

StockOptions™ Sodium Cacodylate 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 Sodium Cacodylate buffer reagent is carefully titrated using Hydrochloric acid. StockOptions Sodium Cacodylate is comprised of 24 unique reagents covering the pH range of 5.1 to 7.4 in 0.1 pH unit increments.

### Suggested Use

StockOptions Sodium Cacodylate 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 Cryo™, Crystal Screen Lite™, Natrix™, Nucleic Acid Mini Screen™, and Crystal Screen 2™. StockOptions Sodium Cacodylate reagents can also be used to create solutions for the refinement and optimization of preliminary crystallization conditions. Finally, StockOptions Sodium Cacodylate reagents can be used to create accurate, precise, reproducible, high quality solutions for the production of single crystals. Utilizing the reagents in the StockOptions Sodium Cacodylate buffer kit it is possible to formulate and screen 24 unique pH levels.

During crystallization experiments the Sodium Cacodylate 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 Sodium Cacodylate buffer solution 1:10 to achieve a final concentration of 0.1 M. For example, dilute 1 milliliter of StockOptions Sodium Cacodylate to a final volume of 10 milliliters to achieve a final concentration of 0.1 M Sodium Cacodylate.

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

### Example 1

Crystal Screen Reagent 15 (1 ml volume in a plate reservoir)

Solution Composition: 0.2 M Ammonium sulfate,  
0.1 M Sodium cacodylate trihydrate pH 6.5,  
30% w/v Polyethylene glycol 8,000

Suggested Stock Solutions: 50% w/v PEG 8,000, 1.0 M Sodium cacodylate trihydrate pH 6.5 (StockOptions Sodium Cacodylate), 0.2 M Ammonium sulfate

1. Pipet 242 µl of sterile filtered deionized water into the plate reservoir.
2. Pipet 58 µl of 3.5 M Ammonium sulfate into the plate reservoir.
3. Pipet 100 µl of 1.0 M Sodium cacodylate trihydrate pH 6.5 into the plate reservoir.

4. Pipet 600 µl of 50% w/v PEG 8,000 into the plate reservoir.
5. 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 Sodium cacodylate trihydrate pH 6.0

Suggested Stock Solutions: 50% w/v PEG 8,000, (StockOptions Sodium Cacodylate) 1.0 M Sodium cacodylate trihydrate pH 6.0.

1. Pipet 3 ml of deionized, sterile filtered water into the tube.
2. Pipet 1 ml of 1.0 M Sodium cacodylate trihydrate pH 6.0 into the tube.
3. Pipet 6 ml of 50% w/v PEG 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. StockOptions reagents are stable at room temperature and are best if used within 12 months of receipt.

### Specifications

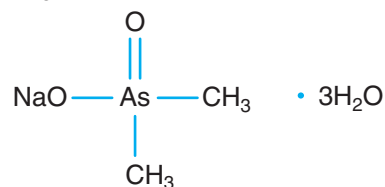
Buffer Reagent: Sodium cacodylate trihydrate

$C_2H_6AsNaO_2 \cdot 3H_2O$	$M_r$ 214.03	CAS No [ 124-65-2 ]	EC No 204-708-2
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Titrate with: Hydrochloric acid

HCl	$M_r$ 36.46	CAS No [ 7647-01-0 ]	EC No 231-595-7
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Useful pH Range: 5.1 - 7.4



### Technical Support

Inquiries regarding StockOptions Sodium Cacodylate 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.

pH	Buffer	Titrant
5.1	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
5.2	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
5.3	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
5.4	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
5.5	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
5.6	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
5.7	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
5.8	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
5.9	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.0	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.1	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.2	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.3	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.4	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.5	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.6	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.7	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.8	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
6.9	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
7.0	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
7.1	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
7.2	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
7.3	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid
7.4	1.0 M Sodium cacodylate trihydrate	Hydrochloric acid