

## CERTIFICATE OF ANALYSIS

PRODUCT NAME: HEPES  
 N-(2-Hydroxyethyl)piperazine-N'-(2-ethanesulfonic acid )  
 CAS NO. 7365-45-9  
 FORMULA: C<sub>8</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub>S  
 BATCH NO. 25/MFM/3221  
 EXPIRY DATE: 25<sup>th</sup> July 2027  
 STORAGE: Room Temperature

TESTS	SPECS	RESULTS
Appearance	White crystalline free-flowing powder	Complies
Assay (Titration, Dry basis)	>= 99.5%	99.6%
Loss on drying (105°C, 4hr)	<= 0.5%	0.48%
Water Content	<= 0.5%	0.32%
Infrared	Complies	Complies
pH 1% Di H <sub>2</sub> O	4.8 – 5.6 (25°C)	5.2
Solubility 1M water	Clear, colourless solution	Complies
Residue on ignition	<= 0.1%	Complies
A <sub>260</sub> , 1M water	≤0.045	0.042
A <sub>280</sub> , 1M water	≤0.035	0.032
A <sub>420</sub> , 1M water	≤0.020	0.018
Heavy metals (Pb)	≤ 5 ppm	Complies
pKa at 20°C	7.35 – 7.69	7.42

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17<sup>th</sup> November 2025