

Acid Titration

Acid titration is the method used to measure the amount of acid contained in the wine as a function of percent (%) of volume. The measure is referred to as Total Acidity, Titratable acidity, or just TA. Ideally it should be between 0.65% and 0.85% for white wine with sweet wines toward the high end, and 0.60% to 0.80% for red wines, again the sweeter wines toward the higher figure.

There are several kits available to test TA containing all necessary materials to perform the test. Follow directions contained in each kit. Alternatively the test can be performed just as easily with simple and commonly available reusable lab equipment. This equipment includes:

- a 10-25 ml burette or plastic syringe
- a 5 ml pipette
- sodium hydroxide, NaOH, 0.1 normal solution
- phenolphthalein solution
- small glass container such as an Erlenmeyer flask, about 250 ml in size

The following generic directions can be used with the above:

1. Measure out a 5 ml wine sample and place into the flask
2. Add distilled water (up to 75 ml)
3. Add a few drops of indicator (phenolphthalein) solution, stir well
4. Fill the burette with 10 ml of 0.1 NaOH
5. While stirring the flask, add NaOH slowly drop by drop until a faint pink/violet color persists. Several drops further will yield the end point when the pink/violet remains. If 10 ml are not enough refill the burette.
6. At this end point, measure the total NaOH used from the burette in milliliters. Multiply this number by 0.15 to obtain the percent total acidity as a measure of tartaric acid.

This process can be used with both white and red wines. However, the color change is often difficult to see with red wines. When measuring musts, obtain juice sample before skin contact colors the juice too much.

If you have a pH meter, you may also find the end point by slowly adding the NaOH, just as before, stirring the sample with your pH probe, until a reading of 8.2 is obtained. This will be the neutral point in the solution.