

Properties of Hydrogen Peroxide

Hydrogen Peroxide (H₂O₂) is a clear, colorless, inorganic liquid with an acidic pH. Because of the complete solubility of Hydrogen Peroxide in water, solutions of a wide range of concentrations can be made. The amount of H₂O₂ present is expressed as a percent of the solutions weight. Thus, ten pounds of a 35% solution contains 3.5 pounds of Hydrogen Peroxide and 6.5 pounds of water.

Under normal conditions, Hydrogen Peroxide is extremely stable with demonstrated losses of less than 1% per year under ambient conditions. Heat and oxygen are generated during peroxide decomposition and even abnormal decomposition is easily handled by properly designed storage and handling systems. However, if severe contamination occurs or the solution is heated to extremely high temperatures, relieving devices may not be able to dissipate the volume of gas generated and the system may be overpressured.

Hydrogen Peroxide is not considered explosive, but explosive vapors can be formed when peroxide is mixed with certain organic materials. In addition, Hydrogen Peroxide is not flammable, but does generate large amounts of oxygen during decomposition that supports combustion.