

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: 01/09/26	LABORATORY TEST METHOD SUMMARY	XI 030
REPLACES: 04/25/25	p-Anisidine Value	PAGE 1 OF 1
KEY WORDS: p-Anisidine Value, shelf-life testing, aldehydes in fats and oils		

1. SCOPE AND PURPOSE:

This method measures p-Anisidine Value by determining the amount of aldehydes (principally 2-alkenals and 2, 4-dienals) in petroleum ether extractable animal and vegetable fats and oils, foods, animal feeds, food and feed ingredients by measuring the absorbance at 350 nm. 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 sample by dissolution in petroleum ether. The ether is evaporated overnight and the extracted fat is redissolved in a hexane solution. The sample is then reacted with a solution of p-anisidine in acetic acid. The sample's absorbance is then measured on a spectrophotometer. The Anisidine Value is calculated from the absorbance of the sample solution reacted with p-anisidine and the absorbance of unreacted sample solution.
- 2.2. The lowest confidence level for this method is 1 (unitless), based on 0.25 g sample weight.
- 2.3. Samples with high moisture and low fat content may be freeze-dried prior to analysis to ensure adequate fat is obtained. Consult Manager, Supervisor, Expert, or Designate when insufficient fat is obtained from as-received samples.

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, Official Method Cd 18-90, revised 2011(Modified)
- 4.2. IUPAC, *Standard Methods for the Analysis of Oils, Fats and Derivatives*, 7th ed., Method Number 2.504 Determination of the p-anisidine value (p-A.V.), Blackwell Scientific Publications, Boston, MA and Oxford, UK (1987).
- 4.3. *JAOCS* 51:17 (1974).
- 4.4. Hamilton, R.J., and S. Hamilton, *Lipid Analysis*, Oxford University Press, New York, 1992, pp. 45–47.