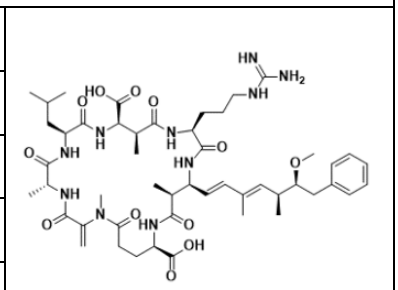
Certificate of Analysis

1. Description of the Reference Material

Product Name	Microcystin LR		
CAS Number	101043-37-2		
Catalog Number	IK-MCs-LR		
Molecular Formula	$C_{49}H_{74}N_{10}O_{12}$		
Molecular Weight	995.17		
Lot No	N023B-018		
Appearance	White powder		
Date Manufactured	Dec.04.2023	**Expiration Date**	Dec.03.2026

Storage condition

The material should be stored at -18 to -22 ºC in a dark place.

Instruction for the correct use of the material

Before usage of the material, the ampoules should be allowed to warm to room temperature. The recommended minimum sub-sample amount for all kinds of application is 100 uL. The expiration date of this material is based on the current knowledge and holds only for proper storage conditions in the originally closed flasks/packages.

Caution

The material is for laboratory use only, not intended for human, diagnostics or veterinary use. The material is Very Toxic and Carcinogenic. Do not ingest, swallow, or inhale. Do not get in eyes, on skin or on clothing. The normal laboratory safety precautions should be observed when working with this material. All the apparatus used should be treated with sodium hypochlorite solution overnight and washed thoroughly after handling. The flaks/packages should be treated with sodium hypochlorite solution overnight before being discarded.

2. Certified values and their uncertainties[1, 2, 3]

Compound	Purity	
Microcystin LR	Certified value[a]	Uncertainty[b]
	98.1%	±1.9%

a Values are based on preparation data and confirmed experimentally by HPLC-UV

b Expanded uncertainty U (k=2) of the value u_c according to GUM [4]

3. Traceability

This calibrant is certified on the basis of gravimetric preparation [5]. Thus the certified value is based on the weighed amount of the starting material and is therefore traceable to the stated purity of the solid raw material. High purity material represents a practical realization of concentration units, through conversion of mass to molar quality.

4. Purity assessment of Deoxynivalenol

The purity check using gradient HPLC-UV of the Microcystin LR sample showed one main peak after blank subtraction.

Column	C_{18},250×4.6mm, 5μM	
Injection Volume	5μL	
Solvent A	0.1% formic acid water	
Solvent B	Acetonitrile	
Gradient:	time	% Solvent B
	0 min	25%
	8 min	55%
	8.1min	25%
	10 min	25%
Oven	40℃	
Flow rate	1mL/min	
Detector	UV(238nm)	

[a] Mean of 6 replicate measurements against reference batch, confidence interval with P=95%

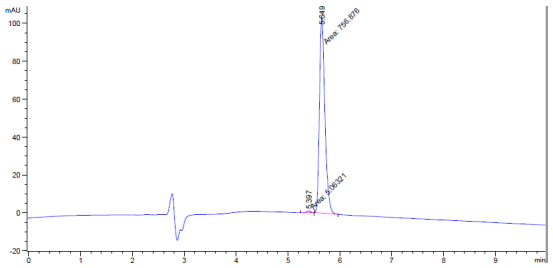


Figure 1:HPLC-UV chromatogram of Microcystin LR

5. Further information

The purchaser must determine the suitability of this product for its particular use. IniKem makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by IniKem. We do not guarantee that the product can be used for a special application.

Issued by QC Supervisor	Ziwen Wu
Approved by QA Manager	Ling Wang

References:

[1] ISO Guide 31, 1-7, 2000, Reference Materials-Contents of Certificates and Labels

[2] Eurachem/CITAC Guide, 1-37, 2003, Traceability in Chemical Measurement

[3] Eurachem/CITAC Guide CG-4,1-133 (QUAM: 2012. P1), Quantifying Uncertainty in Analytical Measurement, 3rd Ed

[4] International Organization for Standardization (ISO), 2008, Guide to the expression of measurements (GUM 1995 with minor corrections) 1st Ed. Geneva ,Switzerland

[5] R. D. Joseohs, R. Krska, S. MacDonald, P. Wilson, H. Pettersson, Preparation of a Calibrant as Certified Reference Material for Determination of the Fusarium Mycotoxin Zearalenone , J. AOAC int. 86, 50-60, 2003