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# EQUIPMENT REQUIRED TO SET UP SPECIFIED ANALYSIS

## TITRATABLE ACIDITY

250 mL Erlenmeyer flasks 5 mL Volumetric A pipet Titration assembly (buret set up) 0.1N Sodium HydroxidePhenolphthaleinSource for degassing (vacuum or hot water)

# pН

pH meter with electrode and ATC probe 50 mL glass beakers 100 mL nalgene beakers Optional: magnetic stirrer with stir bars. Distilled water pH 4.00 buffer pH 7.00 buffer pH 3.00 buffer

### **VOLATILE ACIDITY**

Cash still assembly
Titration assembly (2 burettes)
250 mL Erlenmeyer flasks
10 mL Volumetric A pipet
5 mL Serological pipet
Pipet safety bulb

0.1 N Sodium hydroxide Phenolphthalein 25% Sulfuric Acid 0.02 N Iodine Starch indicator Antifoam B

### **AERATION OXIDATION FREE SO2**

Aeration-oxidation assembly 20 mL Volumetric A pipet 10 mL Serological pipet Pipet safety bulb Titration assembly 3% Hydrogen peroxide 25% Phosphoric Acid 0.01 N Sodium hydroxide SO<sub>2</sub> Indicator

## **RIPPER FREE & TOTAL SO2**

250 mL Erlenmeyer Flasks
25 mL Serological pipet
5 mL Repipettor (for Sulfuric Acid)
10 mL Serological pipet
Pipet safety bulb
Titration assembly

Optional: 10 mL Tilting pipette (for 1N NaOH)
250 mL red dispensing bottle (for Starch)

0.02 N lodineStarch indicator25% Sulfuric Acid1N Sodium hydroxide

The indications supplied are based on our current knowledge and experience, but do not relieve the user from adopting the necessary safety precautions or from the responsibility of using the product(s) properly.

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**ENZYMATIC ANALYSIS** - Malic acid, Glucose-fructose, Ammonia, Acetic Acid ......

Spectrophotometer

Cuvettes & Cuvette rack

10-100 uL Adjustable Eppendorf Pipettor with tips

100-1000 uL Adjustable Eppendorf Pipettor with tips

Volumetric glassware for dilutions

Appropriate test kits and standards

### ALPHA AMINO NITROGEN

Spectrophotometer

Cuvettes & Cuvette rack

50 uL Pipettor with tips

10—100uL Adjustable pipettor with tips

Centrifuge & Centrifuge tubes

Scientific calculator or spreadsheet software like Excel

Reagent kit with standards: 10mM IsoLeucine Standard

5% OPA

NAC Buffer

Distilled water

MICROSCOPE - microscan, yeast viability

Microscope with phase contrast objectives

Slides

Cover slips

Pasteur pipets w bulb

Lens paper

Levy Counting chamber

Alcohol burner & wick

Methylene blue yeast stain

Immersion oil

Reagent alcohol (for burner)

70% Isopropyl alcohol (sterility)

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