



C3.1.2 PROPERTIES OF LIQUIDS

C3.1.2.2 Measurement of surface tension using the „break-away“ method

Measurement of surface tension using the „break-away“ method (C3.1.2.2)

Cat. No.	Description	C3.1.2.2
367 46	Surface tension determination device	1
664 175	Crystallisation dish, 95 mm diam., 300 ml	1
314 111	Precision dynamometer, 0.1 N	1
311 53	Vernier callipers	1
300 76	Laboratory stand II	1
300 02	Stand base, V-shaped, small	1
300 43	Stand rod, 75 cm, 12 mm diam.	1
301 08	Clamp with hook	1
671 9740	Ethanol, denaturated, 250 ml	1
675 3400	Water, pure, 1 l	1

Liquid particles glide easily alongside one another. A liquid conforms to the shape of the vessel in which it is placed. All objects which are heavier than the liquid sink into it unimpeded. The surface of liquids always remains horizontal. Liquids cannot be compressed.

Surface tension is a property of the surface (boundary layer) between a fluid and a gas, such as air. The surface of a liquid behaves like a stretched elastic film. This effect is the reason that water droplets form, for example, and helps make it possible for certain insects to walk on the water or for a coin to "swim" on the water.

Experiment C3.1.2.2 determines the surface tension of water and ethanol. Here it will be shown that water is characterised by a particularly high surface tension as compared with other liquids. (Published value for water: 0.073 Nm^{-1} , for ethanol: 0.022 Nm^{-1})