


 PRODUCT  
INFORMATION


# UV protection in the laboratory

## BLAUBRAND® amber glass volumetric flasks



### Introduction

The protection of light-sensitive substances is a central issue in both production and analysis. The analysis of UV-sensitive substances and materials can be particularly challenging. If possible, the analysis should be performed without decomposition reactions induced by UV light so that the measured value is reliable.

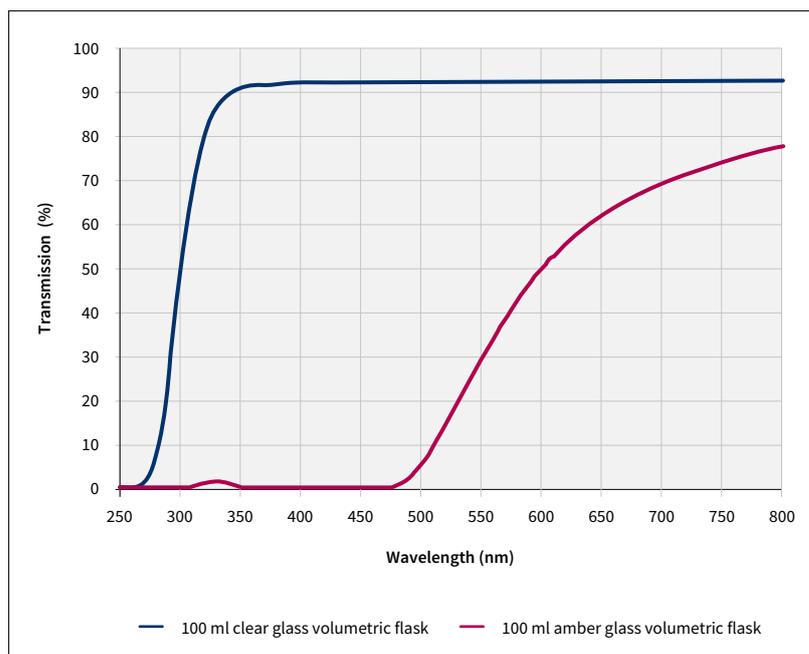
Three decisive features of BLAUBRAND® amber glass volumetric flasks help meet these requirements in the laboratory:

1. Reliable UV protection
2. Readability
3. Media resistance

### Explanation

#### 1. Reliable UV protection:

Especially for ultraviolet radiation, the transmission in the wavelength range below 500 nm must be low in order to ensure effective protection. The chapters of pharmacopeias (e.g. for ampoules, USP 661 or EP 3.2.1) define 10 % (for smaller volumes 12 – 25 %) as a maximum value between 290 and 450 nm. The manufacturing process for BLAUBRAND® amber glass volumetric flasks meets these requirements. The flasks are therefore able to provide effective UV protection.



Figure

Example for the measured transmission of BLAUBRAND® amber glass volumetric flasks



## 2. Readability:

If the coloration of an amber glass volumetric flask is too dark, the speed and accuracy of meniscus adjustment can suffer because the liquid is difficult to see. This can make the reading process longer or have a negative impact on accuracy.

The BRAND coloring process allows a lighter coloration of BLAUBRAND® amber glass volumetric flasks with a reliably high UV protection. Together with the white ring mark, the meniscus can be adjusted quickly and precisely.

## 3. Media resistance:

BLAUBRAND® amber glass volumetric flasks are colored by spraying the outer surface of the volumetric flask. The flask is then processed at more than 500 °C for a long period of time. During the firing process, the brown dye diffuses into the glass surface and can be removed only by glass erosion. This process ensures an amber coloration that is highly durable, even with frequent washing cycles. Because the coloration is on the outer surface only, the liquid contained in the volumetric flask comes into contact only with uncolored borosilicate glass 3.3 – as in the case for clear glass volumetric flasks. An additional risk assessment compared with clear glass volumetric flasks is therefore not necessary.

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