



Starna scientific
'Setting the Standard'

Quality Assurance in the Analytical Laboratory

Spectrophotometer UV and Visible Enhanced Wavelength Range Qualification

Combined Holmium Oxide & Neodymium Oxide Solution Reference

Purpose

This reference material, HNL, is designed for qualifying the wavelength scale in the ultraviolet and visible regions of the spectrum (240 - 795 nm) for spectrophotometers with spectral bandwidths of 5 nm or less.

Description and Discussion

Holmium oxide and Neodymium oxide are solvated in 10% v/v perchloric acid and permanently sealed by heat fusion into a 10 mm far UV quartz cuvette.

Holmium and Neodymium oxides in perchloric acid have previously been used as part of an HDL solution to validate the wavelength scale of UV and visible spectrophotometers. However, because the Praseodymium masks some of the peaks at the extremes, using HNL material combined reference extends the range, offering valid, interference-free peaks across the wavelength range of 219 to 864 nm.

Fourteen peaks are certified, with nominal values: 219, 241, 287, 361, 416, 485, 522, 537, 575, 641, 732, 740, 794 and 864 nm.

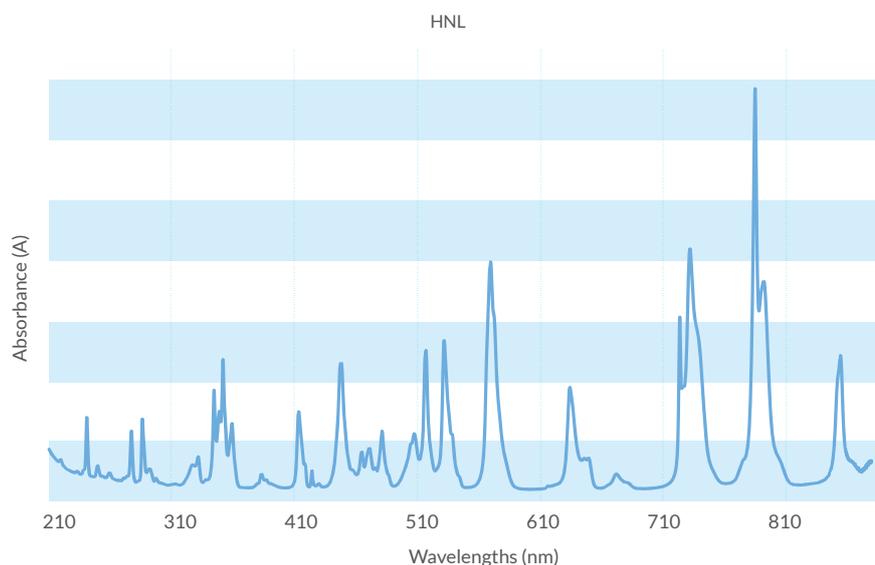


Note: The indicated values are for guidance only. The absorption bands are asymmetric; therefore, the measured values will depend on Spectral Bandwidth (SBW).

The Calibration Certificate supplied with the reference provides the actual values measured at SBWs of 0.10, 0.25, 0.50, 1.00, 1.50, 2.00, 3.00, 4.00, and 5.00 nm.

Only certified values should be used for instrument qualification.

Starna can provide certified values at other wavelengths and SBW values upon request.



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Certification and Documentation

A Certificate of Calibration and Traceability, along with complete instructions for use, is provided with each Reference Material. The certificate is supplied in electronic format on a USB drive within the same box as the references, enabling hard copies to be produced on demand and providing easy access to the user's IT systems.

Certification measurements are conducted on reference spectrophotometers that have been validated using Standard Reference Materials certified by the National Institute of Standards and Technology (NIST) in the USA, or against primary physical references like elemental emission lines.

Accreditation

Starna Scientific is accredited to ISO 17034 as a Reference Material Producer and to ISO/IEC 17025 as a Calibration Laboratory for optical reference measurements. Additionally, Starna Scientific's manufacturing facility is accredited to the ISO 9001 Quality Management System with BSI. For more details, see www.starna.com/accreditations.

Warranty

Starna Scientific Ltd. offers a Lifetime Guarantee on all Starna Certified Reference Materials, subject to the conditions detailed below. Unless otherwise specified, any reference material that exceeds its published uncertainty budget during the certificate's validity period will be replaced at no cost.

The guarantee is subject to the reference materials being re-certified at least every two years and to the references not having been physically, thermally, or optically abused. The Starna UKAS accredited calibration laboratory aims to re-certify and despatch references within five working days of receipt.

How to Order

	CATALOGUE NUMBER
Holmium/Neodymium liquid cell	RM-HNL



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