

**QUALITY CERTIFICATE**

Product name: MACROGOL 4000  
Quality: Ph.Eur.11.0.  
Package: 100 g  
Formula:  $\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{H}$   
Rel. mol. weight: 3500-4500  
Lot No.: GD3856803  
Manufacturing date: 03.2023.  
Expiry date: 30.06.2027. (DMY)  
Anal. No.: 15272H56803

	<b>REQUIRED</b>	<b>MEASURED</b>
Appearance:	white or almost white solid with a waxy or paraffin-like appearance	white, solid, paraffin-like substance
Identification test 'A'	identical	identical
Identification test 'C'	identical	identical
Appearance of solution	passes test	passes test
Alkalinity, acidity	passes test	passes test
Viscosity (dynamic)	110-170 mPa.s	120 mPa.s
Viscosity (kinematic)	102-158 mm <sup>2</sup> s <sup>-1</sup>	129,6 mm <sup>2</sup> s <sup>-1</sup>
Freezing point	53-59 °C	54 °C
Hydroxyl value	25-32	28,1
Reducing substances	passes test	passes test
Formaldehyde	max.30 ppm	<30 ppm
Ethylene oxide	max.1 ppm	0 ppm
Dioxane	max.10 ppm	0 ppm
Heavy metals (Pb)	max.20 ppm	<20 ppm
Ethylene glycol, diethylene glycol	max.0,4 %	0,20 %
Water (KF.)	max.2,0 %	0,2 %
Sulphated ash	max.0,2 %	0,1 %

**The Product complies with the requirements of Ph.Eur.11.0.**

Kiállítva: Halásztelek, 2023.11.14.

  
Nagy Balázs

minőségbiztosítási vezető

**Molar Chemicals Kft.**  
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