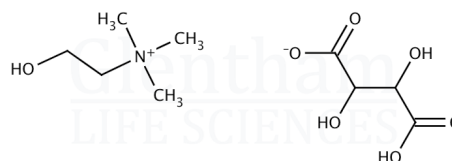


Product Specification

Product Name	Choline bitartrate, USP grade
Glentham Code	GL9811
CAS Number	87-67-2
EINECS	201-763-4
MDL Number	MFCD00036332
Additional CAS	62-49-7
Molecular Weight	253.25
Molecular Formula	$C_9H_{19}NO_7$
Storage Temp.	+20°C



Property	Specification
Physical Description	White crystalline powder
Solubility (10% in water)	Clear to slightly turbid, colourless solution
pH (10% in water)	3.0 - 4.0
Specific Optical Rotation ($[\alpha]_{20/D}$)	+17.0 - +18.5 ° (c=10, water)
Water	≤ 0.5%
Residue on Ignition	≤ 0.1%
Choline	40.9 - 41.72 %
Total Amines	≤ 0.001%
1,4-Dioxane	≤ 0.001%
Arsenic (As)	≤ 2ppm
Lead (Pb)	≤ 0.3ppm
Heavy Metals	≤ 10ppm
Total Coliforms	≤ 300CFU/g
Yeast & Mould	≤ 100CFU/g
Total Plate Count	≤ 1000CFU/g
Pharmacopoeia Specification(s)	USP

Specification Version	-	v1.0
Date Created	-	2021-10-12

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 or contact us using the details above for the current version of this document.

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