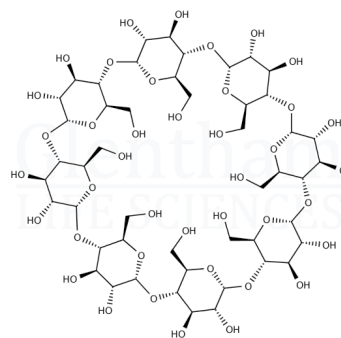


## Certificate of Analysis

Product Name            gamma-Cyclodextrin  
Glentham Code            GC9842  
CAS Number              17465-86-0  
EINECS                    241-482-4  
MDL Number              MFCD00009595  
Additional CAS            91464-90-3  
PubChem SID             310270643  
Batch Number            046PVT

Molecular Weight        1297.12 (anhydrous)  
Molecular Formula        $C_{48}H_{80}O_{40} \cdot xH_2O$   
Storage Temp.            +20°C



Property	Specification	Batch 046PVT
Physical Description	White or almost white powder	White powder
Solubility (5% in 1M NH4OH)	Clear to faintly turbid, colourless solution	Conforms
Specific Optical Rotation ( $[\alpha]_{20/D}$ )	+173 - +180 ° (c=1, water)	+176.7°
Loss on Drying	≤ 12.0%	8.5%
Assay	≥ 98.0% (dried basis)	99.4%

Specification Version    v1.1  
Manufacture Date        2023-12-30  
Re-Test Date            2033-03-04

Glentham Life Sciences confirm that the above referenced product conformed to the information displayed in this document on the quality release date. Please check [www.glentham.com](http://www.glentham.com) or contact us using the details above for the current version of this document.

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