## eppendorf

| Contents of the ETC Liquid Handling training                   | BASIC        | ADVANCED      |
|--|--------------|---------------|
| Order number for up to 4 participants                          | 0082 120 000 | 0050 600 076  |
| Order number for each additional participant                   | 0082 120 003 | 0050 600 122  |
| Pipetting basics   | $\checkmark$ | √             |
| > Overview of dosing systems                                   |              |               |
| > Functional principles and dosing techniques                  |              |               |
| > Handling liquids which are difficult to pipette              |              |               |
| > Factors influencing the correct pipetting results            |              |               |
| Ergonomic aspects of pipetting                                 | $\checkmark$ | √             |
| Cleaning and decontamination of pipettes                       | $\checkmark$ | √             |
| > General checks of pipettes                                   |              |               |
| > Sources of contamination                                     |              |               |
| > Notes on cleaning  |              |               |
| Calibration according to ISO 8655                              |              |               |
| > Overview of ISO 8655   |              |               |
| > Systematic and random errors of measurement                  |              |               |
| > Test conditions of a gravimetric calibration                 |              |               |
| > Correct performance of a calibration                         |              |               |
| > Analysis of the calibration results                          |              |               |
| Adjustment   |              |               |
| > Factory adjustment   |              | $\checkmark$  |
| > Adjustment by the operator                                   |              |               |
| > Adjustment to liquids of different density                   |              |               |
| Participant certificate  |              |               |
| Training duration  | $\checkmark$ |               |
| Additional training (approx. 0.5 h)                            | approx. 3 h  | approx. 4,5 h |
| > Plus package: Disassembly and assembly of Eppendorf pipettes | 0082 120 002 | 0082 120 002  |

For additional information, requests and local offers, refer to www.eppendorf.com/epServices.

Eppendorf Training Center offers are only available in selected countries and the services offered may vary.

Your local distributor: www.eppendorf.com/contact Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg eppendorf@eppendorf.com · www.eppendorf.com

### www.eppendorf.com

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# Liquid Handling Training

Eppendorf Training Center: Learn practically and extend your competence

»Each analysis includes pipetting steps. Correct pipetting is a basic requirement for reproducible good laboratory work.«





#### Pipetting – a science in its own right!

Do you know the differences and ideal fields of application of a positive-displacement pipette compared with an air-cushion pipette? When is the reverse pipetting technique used? How do you calculate systematic and random errors of measurement? What is the difference between calibration and adjustment? Do you know the term »RSI« and how it relates to pipetting?

Although pipetting is one of the most important steps towards a correct analytical result, often only little attention is paid to it. At first glance, it seems easy: Liquid is drawn in and then released. Pipetting techniques, maintenance and service of the pipettes are seldom taught during professional training or at university. Usually, »Learning by doing« applies. The connection between ergonomic operation and working conditions and correct pipetting is also rarely taken into consideration.

This has an influence on the laboratory results, the life span of the pipettes as well as on the health of the operators.

Correct pipetting is not a coincidence – but precise craftsmanship!



Over 55 years of experience in Liquid Handling Over 55 years ago, Eppendorf produced the world's first piston-stroke pipette. Since then, Eppendorf's numerous innovations have significantly driven the Liquid Handling market. We have integrated this valuable knowledge as well as operator requirements in our Eppendorf Training Center training. The contents of the training are harmonized internationally. The training takes place in small

## »Use our experience to your benefit!«

groups optionally at the Eppendorf training rooms or directly at your location. With an on-site training, you can choose your schedule and according to your requirements plan the training in your organization. The courses we offer are conducted by experienced and certified trainers. You will learn the most important **Our experience – your benefit!** techniques theoretically and practically and refresh your existing knowledge.

We specifically address your guestion and problems, thus offering you an effective and efficient training. You will receive comprehensive training material and a certificate to prove your successful participation.