bio-techne
TOCRIS

Print Date: May 22nd 2026

Certificate of Analysis

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Product Name: **HEPES** **Catalog No.: 3173** **Batch No.: 21**

CAS Number: 7365-45-9 EC Number: 230-907-9

IUPAC Name: 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_8H_{18}N_2O_4S$

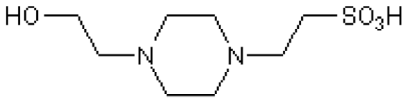
Batch Molecular Weight: 238.3

Physical Appearance: White solid

Solubility: water to 1000 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

Purity (Assay Titration): 100.3%

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IUPAC Name: 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid

Description:

HEPES is a multi purpose HEPES buffer used in cell culture and other biological research. Working pH range in aqueous solution: 6.8 - 8.2. Does not form complexes with metal ions. Used in cell culture media. HEPES can be used in a small molecule cocktail to generate 3D Culture of Lung Alveolar Cells (see our protocol below). For more information about how HEPES may be used, see our protocol: 3D Culture of Lung Alveolar Cells

Physical and Chemical Properties:

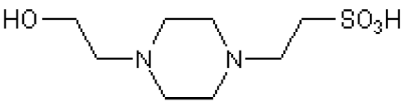
Batch Molecular Formula: $C_8H_{18}N_2O_4S$

Batch Molecular Weight: 238.3

Physical Appearance: White solid

Minimum Purity: ≥99.5%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 1000 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Medzon and Gedies (1971) Substitution of 4-(2-hydroxyethyl)-1-piperazineethane sulfonic acid (HEPES) for bicarbonate in protein-free animal cell culture medium: application to vaccinia virus quantitation and fluorogenic acetylesterase assay in living LM cells. Canadian J.Microbiol. ***17*** 651.

Good *et al* (1966) Hydrogen ion buffers for biological research. Biochemistry ***5*** 467. PMID: 5942950.