



CERTIFICATE OF ANALYSIS

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1. Identification

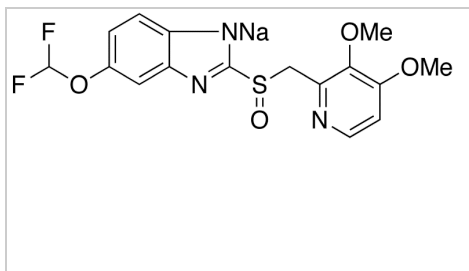
CAS Number: 138786-67-1

Cat. Number: P183000

Product: Pantoprazole Sodium Salt

Synonym: 6-(Difluoromethoxy)-2-[[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole Sodium Salt; 5-(Difluoromethoxy)-2-[[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole Sodium Salt; C

Structure:



Molecular Formula:

C₁₆H₁₅F₂N₃NaO₄S

Molecular weight:

405.35

Source of Product:

2. Analytical Information

Lot Number: 1-SWM-19-1

Boiling Point: N/A

Melting Point: 151-155°C

Atmosphere: Inert Gas

Appearance: White to Off-White S

Solubility: Methanol, Water

Method for Determining Identity: 1H NMR (D₂O) Spectroscopic and Mass Spectrometric Analysis

Stability: Not determined

Purity: 98%

Long Term Storage Condition: -20°C Freezer, Under inert atmosphere

Additional Info.: TLC Conditions: SiO₂: Dichloromethane: Methanol = 9: 1; Visualized with UV and AMCS; Single spot; R_f = 0.5. 1H NMR and mass conform to structure. Sodium content: 6.0% Water Content (by Karl Fischer): 5.8%.

Philip Chan, Head of Quality Assurance

QC Test Date:

1/3/2012 (MM/DD/YYYY)

Retest Date:

1/3/2017 (MM/DD/YYYY)

1-SWM-19-1 D2O

NAME 1-SWM-19-1, Dec 2011
 EXPNO 1
 PROCNO 1
 Date_ 20111222
 Time 15:37
 INSTRUM spect
 PULPROG zgpg30
 TD 32768
 SOLVENT D2O
 NS 8
 DS 2
 SWH 7211.535 Hz
 FIDRES 0.220079 Hz
 AQ 2.2719646 sec
 RG 203
 DW 69.333 usec
 DE 298.2 usec
 DI 1.0000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 ¹H
 P1 13.70 usec
 PL1 -1.00 dB
 PL1W 10.97310352 W
 SFO1 400.1528010 MHz
 SI 32768
 SF 400.1500000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

15 14 13 12 ppm

8.120
 7.652
 7.458
 7.458
 7.453
 7.074
 7.068
 7.052
 7.046
 7.042
 7.027
 6.986
 6.799
 6.612

1.000
 1.013
 0.945
 2.041
 0.253
 0.488
 0.251

4.830
 4.798
 4.796
 4.788
 4.780
 4.676
 4.644

0.654
 0.953

3.899
 3.684
 3.679

3.067
 3.008

10 9 8 7 6 5 4 3 2 1 0 ppm

1-SWM-19-1 (vial) D2O

```

NAME      1-SWM-19-1 Dec 2011
EXPNO     1
PROCNO    1
Date_     20111223
Time      10.44
INSTRUM   spect
PROBHD    5 mm PABBO RE-
PULPROG   zg30
TD         32768
SOLVENT   D2O
NS         8
DS         1
SWH        7211.539 Hz
FIDRES     0.220079 Hz
AQ         2.2719646 sec
RG         203
DW         69.333 usec
DE         6.50 usec
TE         298.3 K
D1         1.00000000 sec
TD0        1
===== CHANNEL f1 =====
NUC1       1H
P1         13.70 usec
PL1        -1.00 dB
PL12       10.97310352 W
SFO1       400.1528010 MHz
SI         32768
SF         400.1500000 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
FC         1.00
  
```

4.835
4.803
4.787
4.688
4.656

8.121
7.656
7.634
7.461
7.456
7.086
7.080
7.063
7.058
7.051
7.036
6.990
6.803
6.617

3.904
3.687

14 13 12 ppm

1.000
0.991
0.928
2.091
0.242
0.457
0.240

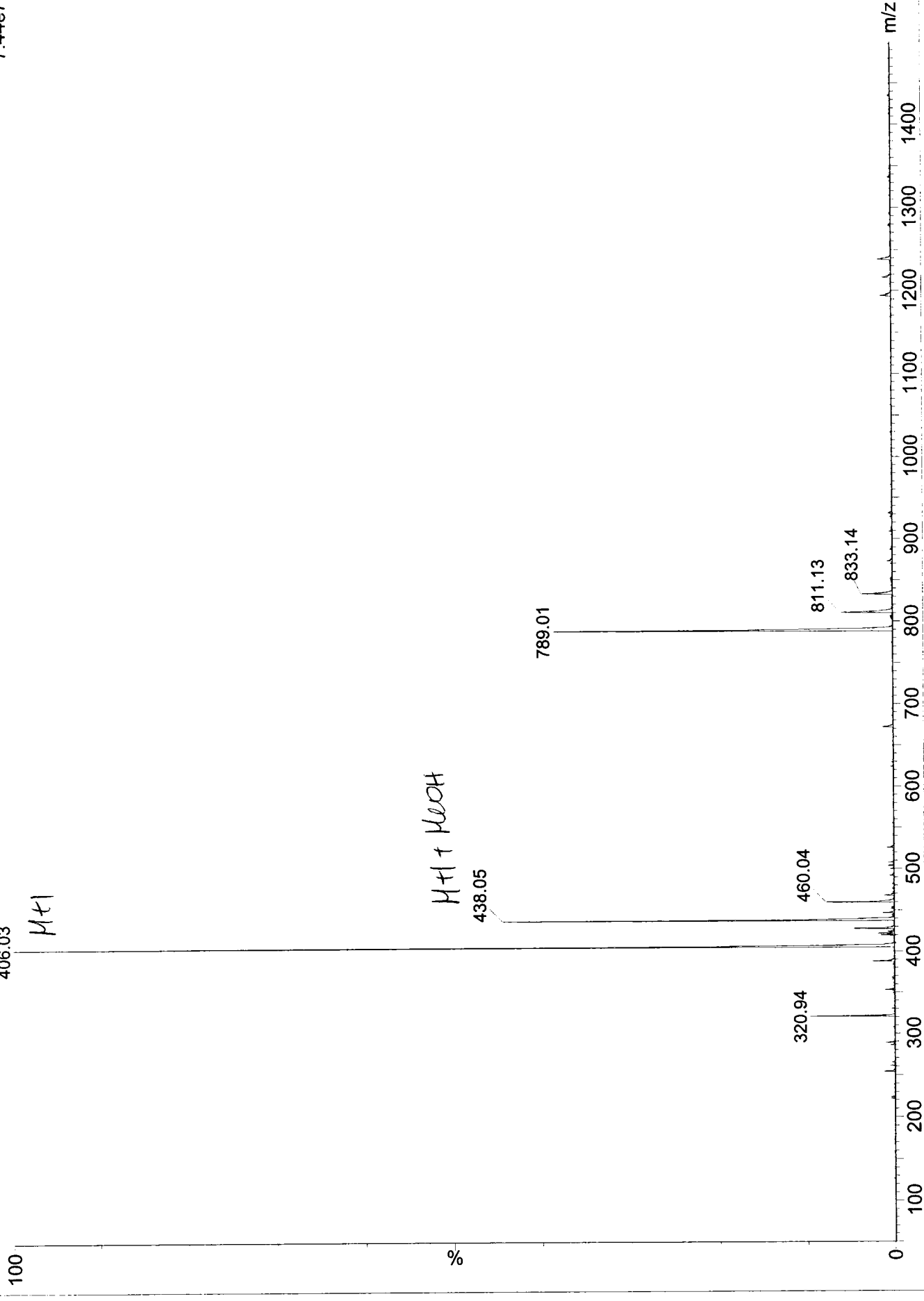
0.743
1.192
2.919
2.951

10 9 8 7 6 5 4 3 2 1 0 ppm

1-SWM-19-1

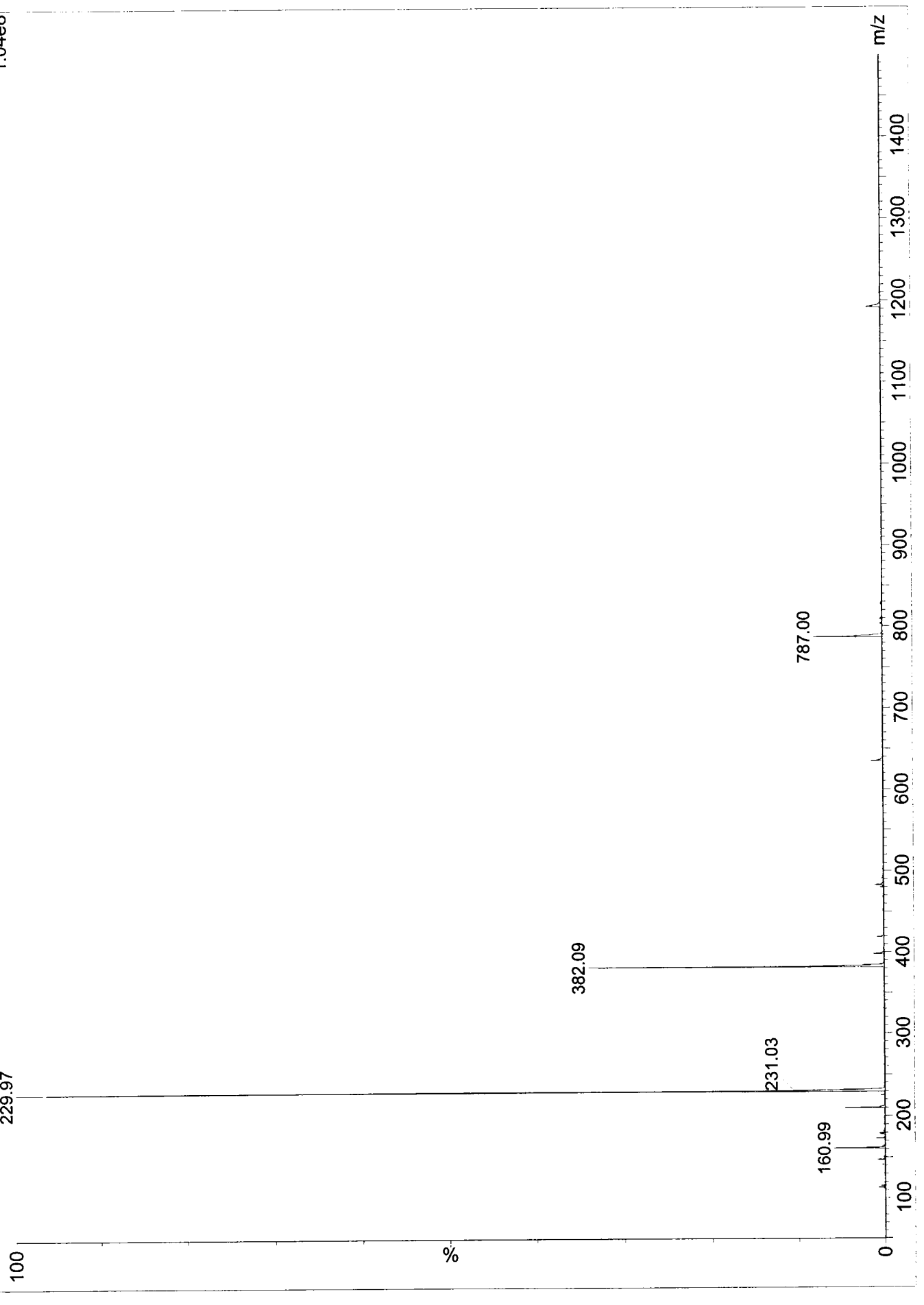
1-SWM-19-1 67 (3.486) Sm (Mn, 1x0.50); Cm (67.68-1:6)
406.03

Scan ES+
7.44e7



1-SWM-19-1
1-SWM-19-1 57 (2.967) Sm (Mn, 1x0.50); Cm (55:57-10:15)
229.97

Scan ES+
1.04e8



Certificate of Analysis

Product Name: LANSOPRAZOLE
>= 98 % TLC, powder
Product Number: L8533
Product Brand: Sigma
Molecular Formula: C₁₆H₁₄F₃N₃O₂S
Molecular Mass: 369.36
CAS Number: 103577-45-3

TEST	SPECIFICATION	LOT BCBC8368V RESULTS
APPEARANCE (COLOR)	WHITE TO PINK	ALMOST WHITE
APPEARANCE (FORM)	POWDER	POWDER
PURITY (TLC AREA %)	≥ 98.0 %	100.0 %
SOLUBILITY (COLOR)	FAINT YELLOW TO PINK	LIGHT YELLOW TO LIGHT YELLOW- -BROWN
SOLUBILITY (TURBIDITY)	CLEAR TO SLIGHTLY HAZY	CLEAR (<3.5 NTU)
SOLUBILITY (METHOD)	25 MG/ML, MEOH	--
CARBON CONTENT	50.7 - 53.3 %	51.96 %
HYDROGEN CONTENT	3.52 - 4.12	4.07 %
NITROGEN CONTENT	11.0 - 11.7 %	11.57%

QC RELEASE DATE 13/AUG/10
RECOMMENDED RETEST DATE JUL/14



Edeltraud Schwärzler, Manager
Quality Control
Buchs, Switzerland

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Certificate of Analysis

Product Name: OMEPRAZOLE
solid
Product Number: O104
Product Brand: Sigma
Molecular Formula: C₁₇H₁₉N₃O₃S
Molecular Mass: 345.42
CAS Number: 73590-58-6

TEST	SPECIFICATION	LOT BCBF7621V RESULTS
APPEARANCE (COLOR)	WHITE TO OFF-WHITE	WHITE
APPEARANCE (FORM)	POWDER	POWDER
PURITY (HPLC AREA %)	≥ 98.0 %	99.7 %
SOLUBILITY (COLOR)	COLORLESS TO FAINT YELLOW	COLORLESS
SOLUBILITY (TURBIDITY)	CLEAR (< 3.5 NTU)	CLEAR (<3.5 NTU)
SOLUBILITY (METHOD)	5 MG/ML IN ETHANOL	--
CARBON CONTENT	57.6 - 60.6 %	59.04 %
NITROGEN CONTENT	11.8 - 12.6 %	12.11 %
INFRARED SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS

QC RELEASE DATE 23/MAY/11



Edeltraud Schwärzler, Manager
Quality Control
Buchs, Switzerland

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3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.com

Email USA: techserv@sial.com

Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:

Rabeprazole sodium - ≥98% (HPLC)

Product Number: SML0476
Batch Number: 092M4709V
Brand: SIGMA
CAS Number: 117976-90-6
Formula: C₁₈H₂₀N₃O₃S · Na
Formula Weight: 381.42 g/mol
Storage Temperature: Store at -20 °C
Quality Release Date: 24 OCT 2012

Test	Specification	Result
Appearance (Color)	White to Beige	White
Appearance (Form)	Powder	Powder
Elemental Composition C ₁₈ H ₂₀ N ₃ O ₃ SNa	Pass	Pass
ELEMENTAL ANALYSIS X VALUE H ₂ O	0.0 - 4.0	1.3
Purity (HPLC)	≥ 98 %	100 %
Identity	Confirmed	Confirmed



Brendan Nye, QC Team Leader
Quality Control
Natick, Massachusetts US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.