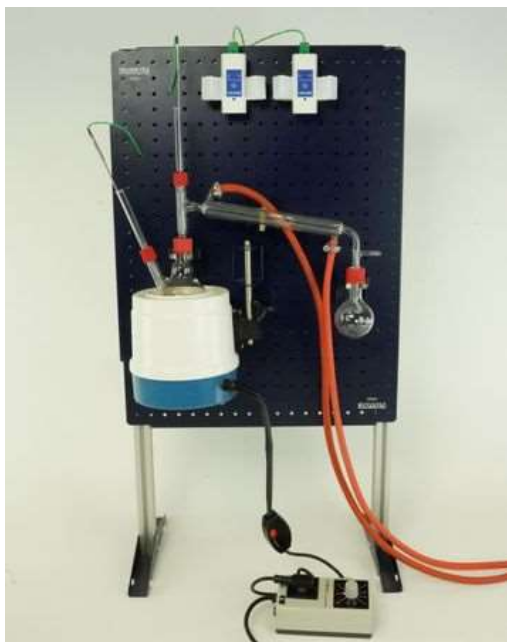


Distillation - determination of the alcohol content of wine

Article no: P1308969



Principle

If the alcohol content of a wine is determined directly with an alcohol meter (hydrometer), the resulting alcohol content reading is approximately 0% by volume. This is due to the composition of the wine. The effect of the alcohol on the density is cancelled out by other components such as sugars, acids, essential oils, etc..

For this reason, in order to determine alcohol content by density, the alcohol must be separated out by means of distillation prior to the determination. This corresponds to the official method which currently applies for measuring alcohol in wines. First the wine is titrated to neutrality against bromothymol blue. After transfer to the distillation apparatus, two thirds of this wine sample is distilled off into the receiver flask. Subsequently the distillate is filled back up to the original volume again. Now the density is measured with a pycnometer or hydrometer.

Benefits

- Stable and safe setup on demonstration board
- Illustrative presentation of the distillation process including digital datalogging

Tasks

Distillate a sample of wine to determine the content of ethanol.

Learning objectives

- Ethanol
- Distillation

Scope of delivery

Frame for complete experiments	45500-00	1
Rear-cover for compl.-exp. panel	45501-00	1
Panel for complete experimental setups	45510-00	1
Clamping holder,18-25mm	45520-00	2
Clamping holder, turnable, 18-25 mm	45521-00	1
Cobra SMARTsense Thermocouple - Sensor for measuring temperature -200 ... +1200 °C (Bluetooth + USB)	12938-01	2
Clamp on holder	02164-00	1
Fixing bands,universal,100 pcs.	45535-00	1
Spring plugs, 50 off	45530-00	1
Sheath Thermocouple, NiCr-Ni, Type K, -40°C ... +1000°C	13615-06	2
Round bottom flask, 100ml, GL 25/12	MAU-27100001	1
Round bottom flask, 250 ml, 2-neck, GL25/12, GL18/8	MAU-27220005	1
Liebig Condenser, with head, GL18/8	MAU-27223000	1
Rubber hose	39282-00	4
Tube Coupling, d = 8 mm	47521-00	2
Hose clip, diam. 8-16 mm, 1 pc.	40996-02	6
Hose clip f.12-20 diameter tube	40995-00	1
Heating mantle f. roundbottom flask, 250ml	49542-93	1
Clamp for heating mantle	49557-01	1
Power regulator, 230 V, with phase controlled modulator	32286-93	1
Funnel, glass, top dia. 50 mm	34459-00	1
Boiling beads, 200 g	36937-20	1
Graduated cylinder, Borosilicate, 1000 ml	36629-00	1
Hydrometer, 0.800-1.000,	38254-52	1
Wash bottle, plastic, 500 ml	33931-00	1
Water, distilled 5 l	31246-81	1

Hydrometer, 1.000-1.200, m	38254-53	1
Holder for Cobra SMARTsense, magnetic	12960-10	2
measureAPP - the free measurement software for all devices and operating systems	14581-61	1
Protective sleeves f.temp.probe,2	11762-05	1
