Analysis Techniques for Minute Quantities of Residual Hydrogen Peroxide in Tetra Pak Aseptic Package

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ABSTRACT

In this report, we will discuss the analysis about the residual hydrogen peroxide in Tetra Pak aseptic package and compare the difference among Potentiometric titration method, 4-aminoantipyrine (4-AA) colorimetry and Oxygen electrode method for the determination residual hydrogen peroxide. In Potentiometric titration method, 0.001 N potassium permangant was used as titrant through a micro burrete to react with hydrogen peroxide. As for 4-aminoantipyrine (4-AA) colorimetry method, use both OPD and horseradish peroxidase to react with hydrogen peroxide, to give a color change and use UV-VIS spectrophotometer to measure the absorbance and then to quantify the hydrogen peroxide. The principle of Oxygen electrode method, after the addition of catalase will the released oxygen was measured by a recorder peak for determining minute quantities of residual hydrogen peroxide. In Potentiometric titration method, the variability of error is very huge, for the influence of platinum electrode aged. The disadvantage of 4-aminoantipyrine (4-AA) colorimetry method is higher cost and can ’ t keep longer after reagent compounded. The advantage of oxygen electrode method is fast, convenient, cheap, accurate, and good reproduction. Keywords: Hydrogen peroxide, Aseptic package, Potentiometic titration method, 4-aminoantipyrine (4-AA) colorimetry method, Oxygen electrode method.

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