



3.1 Cuvettes

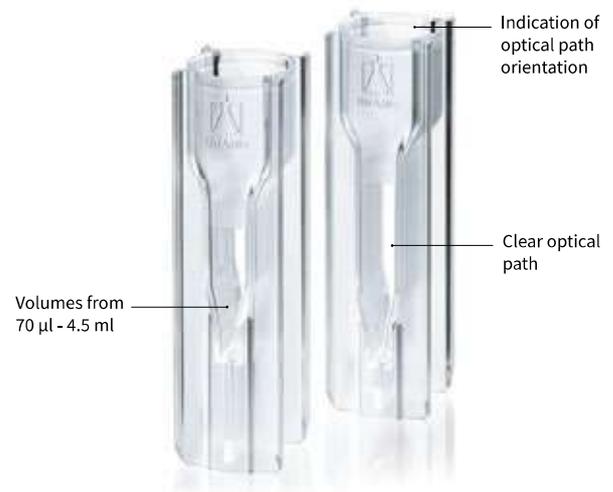


- ✓ Grouped by mold cavity number
- ✓ For photometric and spectroscopic analyses
- ✓ For measurements in the UV/VIS range

In many fields, plastic disposable cuvettes for the UV/VIS range can replace expensive, sensitive glass or quartz cuvettes. Time-consuming expensive cleaning processes are eliminated, and the dangers of sample mixing and contamination are reduced to a minimum.



Information on current compatibility with different commonly available photometers is available at www.brand.de



Applications

- + Extinction measurements
- + Fluorescence spectroscopy
- + Determining nucleic acid and protein concentrations

Features

- + Made of PS, PMMA and UV polymer
- + Optical pathlength 10 mm
- + Compatible with a wide variety of photometers
- + With 2 or 4 optical windows
- + For volumes between 70 µl and 4.5 ml



User information

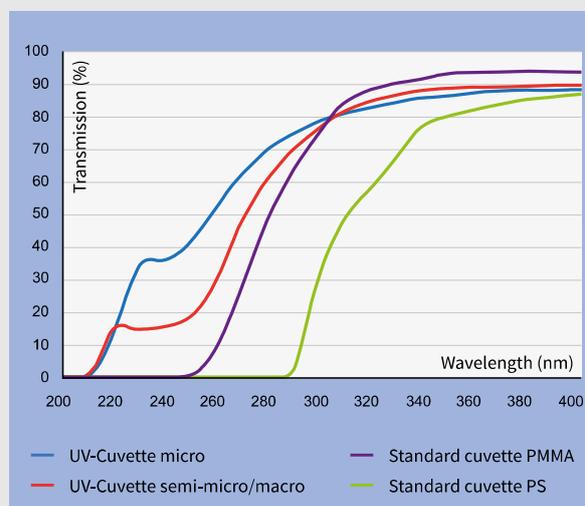
Overview of chemical resistance and transmission properties of different cuvettes

Chemical resistance* of plastic cuvettes

| Substance | PS | PMMA | UV-Cuvette |
|------------------------|----|------|------------|
| Acetic acid, 100% | - | - | + |
| Acetone | - | - | + |
| Ammonia | + | + | + |
| Benzaldehyde | - | - | + |
| Butanone | - | - | + |
| Chloroform | - | - | - |
| Dioxane | - | - | + |
| DMF | - | - | + |
| Ethyl acetate | - | - | + |
| Hexane | - | + | - |
| Hydrochloric acid, 36% | + | - | + |
| Hydrofluoric acid, 10% | + | + | + |
| Isopropanol | + | + | + |
| Nitric acid, 65% | - | - | + |
| Sodium hydroxide | + | + | + |

* Short time resistance, 30 min. Longer-term storage of these chemicals should be confirmed by the user. Request a free sample.

Transmission curves of different cuvettes



To achieve reproducible results: Before the actual measurement, always determine the blank value for the cuvette, and determine the linear range of measurement by means of a calibration curve.

Overview table

| Cuvette type | Filling volume | | Dimensions window (w x h) | Range of application | Standard deviation in extinction units |
|-------------------------------------|----------------|--------|---------------------------|----------------------|--|
| | min. | max. | | | |
| UV-Cuvette micro, z = 8.5 | 70 µl | 850 µl | 2 x 3.5 mm (min.) | from 230 to 900 nm | 240 nm \leq ± 0.007 300 nm \leq ± 0.005 |
| UV-Cuvette micro, z = 15 | 70 µl | 550 µl | 2 x 3.5 mm (min.) | | |
| UV-Cuvette macro | 2.5 ml | 4.5 ml | 10 x 35 mm | | |
| UV-Cuvette semi-micro | 1.5 ml | 3.0 ml | 4.5 x 23 mm | | |
| macro cuvette (PMMA) | 2.5 ml | 4.5 ml | 10 x 35 mm | from 300 to 900 nm | 320 nm \leq ± 0.004 |
| semi-micro cuvette (PMMA) | 1.5 ml | 3.0 ml | 4.5 x 23 mm | | |
| macro cuvette (PS) | 2.5 ml | 4.5 ml | 10 x 35 mm | from 340 to 900 nm | 360 nm \leq ± 0.005 |
| semi-micro cuvette (PS) | 1.5 ml | 3.0 ml | 4.5 x 23 mm | | |
| macro cuvette (PS) 4 clear sided | 2.5 ml | 4.5 ml | 10 x 35 mm | from 340 to 900 nm | 360 nm \leq ± 0.005 |
| UV-Cuvette macro 4 clear sided | 2.5 ml | 4.5 ml | 10 x 35 mm | from 230 to 900 nm | 240 nm \leq ± 0.007 300 nm \leq ± 0.005 |

Accessories

Cuvette rack

PP, gray. Numbered positions. Autoclavable (121 °C). Suitable for standard 10 mm path-length cuvettes. Pack of 1.



| Description | Length [mm] | Width [mm] | Height [mm] | Cat. No. |
|-----------------|-------------|------------|-------------|----------|
| for 16 cuvettes | 210 | 70 | 38 | 759500 |

Disposable stirring spatula

PS. Pack quantity 10000 = 20 bags of 500 per pack.



| Description | Stem Ø [mm] | Length [mm] | Cat. No. |
|-------------|-------------|-------------|----------|
| PS | 3 | 120 | 759800 |

**UV-Cuvette micro**

- Usable starting from 230 nm
- Specially designed for photometric determination of proteins, ssDNA, dsDNA, RNA and oligonucleotides

Caps for UV-Cuvette micro

- Create a secure closure
- For sample storage down to -20 °C
- Multiple colors for efficient sample management

Various photometric methods are currently available for determining the concentration and purity of nucleic acids and proteins.

Protein determination using UV cuvettes:

$$C_{\text{Protein (mg/ml)}} = 1.55 \cdot A_{280 \text{ nm}} - 0.76 \cdot A_{260 \text{ nm}}$$

Nucleic determination using UV cuvettes:

$$C_{\text{DNA } (\mu\text{g/ml})} = 50 \cdot A_{260 \text{ nm}} \cdot \text{dilution factor}$$

$$C_{\text{RNA } (\mu\text{g/ml})} = 40 \cdot A_{260 \text{ nm}} \cdot \text{dilution factor}$$

Technical information & Ordering data**UV-Cuvette micro**

| Center height | 8.5 mm | 8.5 mm | 8.5 mm |
|--------------------|------------|------------|------------------------------|
| Light path [mm] | 10 | 10 | 10 |
| Sample volume [μl] | 70 - 850 | 70 - 850 | 70 - 850 |
| Quality | standard | standard | free of DNase, RNase and DNA |
| Pack of | 100 pieces | 500 pieces | 100 pieces (single wrapped) |
| Cat. No. | 759200 | 759210 | 759215 |



| Center height | 15 mm | 15 mm | 15 mm |
|--------------------|------------|------------|------------------------------|
| Light path [mm] | 10 | 10 | 10 |
| Sample volume [μl] | 70 - 550 | 70 - 550 | 70 - 550 |
| Quality | standard | standard | free of DNase, RNase and DNA |
| Pack of | 100 pieces | 500 pieces | 100 pieces (single wrapped) |
| Cat. No. | 759220 | 759230 | 759235 |

Cap for UV-Cuvettes micro

| Color | blue | yellow | green | red |
|----------|------------|------------|------------|------------|
| Material | PE | PE | PE | PE |
| Pack of | 100 pieces | 500 pieces | 100 pieces | 100 pieces |
| Cat. No. | 759240 | 759241 | 759242 | 759243 |



Standard cuvettes and UV-Cuvettes macro and semi-micro

- Ideally suited for determinations in water analysis, chemistry, and in life science applications
- Grouped by mold cavity number
- Significant lower costs compared to quartz glass cuvettes

Technical information & Ordering data

Macro and semi-micro cuvettes



| Description | macro | | |
|--------------------|--|-----------|------------|
| Material | PS | PMMA | UV-Polymer |
| Light path [mm] | 10 | 10 | 10 |
| Sample volume [ml] | 2.5 - 4.5 | 2.5 - 4.5 | 2.5 - 4.5 |
| Pack of | 1000 pieces (10 boxes of 100 cuvettes per box) | | 100 pieces |
| Cat. No. | 759005 | 759105 | 759170 |

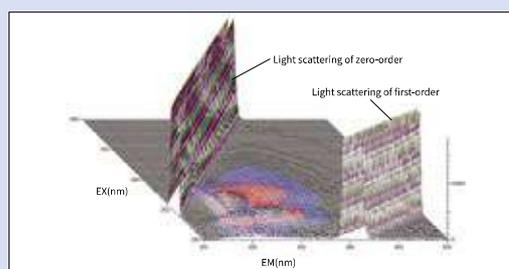


| Description | semi-micro | | |
|--------------------|--|-----------|------------|
| Material | PS | PMMA | UV-Polymer |
| Light path [mm] | 10 | 10 | 10 |
| Sample volume [ml] | 1.5 - 3.0 | 1.5 - 3.0 | 1.5 - 3.0 |
| Pack of | 1000 pieces (10 boxes of 100 cuvettes per box) | | 100 pieces |
| Cat. No. | 759015 | 759115 | 759150 |

Macro cuvette 4 clear sided

- For efficient and safe work, without cleaning steps
- Suitable for fluorescence spectroscopy
- Significantly lower costs for use compared to quartz glass cuvettes
- UV-Cuvettes show minimal autofluorescence

Minimal autofluorescence of UV-cuvettes



3-D scan from 200 to 400 nm wavelength with Hitachi F-7000 FL-Spectrometer

Technical information & Ordering data



Macro cuvette 4 clear sided

| Material | PS | PS | UV-Polymer | UV-Polymer |
|--------------------|------------|------------|------------|------------|
| Light path [mm] | 10 | 10 | 10 | 10 |
| Sample volume [ml] | 2.5 - 4.5 | 2.5 - 4.5 | 2.5 - 4.5 | 2.5 - 4.5 |
| Pack of | 100 pieces | 500 pieces | 100 pieces | 500 pieces |
| Cat. No. | 759030 | 759035 | 759125 | 759128 |