

GRAVIMETRIC CERTIFICATE

28.08.2015

Cat.-No. : 14651-CY5 **Volume :** 5 ml
Product name : n-Alkanes - Mix 15 (C11-C39 odd) **Lot-No. :** 0828151
Concentration : each 100 µg/ml (± 1,5 %*) **Expiry date :** 02/2017 **) **Storage :** 20°C and dark
Solvent : Cyclohexane

Component	Conc. [µg/ml]	Purity	Formula	M [g/Mol]
1. n-Undecane	100 ± 1,5 %	99,4 %	C11H24	156,31
2. n-Tridecane	100 ± 1,5 %	99,0 %	C13H28	184,36
3. n-Pentadecane	100 ± 1,5 %	99,0 %	C15H32	212,41
4. n-Heptadecane	100 ± 1,5 %	99,0 %	C17H36	240,47
5. n-Nonadecane	100 ± 1,5 %	99,0 %	C19H40	268,52
6. n-Heneicosane	100 ± 1,5 %	99,7 %	C21H44	296,58
7. n-Tricosane	100 ± 1,5 %	99,7 %	C23H48	324,63
8. n-Pentacosane	100 ± 1,5 %	99,0 %	C25H52	352,68
9. n-Heptacosane	100 ± 1,5 %	98,0 %	C27H56	380,74
10. n-Nonacosane	100 ± 1,5 %	99,9 %	C29H60	408,79
11. n-Hentriacontane	100 ± 1,5 %	99,3 %	C31H64	436,84
12. n-Tritriacontane	100 ± 1,5 %	98,1 %	C33H68	464,90
13. n-Pentatriacontane	100 ± 1,5 %	99,5 %	C35H72	492,95
14. n-Heptatriacontane	100 ± 1,5 %	99,1 %	C37H76	521,01
15. n-Nonatriacontane	100 ± 1,5 %	99,5 %	C39H80	549,06

This Reference Material was processed under Neochema's ISO 9001 registered quality system. Exclusively certificated and chromatographic tested substances were used to produce this standard.

This Reference Material is intended as working reference sample for identification of the contained compounds and their quantification in methods of analysis in residue or environmental analysis.

Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on convenient physical or chemical measurements, including gravimetric or volumetric dilution. The balances used for these measurements are calibrated with weights traceable to national standards, which realize the units of measurement according to the International System of Units (SI). DIN approved glasware is used for the volumetric measurements

The homogeneity is determined according to an in-house procedure. There is no minimum sub-sample required.

Sample aliquots for analysis should be withdrawn at roomtemperature and should be processed without delay for the certified values to persist.

*) Expanded Uncertainty according to EURACHEM / CITAC "Quantifying Uncertainty in Analytical Measurement".

**) The certification of this reference material is valid, within the stated uncertainty, until the above specified expiration date, assumed the reference material is handled and stored professional and in accordance with the instructions given in this certificate. The shelf-life was determined with the state of knowledge on the day of certification. For customer specific solutions it is based on the knowledge about similar solutions; in rare cases interaction may occur. The long term stability may be monitored over the lifetime of the certification according to an in-house procedure. If substantive changes are determined that effect the certification before the expiration of this certificate, Neochema GmbH & Co. KG will notify the purchaser.

The production were coordinated by:

Dipl.-Ing. A. Werner (Technical Manager)

This document was produced electronically and is valid without a signature.