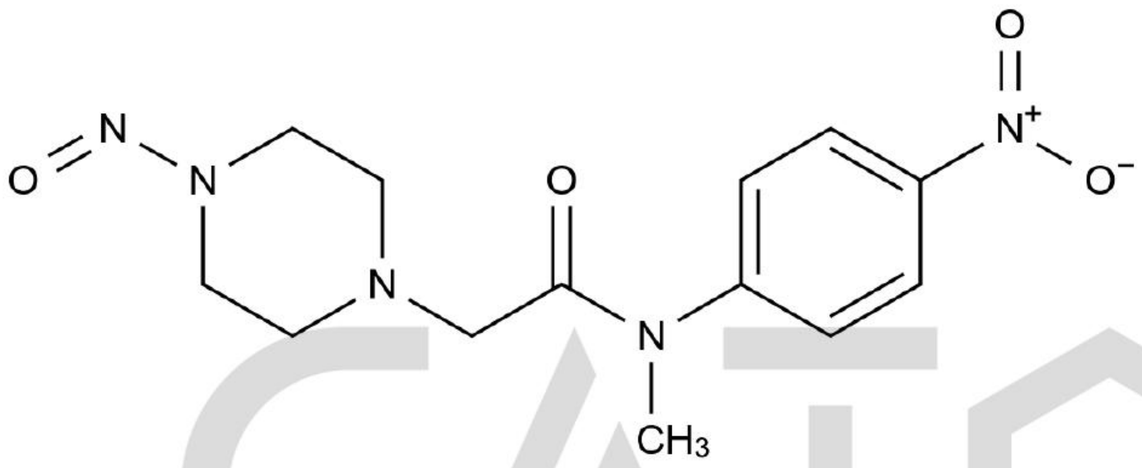
Certificate of Analysis

Reference Material & Standard

Product Name:	Nintedanib impurity 79	**Catalogue Number:**	C4X-181479
Synonyms:	N-Methyl-N-(4-nitrophenyl)-2-(4-nitroso-1-piperazinyl)acetamide	**Lot Number:**	0928-RH-0011
CAS Number:	2490403-92-2	**Expiry Date:**	Oct 13, 2030
Molecular Formula:	$C_{13}H_{17}N_5O_4$	**Storage:**	-20°C±5°C Sealed
Molecular Weight:	307.31	**Shipping Condition:**	Shipping with Ice Packs
Solubility:	Soluble in Acetonitrile and DMSO		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Yellow Solid
Identification	LCMS&IR&CNMR&HNMR	Confirmed
Purity	HPLC	98.380%
Residue on Ignition	TGA	0.4529%
Loss on Drying	TGA	0.8822%
Assay	qNMR	97.5%
Assay (Assigned Value)	Mass Balance	97.1%

CATO Research Chemicals Inc.

Comment:

1. The retest date of this product is Oct 13, 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: Oct 14, 2026

Reviewed by: Alice Date: Oct 14, 2026

Approved by General Manager: David Date: Oct 14, 2026

CATO Research Chemicals Inc.