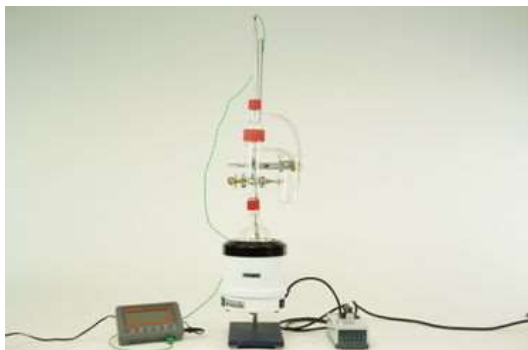


## Determination of molar masses via a measurement of the boiling point elevation (ebullioscopy)

Article no: P3021900



### Principle

Didactic setup to train and demonstrate the determination of molar masses by way of a measurement of the boiling point elevation. The boiling point elevation of aqueous solutions of different substances is determined using. The ebullioscopic constant of water is calculated from the experimental results.

### Benefits

- Compact, easily transportable setup
- Experimentation made easy by intuitive operation
- For both demonstration and student experiments

### Tasks

1. Determine the boiling point elevation of aqueous solutions of different substances.
2. Calculate the ebullioscopic constant of water from the experimental results.

### Learning objectives

- Molar mass
- Boiling point elevation
- Ebullioscopy
- Ebullioscopic constant

### Necessary accessories

- Precision balance 620g/0.001g

## Scope of delivery

|  |              |   |
|--|--------------|---|
| Retort stand, h = 750 mm                                 | 37694-00     | 1 |
| Right angle boss-head clamp                              | 37697-00     | 3 |
| Universal clamp  | 37715-01     | 3 |
| Apparatus for elevation of boiling point                 | 36820-00     | 1 |
| Temperature meter digital, 4-2                           | 13618-00     | 1 |
| Sheath Thermocouple, NiCr-Ni, Type K, -40°C ... +1000°C  | 13615-06     | 1 |
| Protective sleeves f.temp.probe,2                        | 11762-05     | 1 |
| Round-bottom flask, 250 ml, GL 25                        | MAU-27220002 | 1 |
| Beaker, Boro, high-form                                  | 46027-00     | 1 |
| Gasket for GL25, 8mm hole, 10 pcs                        | 41242-03     | 1 |
| Silicone tubing, inner diameter 3 mm                     | 39296-00     | 1 |
| Mortar with pestle, 150 ml, porcelain                    | 32604-00     | 1 |
| Pinchcock, width 15 mm                                   | 43631-15     | 1 |
| Microspoon, steel  | 33393-00     | 1 |
| Wash bottle, plastic, 500 ml                             | 33931-00     | 1 |
| Pellet press for calorimeter                             | 04403-04     | 1 |
| Heating mantle f. roundbottom flask, 250ml               | 49542-93     | 1 |
| Clamp for heating mantle                                 | 49557-01     | 1 |
| Power regulator  | 32288-93     | 1 |
| Weighing dishes, square shape, 84 x 84 x 24 mm, 500 pcs. | 45019-50     | 1 |
| Funnel, glass, top dia. 50 mm                            | 34459-00     | 1 |
| Pasteur pipettes, 250 pcs                                | 36590-00     | 1 |
| Rubber caps, 10 pcs                                      | 39275-03     | 1 |
| Boiling beads, 200 g                                     | 36937-20     | 1 |
| Desiccator, vacuum, diam. 150 mm                         | 34126-00     | 1 |
| Porcelain plate f.desiccator150mm                        | 32474-00     | 1 |
| Watch glass, dia.80mm                                    | 34572-00     | 1 |

|   |          |   |
|---|----------|---|
| Glycerol, 250 ml  | 30084-25 | 1 |
| Urea, 250 g   | 30086-25 | 1 |
| Hydroquinone 250 g  | 30089-25 | 1 |
| Water, distilled 5 l  | 31246-81 | 1 |
| Universal power supply, 600mA 3/4.5/5/6/7.5/9/12V, incl. 9 adaptors | 11078-99 | 1 |