

Application Memo

Peroxide Value of Fried Snack (Acetic Acid-Isooctane Method)

Industry	Food
Instrument	Automatic potentiometric titrator
Measurement method	Redox titration
Standards	The JOCS Standard Methods for the Analysis of Fats, Oils and Related Materials Japanese Agricultural Standards

1. Overview

The oxidation of fat and oil or foods containing them can be checked by POV (peroxide value). The oil and fat content oxidize with oxygen in the air, and produce peroxides which reduce the food quality. The reaction of peroxide with potassium iodide isolates free iodine. When such free iodine is titrated with sodium thiosulfate, POV expressed in milliequivalents per 1kg sample (unit: meq/kg) can be obtained.

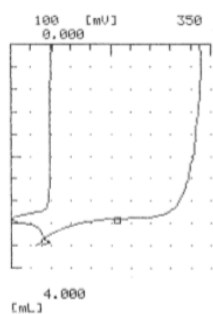
2. Apparatus

Main unit	Automatic potentiometric titrator (preamplifier STD)
Electrode	Combined Pt electrode for micro titration

3. Reagents

Extracting medium	Diethyl ether
Dehydrating agent	Sodium sulfate
Reagent	Acetic acid-Isooctane (2,2,4-trimethyl pentane) mixed solution (3+2) (vol%)
Additive	Saturated potassium iodide solution
Titrant	0.01mol/L sodium thiosulfate
Inert gas	Nitrogen gas

4. Example



—Titration curve—

—Measurement results—

	Sample (g)	Titer (mL)	POV (meq/kg)
1	4.2986	3.1350	7.3148
2	4.5056	3.2730	7.2862
3	4.9369	3.6411	7.3983
Average			7.3331
SD			0.0582
RSD(%)			0.794

Please feel free to contact us for any further information.

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