# Hydrogen Peroxide - Ceric Sulfate Method

Version 8 / May 2023

## Applications and Industries

Disinfecting solutions, aseptic packaging
Food & Beverage Industry

## References

Developed by CHEMetrics

## Chemistry

Hydrogen peroxide is oxidized by the ceric sulfate titrant. Ferroin signals the endpoint of the titration. Test results are expressed as percent (%) $H_2O_2$.

## Sample Handling

Hydrogen peroxide is not stable in aqueous solution; the hydrogen peroxide content of aqueous samples, particularly when the concentration is low, will decrease rapidly. Agitation or exposure to sunlight or other strong light will accelerate the reduction of hydrogen peroxide in solution. Analysis should be performed immediately after sample collection, and excessive agitation and exposure to light should be avoided.

## Available Analysis Systems

*Titrimetric: Titrets®*

## Storage Requirements

Products should be stored in the dark and at room temperature.

## Shelf Life

*When stored in the dark and at room temperature:*

Titrets kit: at least 1 year

## Safety Information

Safety Data Sheets (SDS) are available upon request and at www.chemetrics.com. Read SDS before using these products. Breaking the tip of an ampoule in air when a valve assembly is not attached may cause the glass ampoule to shatter. Wear safety glasses and protective gloves.

## Interference Information

- Sample constituents that are oxidized by ceric sulfate, including nitrite and ferrous iron, will interfere positively with this test.
- Chromate interferes by masking the endpoint.
- Peracetic acid does not interfere.
- Copper does not interfere.
- Ethylene glycol, even at percent levels, does not interfere.

## Interpretation of Results

At the endpoint of this titration, the color of the solution in the test ampoule changes from green to brownish orange. If the Titret ampoule is filled with sample but the color of the solution remains green (i.e. does not change to brownish orange), the hydrogen peroxide concentration is below the test range. If the solution in the ampoule changes to brownish orange immediately upon introduction of the first small dose of sample, the peroxide concentration is above the test range.

## Accuracy Statement

*Statements of accuracy are based on laboratory tests performed under ideal testing conditions using standards of known concentration prepared in deionized water.*

Due to the non-linear nature of the test scale, the accuracy of this test varies with the location of the test result on the scale. At twice the minimum concentration for a particular test range, the accuracy is ± 10% error.