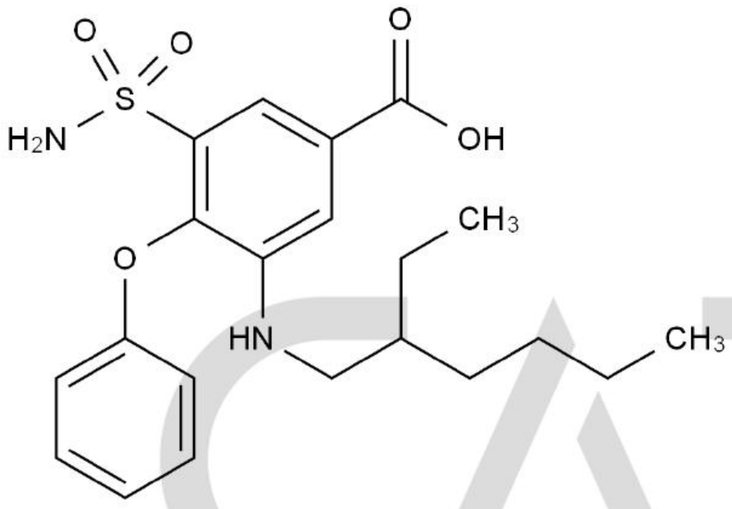
Certificate of Analysis

Reference Material & Standard

Product Name:	Bumetanide EP Impurity D	**Catalogue Number:**	C4X-19864
Synonyms:	3-[(2-Ethylhexyl)amino]-4-phenoxy-5-sulfamoylbenzoic acid	**Lot Number:**	0821-RH-0074
CAS Number:	153012-65-8	**Expiry Date:**	Sep 09, 2030
Molecular Formula:	$C_{21}H_{28}N_2O_5S$	**Storage:**	2°C ~ 8°C Sealed
Molecular Weight:	420.52	**Shipping Condition:**	Shipping at Room Temperature
Solubility:	Soluble in Acetonitrile and DMSO		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	White Solid
Identification	LCMS&IR&CNMR&HNMR	Confirmed
Purity	HPLC	99.387%
Residue on Ignition	TGA	0.6559%
Loss on Drying	TGA	0.0438%
Assay	qNMR	99.2%
Assay	Mass Balance	98.7%

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Comment:

1. The retest date of this product is Sep 09, 2029.

2. The calculation of the mass balance method follows the formula (calculated on the non-dried basis):

*Assay (%) = (100%-Residue on Ignition-Loss on Drying) * Purity HPLC (%) /100%*

Residue on Ignition and Loss on Drying are considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by: Koi Date: Sep 10, 2026

Reviewed by: Alice Date: Sep 10, 2026

Approved by General Manager: David Date: Sep 10, 2026

CATO Research Chemicals Inc.