Concentrated solutions of Hydrogen Peroxide can decompose violently if trace impurities are present. Hydrogen Peroxide reacts violently with FINELY DIVIDED METALS; REDUCING AGENTS; COMBUSTIBLES; STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE); OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); ORGANICS; ALCOHOLS; ETHERS; KETONES; ALDEHYDES; and METALS (such as COPPER, BRASS, IRON, SILVER and ZINC). Hydrogen Peroxide is not compatible with AMMONIA and AMMONIA CARBONATES; IODIDES; and SULFITES.

SPILL/LEAKS

Isolation Distance:

Small Spills: 50 meters (150 feet)

Large Spills: 100 meters (300 feet)

Fire: 800 meters (½ mile)

Absorb liquids in vermiculite, dry sand, earth, or a similar material and deposit in sealed containers.

Keep **Hydrogen Peroxide** out of confined spaces, such as sewers, because of the possibility of an explosion.

PHYSICAL PROPERTIES

Odor Threshold:	Odorless - Based on a 70 - 90% Hydrogen Peroxide solution
Flash Point:	Not combustible
Vapor Density:	1.2 (air = 1)
Vapor Pressure:	8 mm Hg at 77°F (25°C)
Specific Gravity:	1.46 (water = 1)
Water Solubility:	Soluble
Boiling Point:	286°F (141°C)
Melting Point:	12°F (-11°C)
Ionization Potential:	10.54 eV
Molecular Weight:	34
pH:	Slightly acidic

EXPOSURE LIMITS

OSHA: 1 ppm, 8-hr TWA

NIOSH: 1 ppm, 10-hr TWA

ACGIH: 1 ppm, 8-hr TWA

IDLH: 75 ppm

The Protective Action Criteria values are:

PAC-1 = 10 mg/m³

PAC-2 = 50 mg/m³

PAC-3 = 100 mg/m³

PROTECTIVE EQUIPMENT

Gloves:	Nitrile, Neoprene, Natural Rubber, Silver Shield®/4H® and Viton (>8-hr breakthrough)
Coveralls:	DuPont Tychem® QC, CPF 2, BR, LV, Responder®, and TK; Kappler Zytron® 200; and Saint-Gobain ONESuit®/TEC or equivalent (>8-hr breakthrough)
Respirator:	>1 ppm - Supplied air

HEALTH EFFECTS

Eyes: Irritation, burns, eye damage

Skin: Irritation, burns, skin rash, redness and blisters

Inhalation: Nose and throat irritation, coughing, shortness of breath (pulmonary edema)

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 30 minutes. Remove contact lenses if worn. Seek medical attention immediately.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of water. Seek medical attention.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer to a medical facility.

Medical observation is recommended as symptoms may be delayed.