



**KAVALIER**

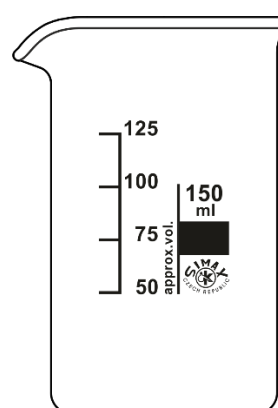
# DECLARATION OF COMPLIANCE

Issuer's name/ producer: **KAVALIERGLASS, a.s.**  
 Issuer's address/Producer: **Křížová 1018/6, Prague 5**  
**office: Sklářská 359, 285 06 Sázava, Czech Republic**

Object of the declaration: **BEAKERS, tall form, with spout**

<u>Catalogue Nr.</u>	<u>Product IDN</u>	<u>Capacity/ ml</u>	<u>d [mm]</u>	<u>h [mm]</u>
153	1632411012025	25	30	55
	1632411012050	50	38	70
	1632411012100	100	48	80
	1632411012150	150	54	95
	1632417012250	250	60	120
	1632417012400	400	70	130
	1632417012600	600	80	150
	1632417012800	800	90	175
	1632417012940	1000	95	180
	1632417012950	2000	120	240
	1632411012952	3000	135	280

## Scheme of the glass item



<b>Material specification:</b>		
<b>Beaker</b>	clear	Borosilicate glass SIMAX®
<b>Print</b>	white	in fired-on, chemically resistant ceramic enamel
<b>Purpose of use</b>	laboratory glassware	

**The object of the certificate described above is in conformity with the requirements of the following standards and regulations:**

**Glass characteristics:**

- ISO 3585 Borosilicate glass 3.3 – Properties
  - Chemical durability (art. 4.1, 4.2, 4.3, 4.4)
  - Physical properties (art. 5.1, 5.2, 5.3, 5.4, 5.5, 5.6)
- Glass containers for pharmaceutical use
  - Eur. Ph 10<sup>th</sup> Edition -3.2.1 Glass Type I.
- ISO 3819:2020 - Laboratory glassware — Beakers
  - Maximum permissible errors in dimensions fulfill the values specified in Table 1 - ISO 3819:2020

Table 1 – ISO 3819:2020

<b>Dimensions of tall form beakers</b>		
<b>Nominal capacity [ml]</b>	<b>External diameter [mm] ± 5%</b>	<b>Overall height [mm] max.</b>
<u>50</u>	<u>38</u>	<u>72</u>
<u>100</u>	<u>48</u>	<u>82</u>
<u>150</u>	<u>54</u>	<u>97</u>
<u>250</u>	<u>60</u>	<u>123</u>
<u>400</u>	<u>70</u>	<u>133</u>
<u>500</u>	<u>79</u>	<u>140</u>
<u>600</u>	<u>80</u>	<u>153</u>
<u>800</u>	<u>90</u>	<u>178</u>
<u>1000</u>	<u>95</u>	<u>183</u>
<u>2000</u>	<u>120</u>	<u>244</u>
<u>3000</u>	<u>135</u>	<u>284</u>
<u>5000</u>	<u>160</u>	<u>324</u>

**No heavy metals (lead, cadmium, mercury and hexavalent chromium):**

- Regulation (EC) No. 987/2008 of 8 October 2008 amending Regulation (EC) No. 1907/2006 – REACH as regards Annexes IV and V – glass was exempted from the obligation to register.
- **Chemical characteristics of borosilicate glass** (approximate values)

Component	Content (percentage by weight)
SiO <sub>2</sub>	80,3%
B <sub>2</sub> O <sub>3</sub>	13,0%
Al <sub>2</sub> O <sub>3</sub>	2,4%
Na <sub>2</sub> O + K <sub>2</sub> O	4,3%

## Characteristics of Borosilicate glass SIMAX®

- **Acid resistance** Class I. ISO 1776
- **Hydrolytic resistance** Class I. HGB1 to ISO 719;  
HGA1 to ISO 720
- **Alkali resistance** Class II. ISO 695
- **Coefficient of mean linear thermal expansion  $\alpha$ :  $3,3 \times 10^{-6} \text{ K}^{-1}$**  ISO 7991; (20/300 °C)
- **Pharmaceutical use**

	<i>European Pharmacopoeia (EP)</i>	<i>US Pharmacopoeia (USP)</i>	<i>Japanese Pharmacopoeia (JP)</i>
<b>Glass</b>	Eur. Ph.10 <sup>th</sup> – 3.2.1	USP <660>	JP16

### Supporting data:

TEST / European Pharmacopoeia 10, Art. 3.2.1	UNIT	LIMIT	RESULT
Hydrolytic resistance - inner surfaces, test A	ml 0,01 mol/l HCl/100ml of leachate	max 0,40	0,04
Hydrolytic resistance - glass grains, test B	mol 0,02/l HCl/g	max 0,1	0,038
Arsenic content	$\mu\text{g As/g}$	max 0,1	< 0,001

### Additional information:

The producer confirms hereby that the characteristics, measures and accuracy of the products listed above are in full conformity with the provisions of the standard.

The producer also declares that the products are safe when used in usual and proper way.

The producer has installed the Quality Assurance System according to ISO 9001 and thus guarantees that all products delivered to the market are in full conformity with the technical documentation and with all fundamental requirements to such products.

Certificate No. 04 100 940602 issued by TÜV CERT, Certification Body at TÜV NORD CERT GmbH.

The certificate is issued for the customer: -

Sázava, 08. 06. 2021  
Place and date of issue

Ing. Kristýna Machová  
Project Quality Engineer

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