

## Method Abstract #67

### Total Acid Number

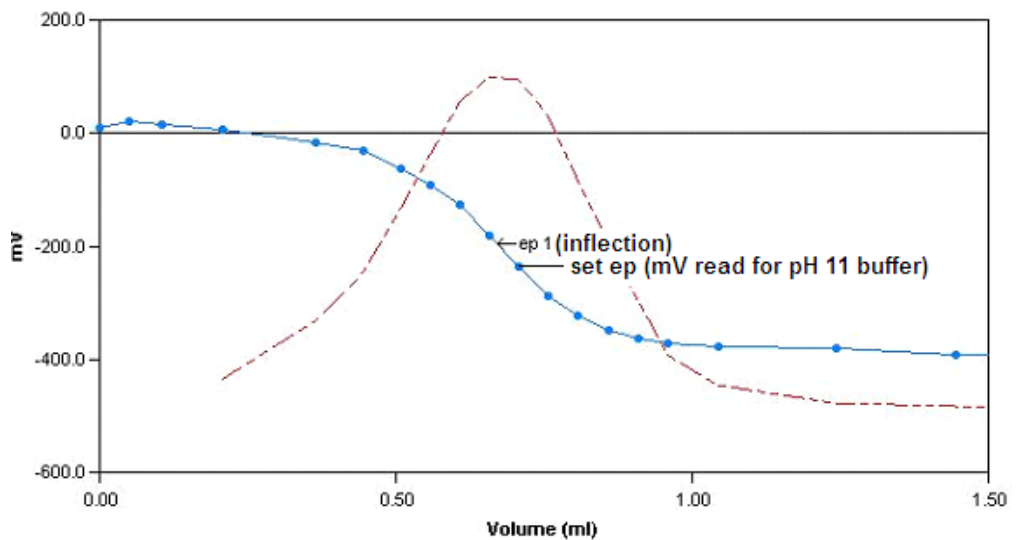
#### Scope and Application

This method conforms to ASTM D664. It measures the quantity of acidic components in an oil sample.

#### Method Summary

Total acid number (TAN) determination involves the addition of a tri-solvent - made from equal parts of chloroform, toluene and 2-propanol with a small amount of water - to an oil sample. Chloroform is not required, but is used for Total Base Number (TBN) analysis, therefore, the same solvent can be used to avoid manual switching of solvents when both methods are being run. Once dissolved, the sample is titrated with alcoholic potassium hydroxide to an inflection endpoint. A backup set endpoint using the millivolt value from the pH 11 buffer reading during calibration is simultaneously calculated in the case of a weak inflection.

#### Sample Titration Curve



#### Method Performance

Parameter	Specification
Measuring Range	0.05 – 20 mg KOH/g
RSD @ 0.05 mg KOH/g	5.45% or +/- 0.003 mg KOH/g
RSD @ 0.1 mg KOH/g	7.39% or +/- 0.007 mg KOH/g
RSD @ 0.65 mg KOH/g	4.92% or +/- 0.03 mg KOH/g