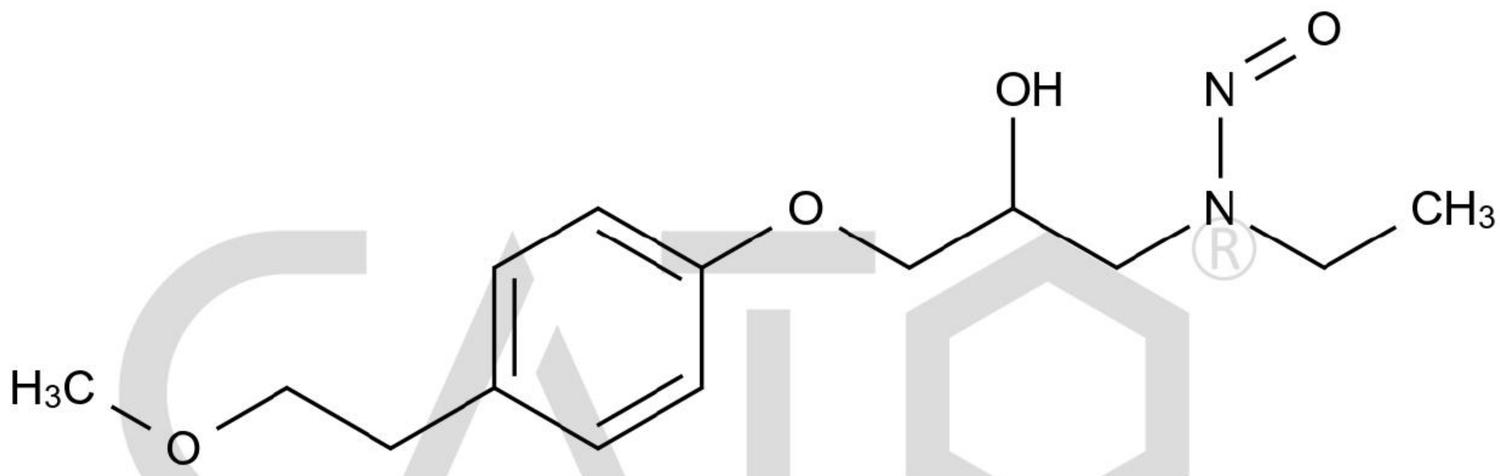
Certificate of Analysis

Reference Material & Standard

Product Name:	Metoprolol Impurity 43	**Catalogue Number:**	C4X-136743
Synonyms:	N/A	**Lot Number:**	0915-RH-0020
CAS Number:	N/A	**Expiry Date:**	Sep 20, 2030
Molecular Formula:	$C_{14}H_{22}N_2O_4$	**Storage:**	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	282.34	**Shipping Condition:**	Shipping at Room Temperature
Solubility:	Acetonitrile	**Warning:**	

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Colourless Liquid
Identification	LCMS&HNMR	Confirmed
Purity	HPLC	100.000%
Loss on Drying	TGA	2.3265%
Assay		97.7%

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Comment:

The calculation of the mass balance method follows the formula (calculated on the non-dried basis):
*Assay (%) = (100%-Loss on Drying) * Purity HPLC (%) /100%*
Loss on Drying is considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by: Alice Date: Sep 21, 2026

Reviewed by: Koi Date: Sep 21, 2026

Approved by General Manager: David Date: Sep 21, 2026

CATO Research Chemicals Inc.