

# Certificate of Analysis

## Product Information

- Product Name:** Melatonin
- CAS Number:** 73-31-4
- Molecular Formula:** C13H16N2O2
- Molecular Weight:** 232.28 g/mol
- Appearance:** White to off-white crystalline powder

## Batch Information

- Batch / Lot Number:** MEL-2025-014
- Quantity:** 100 g
- Date of Manufacture:** 15-Nov-2025
- Retest Date:** 15-Nov-2027
- Storage Conditions:** 2–8 °C, dry and protected from light

## Analytical Results

Test	Specification	Result	Method
Identity (Mass Spectrometry)	Consistent with theoretical mass of 232.28 Da	232.3 Da (M+H)+	ESI-MS
Purity (HPLC)	≥ 99.0 % (by area)	99.6 %	RP-HPLC
Melting Point	116–120 °C	118.4 °C	USP <741>
Appearance	White to off-white crystalline powder	White crystalline powder	Visual
Solubility	Soluble in ethanol; slightly soluble in water	Pass	Visual
Residual Solvents	≤ 0.5 %	<0.1 %	GC
Water Content (Karl Fischer)	≤ 0.5 %	0.18 %	KF titration
Heavy Metals	≤ 10 ppm	<5 ppm	ICP-MS
Microbial Limit Test	<100 CFU/g, no pathogens	Pass	USP <61>/<62>

## Compliance Statement

The above batch of Melatonin complies with the stated specifications. This batch meets all specified analytical and microbiological criteria and is suitable for **research use only**. Manufactured and tested under controlled conditions to ensure consistency, purity, and integrity.