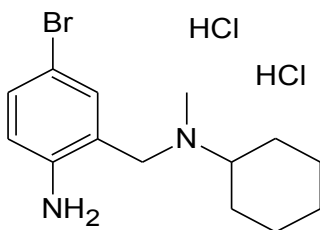


Certificate of Analysis

Structure:



Name	<i>N</i> -(2-Amino-5-bromobenzyl)- <i>N</i> -methylcyclohexanamine dihydrochloride
BP Name	Bromhexine Hydrochloride Impurity D hydrochloride
Synonym(s)	2-amino-5-bromo- <i>N</i> -cyclohexyl- <i>N</i> -methylbenzenemethanamine dihydrochloride; 5-bromo- <i>N</i> - α -cyclohexyl- <i>N</i> - α -methyltoluene- α ,2-diamine dihydrochloride
Epichem Item #	EPL-AA189 Batch 1
CAS #	10076-98-9
Molecular Formula	C ₁₄ H ₂₁ BrN ₂ .2HCl
Molecular Weight	370.16 g/mol
Purity	99.1% (weight/weight). 99.6% at 245 nm by HPLC (assuming all components have the same response factor). Contains 0.5% acetone by ¹ H NMR analysis. 2.39% water by Karl-Fischer method (consistent with hemihydrate). 0.05% ash.
Combustion Analysis	Required (%): C:45.4 H:6.3; N:7.6. Found (%): C:44.6; H:6.2; N:7.5 (consistent with hemihydrate)
Appearance	White solid
Melting Point	202.2-211.9°C
Date of Manufacture	8 February 2016
Storage Requirements	Protect from heat, light and moisture.
Special Precautions	This compound is for laboratory use only. Its toxicological properties may not have been fully established. It should be handled only by suitably qualified personnel.