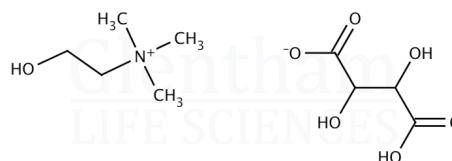


## Certificate of Analysis

Product Name Choline bitartrate  
Glentham Code GL2853  
CAS Number 87-67-2  
EINECS 201-763-4  
MDL Number MFCD00036332  
PubChem SID 310270214  
Additional CAS 62-49-7  
Batch Number 756WTS



Molecular Weight 253.25  
Molecular Formula C<sub>9</sub>H<sub>19</sub>NO<sub>7</sub>  
Storage Temp. +20°C

Property	Specification	Batch 756WTS
Physical Description	White crystalline powder	White crystalline powder
Solubility (10% in water)	Clear to slightly turbid, colourless solution	Slightly turbid, colourless solution
Specific Optical Rotation ([α] <sub>20/D</sub> )	+17.0 - +18.5 ° (c=10, water)	+17.8 °
Melting Point	147.0 - 152.0 °C	149.6 - 151.0 °C
Assay (Titration)	97.5 - 102.5 % (anhydrous basis)	98.1%

Specification Version v1.1  
Manufacture Date 2020-03-26  
Re-Test Date 2029-08-25

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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