

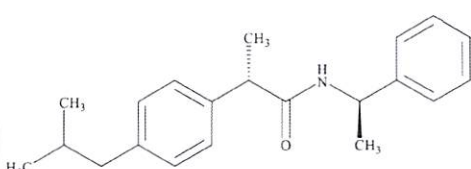


Certificate of Analysis

Certificate No.: 20230630025

Date: June 30, 2023

Retest date: June 27, 2026

Compound Name:	Ibuprofen Impurity 13	
Synonyms:	(S)-2-(4-isobutylphenyl)-N-((R)-1-phenylethyl)propanamide	
TLC Catalogue Number:	I-0419	
CAS Number:	121734-79-0	
Molecular Weight:	309.45	
Molecular Formula:	C ₂₁ H ₂₇ NO	
Source:	TLC Pharmaceutical Standards	
Source Lot No.:	5682-038A4	
Storage Conditions:	Store at 2-8 °C	
Solubility:	Methanol, DMSO	

Test Description	Specifications	Results
Visual Description	White to off-white solid	Conforms
Identification		
IR	Conforms to structure	Conforms
MS	Conforms to structure	Conforms
¹ H NMR	Conforms to structure	Conforms
Purity (HPLC)	Not less than 95.0%	99.7%
Impurity (HPLC)	RT 9.23, 0.30%	
Water Content (KF)	N/A	0.1%
Optical Rotation	[α] _D ^{25.0} (c=1.00, CH ₂ Cl ₂): -0.9°	[α] _D ^{25.0} (c=0.53, CH ₂ Cl ₂): -0.1°
Residual Solvents (NMR)	0.1% ethyl acetate	
Assay (%)	Not less than 90.0%	99.5%
Recommendation:	Release. The compound contains 0.3% Ibuprofen Impurity 12 (RT 9.23, TLC No. I-0418) according to its HPLC.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		07/05/2023
Approved by:	Quality Assurance		07/05/2023

Attachments: HPLC, IR, MS and NMR spectra.