

Ethanolamines/Glycol Ethers

Tier 3 Procedure

Section Number: 634
Issue Number: 1.3
Original Date: 02-05-92 **Author:** Donald Lambert
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Title: Oleic Acid Analysis
References: Glossary Of Equipment Identification (Text # 114)

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634. Oleic Acid Analysis

1.0 Objective:

- 1.1 To run this analysis accurately, in a safe and efficient manner without damage to equipment or injury to personnel.

2.0 Responsibility:

- 2.1 It is the responsibility of the operations supervisor and the senior operations specialist to ensure that this procedure is fully complied with.
- 2.2 It is the responsibility of the senior operations specialist and the operations specialist to ensure that this procedure is executed in a safe and efficient manner.

3.0 Safety notations:

- 3.1 Monogoggles, and rubber gloves are required when catching samples.
- 3.2 Safety glasses are required to run analysis.

4.0 Procedure:

- 4.1 Sodium hydroxide standardization
 - 4.1.1 Accurately weigh about 0.5 grams of potassium hydrogen phthalate (khp) into a 250 milliliter (ml.) Erlenmeyer flask.
 - 4.1.2 Dissolve the sample with approximately 100 ml. Deionized water.
 - 4.1.3 Add phenolphthalein indicator.
 - 4.1.4 Titrate with prepared sodium hydroxide solution (1n naoh) to the first appearance of a pink endpoint.
 - 4.1.5 Calculate the normality of the naoh as follows:
- 4.2 Calculation:

$$n = \frac{\text{wt. Khp}}{\text{ml. Naoh} \times 0.20422}$$

$$\text{Factor} = n \times 56.1$$

4.0 Procedure: Cont'd.

4.3 Acid value:

4.3.1 Accurately weigh 2 to 3 grams of oleic acid into a beaker.

4.3.2 Add about 100 ml. Of methanol and mix until well dissolved.

4.3.3 Add 5 drops of phenolphthalein indicator solution.

4.3.4 Titrate with 1.0 n naoh to a pink endpoint.

4.3.5 Calculate the acid value.

4.3.6 Calculate as follows:

$$\text{acid value} = \frac{\text{ml. Naoh} \times \text{factor}}{\text{weight of oleic acid sample}}$$

Acid value must be >195

5.0 Revisions:

Revision No. 1:	07-20-93	Yearly review
Revision No. 2:	03-09-94	Deleted color specification from Section 634.4.
	03-09-94	Changed acid value to >195 in section 634.4.3.6.
Revision 3	12-29-95	Yearly Review