Calorimeter, transparent

04402.00

Operating instructions

1. PURPOSE AND CHARACTERISTIC FEATURES

In chemistry and physics, the calorimeter 04402.00 is used to determine reaction enthalpy, latent heat or specific heat. In the well-insulated vessel of low thermal capacity the quantity of heat introduced or dissipated causes a change in temperature that can be accurately measured and from which the desired variable can be calculated when the remaining experimental conditions are known.

The calorimeter is transparent so that the typical colour changes or precipitations that often occur in chemical reactions can be directly observed. The calorimeter is used in experiments with calorimetric bomb 04403.00 in particular.

2. DESCRIPTION

The calorimeter consists of a glass Dewar vessel (capacity approx. 1.2 l) with a lid and a base.
The two holes in the lid are used to fill the calorimeter and for inserting a temperature probe, a heating coil or a evaporation vessel.

3. OPERATION

In order to mix the liquid thoroughly it is advisable to operate the calorimeter on a magnetic stirrer. The calorimeter base ist designed so as to stand firmly on the baseplate of our magnetic stirrer 35711.93
But do not switch on the baseplate heating as this will deform the base.

If the heating coil in the calorimeter is to be used, the following points should be noted:

— The heating coil must be fully immersed in the liquid
— The maximum operating values (12V AC/5 A) should not be exceeded.
— Solutions of salts whose cations are precipitated out by the iron components because of their position in the electromotive series should not be used. (For example, with copper or silver salt solutions, some of the iron goes into solution and the cation is precipitated as flocculent metal).

The thermal capacity of the calorimeter depends on the proposed experiment set-up (with or without heating coil, number of magnetic stirrer bars, temperature probe used etc.) and should therefore be determined each time.

4. TECHNICAL DATA

Calorimeter volume	approx. 1.2 litres
Heating coil:	
Operating voltage	12 V AC max.
Permissible load	5 A max.

5. EQUIPMENT LIST

Calorimeter, transparent	04402.00
Magnetic stirrer	35711.93
Magnetic stirrer bar	46300.03
Calorimetric bomb	04403.00
Heating coil with sockets	04450.00
Evaporation vessel	04405.00