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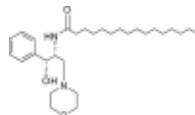
Outside USA: eurtechserv@sial.com

## Certificate of Analysis

Product Name:

DL-threo-1-Phenyl-2-palmitoylamino-3-morpholino-1-propanol - 98%

**Product Number:** P4194  
**Batch Number:** MKBX7804V  
**Brand:** SIGMA  
**CAS Number:** 149022-18-4  
**MDL Number:** MFCD00211157  
**Formula:** C<sub>29</sub>H<sub>50</sub>N<sub>2</sub>O<sub>3</sub> · HCl  
**Formula Weight:** 511.18 g/mol  
**Storage Temperature:** Store at 2 - 8 °C  
**Quality Release Date:** 11 MAR 2016



Test	Specification	Result
Appearance (Color)	White to Off-White	White
Appearance (Form)	Powder	Powder
Solubility (Color)	Colorless to Light Yellow	Colorless
Solubility (Turbidity)	Clear	Clear
20 mg/mL, H <sub>2</sub> O		
Proton NMR Spectrum	Conforms to Structure	Conforms
Carbon (anhydrous)	66.4 - 69.5 %	67.3 %
Nitrogen (anhydrous)	5.2 - 5.7 %	5.3 %
Purity (TLC)	≥ 98 %	> 99 %
Water (by Karl Fischer)	≤ 5.0 %	2.3 %

Michael Grady, Manager  
 Quality Control  
 Milwaukee, WI 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.