StockOptions™

Salt

HAMPTON RESEARCH
Solutions for Crystal Growth

User Guide **HR2-245 (pg 1)**

StockOptions™ Salt is a kit preformulated, sterile filtered stock salt solutions for biological macromolecular crystallization. The StockOptions Salt reagents are supplied in varying concentrations, each concentration appropriate for each particular salt's application as a primary or secondary precipitant, or additive in a crystallization experiment. StockOptions Salt is comprised of 49 unique reagents.

Suggested Use

StockOptions Salt 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 customer screen solutions or accurately reproduce standard screen solutions from Hampton Research kits such as Crystal Screen™, Crystal Screen Cryo™, Crystal Screen Lite™, Natrix™, Crystal Screen 2™, and PEG/Ion™. StockOptions Salt reagents can also be used to create solutions for the refinement and optimization of preliminary crystallization conditions. Finally, StockOptions Salt reagents can be used to create accurate, precise, reproducible, high quality solutions for the production of single crystals.

Example 1

Crystal Screen Reagent 2 (1 ml plate reservoir)

Solution composition:
0.4 M Potassium sodium tartrate tetrahydrate.
Suggested Stock Solutions:
1.5 M Potassium sodium tartrate tetrahydrate.

1.) Pipet 267 microliters of 1.5 M Potassium sodium tartrate tetrahydrate into the plate reservoir.
2.) Pipet 733 microliters of sterile filtered deionized water into the plate reservoir.
3.) Aspirate and dispense the solution until homogenous.

Example 2

Crystal Screen 2 Reagent 1 (1 ml plate reservoir)

Solution composition:
2.0 M Sodium chloride, 10% w/v PEG 6,000.
Suggested Stock Solutions:
5.0 M Sodium chloride, 50% w/v PEG 6,000.

1.) Pipet 400 microliters of sterile filtered deionized water into the plate reservoir.
2.) Pipet 200 microliters of 50% PEG 6,000 into the plate reservoir.
3.) Pipet 400 microliters of 5.0 M Sodium chloride into the plate reservoir.
4.) Aspirate and dispense the solutions until homogeneous.

Example 3

Crystal Screen Lite reagent 48 (1 ml plate reservoir)

Solution composition:
0.1 M TRIS hydrochloride pH 8.5, 1.0 M Ammonium phosphate monobasic
Suggested Stock Solutions:
StockOptions 1.0 M TRIS hydrochloride pH 8.5, 2.5 M Ammonium phosphate monobasic.

1.) Pipet 500 microliters of sterile filtered deionized water into the plate reservoir.
2.) Pipet 100 microliters of 1.0 M TRIS hydrochloride pH 8.5 into the plate reservoir.
3.) Pipet 400 microliters of 2.5 M Ammonium phosphate monobasic into the plate reservoir.
4.) Aspirate and dispense the solution until homogeneous.

Example 4

A custom reagent of 1.7 M Sodium malonate, 0.1 M HEPES sodium pH 7.5.

Suggested Stock Solutions:
3.4 M Sodium malonate pH 7.0, StockOptions 1.0 M HEPES sodium pH 7.5.

1.) Pipet 400 microliters of sterile filtered deionized water into the plate reservoir.
2.) Pipet 100 microliters of 1.0 M HEPES sodium pH 7.5 into the plate reservoir.
3.) Pipet 500 microliters of 3.4 M Sodium malonate pH 7.0 into the plate reservoir.
4.) Aspirate and dispense the solution until homogeneous.

For Best Results

Use Hampton Research StockOptions Salt together with StockOptions pH Screens and other Optimize™ reagents for the best results. The reagent in Stockoptions Salt are available in larger volumes from the Hampton Research Optimize line of reagents should larger volumes be required.

StockOptions Salt reagents are stable at room temperature and are best if used within 12 months of receipt. To enhance reagent stability it is strongly recommended that StockOptions Salt be stored at 4°C or -20°C. Avoid ultraviolet light to preserve reagent stability.

Technical Support

Inquiries regarding StockOptions Salt Screen 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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Reagent Number	Reagent	Molecular Formula	Molecular Weight	CAS Number
1	1.0 M Ammonium acetate	CH_3COONH_4	77.08	[631-61-8]
2	5.0 M Ammonium chloride	NH_4Cl	53.49	[12125-02-9]
3	2.5 M Ammonium phosphate monobasic	$NH_4H_2PO_4$	115.03	[7722-76-1]
4	10.0 M Ammonium fluoride	NH_4F	37.04	[12125-01-8]
5	10.0 M Ammonium formate	$HCOONH_4$	63.06	[540-69-2]
6	2.5 M Ammonium citrate dibasic	$(NH_4)_2C_6H_6O_7$	226.19	[3012-65-5]
7	3.5 M Ammonium phosphate dibasic	$(NH_4)_2HPO_4$	132.06	[7783-28-0]
8	10.0 M Ammonium nitrate	NH_4NO_3	80.04	[6484-52-2]
9	3.5 M Ammonium sulfate	$(NH_4)_2SO_4$	132.14	[7783-20-2]
10	2.0 M Ammonium tartrate dibasic	$(NH_4)_2C_4H_4O_6$	184.15	[3164-29-2]
11	1.0 M Calcium acetate hydrate	$(CH_3COO)_2Ca \cdot xH_2O$	158.17	[114460-21-8]
12	2.0 M Calcium chloride dihydrate	$Cl_2Ca \cdot 2H_2O$	147.01	[10035-04-8]
13	5.0 M Lithium acetate dihydrate	$CH_3COOLi \cdot 2H_2O$	102.02	[6108-17-4]
14	10.0 M Lithium chloride	$LiCl$	42.39	[7447-41-8]
15	1.5 M Lithium citrate tribasic tetrahydrate	$HOC(COOLi)(CH_2COOLi)_2 \cdot 4H_2O$	281.99	[6080-58-6]
16	8.0 M Lithium nitrate	$LiNO_3$	68.95	[7790-69-4]
17	2.0 M Lithium sulfate monohydrate	$Li_2SO_4 \cdot H_2O$	127.96	[10102-25-7]
18	1.0 M Magnesium acetate tetrahydrate	$(CH_3COO)_2Mg \cdot 4H_2O$	214.46	[16674-78-5]
19	2.0 M Magnesium chloride hexahydrate	$MgCl_2 \cdot 6H_2O$	203.30	[7791-18-6]
20	1.0 M Magnesium formate dihydrate	$Mg(CHOO)_2 \cdot 2H_2O$	150.38	[557-39-1]
21	3.0 M Magnesium nitrate hexahydrate	$Mg(NO_3)_2 \cdot 6H_2O$	256.41	[13446-18-9]
22	2.5 M Magnesium sulfate hydrate	$MgSO_4 \cdot aq$	120.37	[22189-08-8]
23	4.0 M Nickel(II) chloride hexahydrate	$NiCl_2 \cdot 6H_2O$	237.69	[7791-20-0]
24	5.0 M Potassium acetate	CH_3COOK	98.14	[127-08-2]
25	4.0 M Potassium chloride	KCl	74.55	[7447-40-7]
26	2.5 M Potassium citrate tribasic monohydrate	$C_6H_5K_3O_7 \cdot H_2O$	324.41	[6100-05-6]
27	1.5 M Potassium phosphate monobasic	KH_2PO_4	136.09	[7778-77-0]
28	6.0 M Potassium fluoride	KF	58.10	[7789-23-3]
29	14.0 M Potassium formate	$HCOOK$	84.12	[590-29-4]
30	3.0 M Potassium phosphate dibasic	K_2HPO_4	174.18	[7758-11-4]
31	2.0 M Potassium nitrate	KNO_3	101.10	[7757-79-1]
32	1.5 M Potassium sodium tartrate tetrahydrate	$C_4H_4KNaO_6$	282.22	[6381-59-5]
33	0.5 M Potassium sulfate	K_2SO_4	174.26	[7778-80-5]
34	8.0 M Potassium thiocyanate	$KSCN$	97.18	[333-20-0]
35	3.0 M Sodium acetate trihydrate	$CH_3COONa \cdot 3H_2O$	136.08	[6131-90-4]
36	5.0 M Sodium chloride	$NaCl$	58.44	[7647-14-5]
37	1.6 M Sodium citrate tribasic dihydrate	$C_6H_5Na_3O_7 \cdot 2H_2O$	294.10	[6132-04-3]
38	5.0 M Sodium phosphate monobasic	$NaH_2PO_4 \cdot H_2O$	137.99	[10049-21-5]
39	0.8 M Sodium fluoride	NaF	41.99	[7681-49-4]
40	7.0 M Sodium formate	$HCOONa$	68.01	[141-53-7]
41	1.0 M Sodium phosphate dibasic dihydrate	$Na_2HPO_4 \cdot 2H_2O$	177.99	[10028-24-7]
42	3.4 M Sodium malonate pH 7.0	$C_3H_4O_4$ + NaOH	104.06 + NaOH	[141-82-2]
43	7.0 M Sodium nitrate	$NaNO_3$	84.99	[7631-99-4]
44	1.0 M Sodium sulfate decahydrate	$Na_2SO_4 \cdot 10H_2O$	322.20	[7727-73-3]
45	1.5 M Sodium tartrate dibasic dihydrate	$C_4H_4Na_2O_6 \cdot 2H_2O$	230.08	[6106-24-7]
46	8.0 M Sodium thiocyanate	$NaSCN$	81.07	[540-72-7]
47	1.2 M Succinic acid pH 7.0	$C_4H_6O_4$ + NaOH	118.09 + NaOH	[110-15-6]
48	1.0 M Zinc acetate dihydrate	$Zn(CH_3COO)_2 \cdot 2H_2O$	219.52	[5970-45-6]
49	2.0 M Zinc sulfate heptahydrate	$ZnSO_4 \cdot 7H_2O$	287.56	[7446-20-0]

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