

StockOptions™ Imidazole 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 Imidazole buffer reagent is carefully titrated using Hydrochloric acid. StockOptions Imidazole is comprised of 17 unique reagents covering the pH range of 6.2 to 7.8 in 0.1 pH unit increments.

Suggested Use

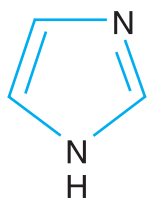
StockOptions Imidazole is designed to help researchers improve the speed, accuracy, precision, and quality of the formulation of crystallization screen solutions and crystallization optimization solutions. Researchers can use the individual StockOptions reagents to conveniently formulate custom screen solutions or standard screen solutions from Hampton Research kits such as Crystal Screen™, Crystal Screen 2™, Crystal Screen HT™, Crystal Screen Cryo™, Crystal Screen Cryo 2™, Crystal Screen Cryo HT™, PEGRx™ 1, PEGRx™ 2, and PEGRx HT™. StockOptions Imidazole reagents can also be used to create solutions for the refinement and optimization of preliminary crystallization conditions. Finally, StockOptions Imidazole reagents can be used to create accurate, precise, reproducible, high quality solutions for the production of single crystals. Utilizing the reagents in the StockOptions Imidazole buffer kit it is possible to formulate and screen 17 unique pH levels.

During crystallization experiments the Imidazole buffer system is typically utilized at a 0.1 M final concentration during the screening, optimization, and production of biological macromolecular crystals. It is therefore recommended that one dilute the StockOptions Imidazole buffer solution 1:10 to achieve a final concentration of 0.1 M. For example, dilute 1 milliliter of StockOptions Imidazole to a final volume of 10 milliliters to achieve a final concentration of 0.1 M Imidazole.

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

Specifications

Useful pH Range: 6.2 - 7.8



Buffer Reagent: Imidazole

$C_3H_4N_2$	M_r 68.08	CAS No [288-32-4]	EC No 206-019-2
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Titrated with: Hydrochloric acid

HCl	M_r 36.46	CAS No [7647-01-0]	EC No 231-595-7
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Example 1

Crystal Screen Reagent 25 (1 ml volume in a plate reservoir):

Solution Composition: 0.1 M Imidazole pH 6.5,
1.0 M Sodium acetate trihydrate

Suggested Stock Solutions:

1.0 M Imidazole pH 6.5 (StockOptions Imidazole),
3.0 M Sodium acetate trihydrate (HR2-543)

1. Pipet 567 μ l of sterile filtered deionized water into the plate reservoir.
2. Pipet 100 μ l of 1.0 M Imidazole pH 6.5 into the plate reservoir.
3. Pipet 333 μ l of 3.0 M Sodium acetate trihydrate into the plate reservoir.
4. Aspirate and dispense the solution ten times or until homogeneous.

Note: Water has been added first to enhance subsequent reagent solubility. Also note that one of the larger volumes has been added last so the pipet is already set at a large volume to enhance mixing during aspiration and dispensing.

Example 2

Make a custom 10 ml screen reagent of:

Solution Composition:

30% w/v Polyethylene glycol 8,000, 0.1 M Imidazole pH 7.6

Suggested Stock Solutions: 50% w/v Polyethylene glycol 8,000 (HR2-535),
1.0 M Imidazole pH 7.6 (StockOptions Imidazole)

1. Pipet 3 ml of deionized, sterile filtered water into the tube.
2. Pipet 1 ml of 1.0 M Imidazole pH 7.6 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 Imidazole 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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pH	Buffer	Titrant
6.2	1.0 M Imidazole	Hydrochloric acid
6.3	1.0 M Imidazole	Hydrochloric acid
6.4	1.0 M Imidazole	Hydrochloric acid
6.5	1.0 M Imidazole	Hydrochloric acid
6.6	1.0 M Imidazole	Hydrochloric acid
6.7	1.0 M Imidazole	Hydrochloric acid
6.8	1.0 M Imidazole	Hydrochloric acid
6.9	1.0 M Imidazole	Hydrochloric acid
7.0	1.0 M Imidazole	Hydrochloric acid
7.1	1.0 M Imidazole	Hydrochloric acid
7.2	1.0 M Imidazole	Hydrochloric acid
7.3	1.0 M Imidazole	Hydrochloric acid
7.4	1.0 M Imidazole	Hydrochloric acid
7.5	1.0 M Imidazole	Hydrochloric acid
7.6	1.0 M Imidazole	Hydrochloric acid
7.7	1.0 M Imidazole	Hydrochloric acid
7.8	1.0 M Imidazole	Hydrochloric acid