Optimize™

HAMPTON RESEARCH

Solutions for Crystal Growth

Certificate of Analysis HR2-573 (pg 1)

Description

Optimize™ reagents are preformulated macromolecular crystallization grade solutions designed specifically for the crystallization of proteins, peptides, and nucleic acids. Each Optimize solution is formulated using high purity salts, polymers, and buffers. Sterile filtered Optimize reagents are formulated at convenient ready to use concentrations.

Optimize reagents remove the guesswork and make the process of reproducing preliminary screening conditions and general optimization faster, easier, and more convenient. When using Optimize reagents the user moves directly from the screen to the optimization with no time wasted searching for and formulating salts, buffers, and viscous polymers. This Certificate of Analysis indicates the quality and performance of the reagent.

Buffer Titration

The following table can be used to determine the appropriate mix of 1.0 M Imidazole and 1.0 M HCl to give the desired pH. The volumes supplied below assume one will have a final buffer concentration of 0.1 M in a final reservoir volume of 1,000 microliters. This buffer will give pH values ± 0.01 at a temperature of 25°C.

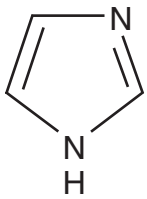
Titration Table for 1.0 M Imidazole with 1.0 M HCl

pH	1.0 M HCl (μl)	1.0 M Imidazole (μl)
6.2	90	100
6.3	87	100
6.4	83	100
6.5	78	100
6.6	73	100
6.7	68	100
6.8	62	100
6.9	56	100
7.0	51	100
7.1	45	100
7.2	39	100
7.3	33	100
7.4	28	100
7.5	23	100
7.6	18	100
7.7	14	100
7.8	10	100

Technical Support

Inquiries regarding Optimize 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.

Danielle Pagano
Quality Control



Property Test	Lot (Sample) Results
Product Name	1.0 M Imidazole
Synonyms	1,3-Diaza-2,4-cyclopentadiene
	Glyoxaline
Product Number	HR2-573
Lot Number	_____
Formula Weight	68.08
Formula	$C_3H_4N_2$
CAS Number	[288-32-4]
EC Number	206-019-2
Beilstein Registry Number	103853
Merck	14,4912
RTECS	NI3325000
MDL Number	MFCD00005183
PubChem Substance ID	24880372
Purity	≥ 99.5%
UN Number (RIDADR)	2923 8/PG 3
Appearance	Off-white, Flakes
Appearance (Solution)	Clear, Colorless to light yellow
Titration Range (NT) $HClO_4$ 0.1N	99.5 - 100.5%
Residue On Ignition (900°C)	≤ 0.1%
Water Range	≤ 0.5%
Infrared Spectrum	Corresponds
Metal Trace Analysis (ICP-OES)	Passed

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Property Test	Lot (Sample) Results
Trace Analysis	Passed
Residue (Filter Test)	No Residue
Melting Point (Starting Material)	88 - 91°C (lit.)
Boiling Point (lit.)	256°C
Vapor Pressure	< 1 mm Hg (20°C)
pKa (25°C)	6.95
pH	10.5 at 25°C
pH Range	10.5 - 10.7 at 25°C
Refractive Index	1.34432 at 20°C
Refractive Index Range	1.34420 - 1.34440 at 20°C
Conductivity	72.3 μS/cm at 25°C
Conductivity Range	71.1 - 101.5 μS/cm at 25°C
Ca	≤ 0.001%
Cd	≤ 0.0005%
Cl	≤ 0.005%
Co	≤ 0.0005%
Cr	≤ 0.0005%
Cu	≤ 0.0005%
Fe	≤ 0.0005%
K	≤ 0.005%
Mg	≤ 0.0005%
Mn	≤ 0.0005%
Na	≤ 0.005%
Ni	≤ 0.0005%
Pb	≤ 0.0005%
SO_4	≤ 0.005%
Zn	≤ 0.0005%

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