

# PRODUCT INFORMATION

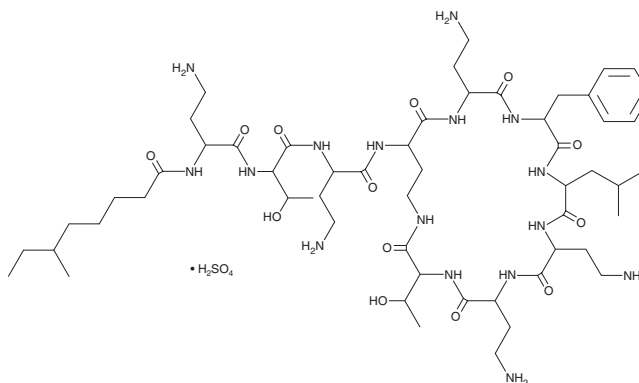


## Polymyxin B (sulfate)

Item No. 14157

**CAS Registry No.:** 1405-20-5  
**Formal Name:** N-(4-amino-1-((1-((4-amino-1-oxo-1-((6,9,18-tris(2-aminoethyl)-15-benzyl-3-(1-hydroxyethyl)-12-isobutyl-2,5,8,11,14,17,20-heptaaxo-1,4,7,10,13,16,19-heptaazacyclotricosan-21-yl)amino)butan-2-yl)amino)-3-hydroxy-1-oxobutan-2-yl)amino)-1-oxobutan-2-yl)-6-methyloctanamide sulfate

**Synonyms:** Aerosporin, Mastimyxin  
**MF:**  $C_{56}H_{98}N_{16}O_{13} \cdot H_2SO_4$   
**FW:** 1,301.6  
**Purity:**  $\geq 80\%$  (B Polymyxins)  
**Supplied as:** A crystalline solid  
**Storage:**  $-20^\circ C$   
**Stability:**  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Polymyxin B (sulfate) is supplied as a crystalline solid. Aqueous solutions of polymyxin B (sulfate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of polymyxin B (sulfate) in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

The polymyxins are cationic peptides originally isolated from *B. polymyxa*.<sup>1</sup> They bind and kill Gram-negative bacteria.<sup>2</sup> The B series of polymyxins consist of a cyclic heptapeptide and a tripeptide side chain acylated at the amino terminus by a fatty acid. Polymyxin B (sulfate) is a mixture of at least four closely related components, polymyxin B<sub>1</sub> to B<sub>4</sub>, with polymyxin B<sub>1</sub> (Item No. 14074) and B<sub>2</sub> being the two major components.<sup>3,4</sup> Polymyxin B (sulfate) has rapid *in vitro* bactericidal activity against major multidrug-resistant Gram-negative bacteria, such as *P. aeruginosa*, *A. baumannii*, and *K. pneumoniae*.<sup>4</sup>

### References

1. Falagas, M.E. and Kasiakou, S.K. Toxicity of polymyxins: A systematic review of the evidence from old and recent studies. *Crit. Care* **10(1)**, (2006).
2. Hancock, R.E.W. Cationic peptides: Effectors in innate immunity and novel antimicrobials. *Lancet Infect. Dis.* **1(3)**, 156-164 (2001).
3. Tam, V.H., Cao, H., Ledesma, K.R., et al. *In vitro* potency of various polymyxin B components. *Antimicrob. Agents Chemother.* **55(9)**, 4490-4491 (2011).
4. Zavascki, A.P., Goldani, L.Z., Li, J., et al. Polymyxin B for the treatment of multidrug-resistant pathogens: A critical review. *J. Antimicrob. Chemother.* **60**, 1206-1215 (2007).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/13/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM