StockOptions™

MOPS Buffer Kit (pH 6.5 - 7.9)

HAMPTON RESEARCH

Solutions for Crystal Growth

User Guide **HR2-252**

StockOptions™ MOPS buffer kit is a preformulated, sterile filtered set of titrated buffer stocks. The StockOptions buffer stock reagents are supplied as 1.0 M stock solutions in 10 milliliter volumes. Each StockOptions MOPS buffer reagent is carefully titrated using Sodium hydroxide. StockOptions MOPS is comprised of 15 unique reagents covering the pH range of 6.5 to 7.9 in 0.1 pH unit increments.

Suggested Use

StockOptions MOPS is designed to help researchers improve the speed, accuracy, precision, and quality of the formulation of crystallization screen solutions and crystallization optimization solutions. Researchers can use the individual StockOptions reagents to conveniently formulate custom screen solutions or standard screen solutions from Hampton Research kits such as Slice pH™. StockOptions MOPS reagents can also be used to create solutions for the refinement and optimization of preliminary crystallization conditions. Finally, StockOptions MOPS reagents can be used to create accurate, precise, reproducible, high quality solutions for the production of single crystals. Utilizing the reagents in the StockOptions MOPS buffer kit it is possible to formulate and screen 15 unique pH levels.

During crystallization experiments the MOPS buffer system can be utilized at a 0.1 M final concentration during the screening, optimization, and production of biological macromolecular crystals. One can dilute the StockOptions MOPS buffer solution 1:10 to achieve a final concentration of 0.1 M. For example, dilute 1 milliliter of StockOptions MOPS to a final volume of 10 milliliters to achieve a final concentration of 0.1 M MOPS.

Please note the final pH of the solution created using StockOptions may vary based upon what other reagents are added to the StockOptions MOPS buffer.

Specifications

Useful pH Range: 6.5 - 7.9

Buffer Reagent: MOPS

$C_7H_{15}NO_4S$	M_r 209.28	CAS No [1132-61-2]	EC No 214-478-5	pKa 7.2

Titrated with: Sodium hydroxide

NaOH	M_r 40.00	CAS No [1310-73-2]	EC No 215-185-5

Example

Make a custom 10 ml screen reagent of:

Solution Composition:

30% w/v Polyethylene glycol 8,000,
0.1 M MOPS pH 7.0

Suggested Stock Solutions:

50% w/v Polyethylene glycol 8,000 (HR2-535),
1.0 M MOPS pH 7.0 (StockOptions MOPS)

1. Pipet 3 ml of deionized, sterile filtered water into the tube.
2. Pipet 1 ml of 1.0 M MOPS pH 7.0 into the tube.
3. Pipet 6 ml of 50% w/v Polyethylene glycol 8,000 into a sterile screw top tube.
4. Seal the tube, and mix until the solution is homogeneous.

For Best Results

Use Hampton Research Optimize™ together with StockOptions reagents for best results.

Technical Support

Inquiries regarding StockOptions MOPS Buffer Kit reagent formulation, interpretation of screen results, optimization strategies and general inquiries regarding crystallization are welcome. Please e-mail, fax, or telephone your request to Hampton Research. Fax and e-mail Technical Support are available 24 hours a day. Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.

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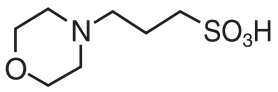
Tube #	pH ◊	Buffer	Titrant
1.	6.5	1.0 M MOPS	Sodium hydroxide
2.	6.6	1.0 M MOPS	Sodium hydroxide
3.	6.7	1.0 M MOPS	Sodium hydroxide
4.	6.8	1.0 M MOPS	Sodium hydroxide
5.	6.9	1.0 M MOPS	Sodium hydroxide
6.	7.0	1.0 M MOPS	Sodium hydroxide
7.	7.1	1.0 M MOPS	Sodium hydroxide
8.	7.2	1.0 M MOPS	Sodium hydroxide
9.	7.3	1.0 M MOPS	Sodium hydroxide
10.	7.4	1.0 M MOPS	Sodium hydroxide
11.	7.5	1.0 M MOPS	Sodium hydroxide
12.	7.6	1.0 M MOPS	Sodium hydroxide
13.	7.7	1.0 M MOPS	Sodium hydroxide
14.	7.8	1.0 M MOPS	Sodium hydroxide
15.	7.9	1.0 M MOPS	Sodium hydroxide

◊ pH is the measured pH at 25.0 degrees Celsius of the 1.0 M MOPS solution.
pH adjustment performed using Sodium hydroxide.

Buffer Reagent: MOPS



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