

EFFECTIVE DATE	N P A n a l y t i c a l L a b o r a t o r i e s	METHOD CODE
REVISED: 02/28/2025	LABORATORY TEST METHOD SUMMARY	PRXE
REPLACES: 01/19/2020	Peroxide Value (In Extracts)	PAGE 1 OF 1
KEY WORDS: Peroxide, Rancidity, Fat Quality		

1. **SCOPE AND PURPOSE:**

This method measures peroxide value (milliequivalents of peroxide per kilogram of fat) in petroleum ether extractable fats in grains, feeds, cereals, meats, feed ingredients, foods, and food ingredients. There is no assurance that matrices other than those listed can be assayed using this method.

2. **PRINCIPLE:**

- 2.1. Crude fat is extracted from the sample by dissolution in petroleum ether. The ether is volatilized, and the fat is redissolved in an acetic acid-chloroform solution. Potassium iodide is added and is oxidized by any peroxide present, liberating the iodine. The liberated iodine is titrated with sodium thiosulfate using a starch indicator solution. Peroxide value is calculated from the volume of titer consumed.
- 2.2. Using a sample which yields 5 g of fat, the lowest confidence level of this method is 0.2 milliequivalents of peroxide per kilogram of fat. This lowest confidence level may vary with sample matrix.
- 2.3. Known Interferences: Exposing samples to excessive temperatures during handling and analysis may cause an increase in peroxide content.

3. **PRECISION:**

Records of method precision based on Method Validation and/or known control summaries are located in the QA Master file for this test method. Assay precision may vary with test matrix and analyte level. Terms used to describe method precision are defined in NPSOP3000, *Validation of Quantitative Chemical Tests*.

4. **REFERENCES:**

- 4.1. Official Methods and Recommended Practices of the AOCS, Method Cd 8-53 (Modified)
- 4.2. Official Methods of Analysis of AOAC International, Method 965.33