

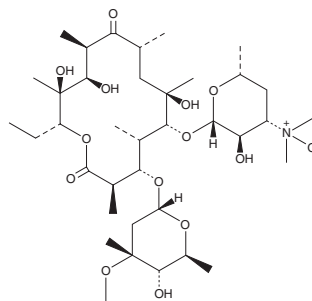
# PRODUCT INFORMATION



## Erythromycin A N-oxide

Item No. 23642

CAS Registry No.: 992-65-4  
Formal Name: erythromycin N-oxide  
MF:  $C_{37}H_{67}NO_{14}$   
FW: 749.9  
Purity:  $\geq 95\%$   
Supplied as: A 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

Erythromycin A N-oxide is supplied as a solid. A stock solution may be made by dissolving the erythromycin A N-oxide in the solvent of choice, which should be purged with an inert gas. Erythromycin A N-oxide is soluble in organic solvents such as ethanol, methanol, DMSO, and dimethyl formamide. It is also moderately soluble in water. We do not recommend storing the aqueous solution for more than one day.

### Description

Erythromycin A N-oxide is a potential impurity found in commercial preparations of erythromycin.<sup>1</sup> Erythromycin (Item No. 16486) is a macrolide antibiotic that inhibits bacterial protein synthesis by targeting the 50S ribosomal subunit, blocking the progression of nascent polypeptide chains.<sup>2</sup> It is effective against a host of bacterial genera, including *Streptococcus*, *Staphylococcus*, and *Haemophilus* ( $MIC_{90s} = 0.015-2.0$  mg/l).<sup>3</sup> Erythromycin is known to potently inhibit the cytochrome P450 isoform CYP3A4, which can affect the metabolism of numerous clinically relevant medications.<sup>4,5</sup> Erythromycin A N-oxide is also a precursor in the synthesis of clarithromycin (Item No. 19455).<sup>6</sup>

### References

1. Deubel, A., Fandino, A.S., Sorgel, F., *et al.* Determination of erythromycin and related substances in commercial samples using liquid chromatography/ion trap mass spectrometry. *J. Chromatogr. A* **1136**(1), 39-47 (2006).
2. Wilson, D.N. The A-Z of bacterial translation inhibitors. *Crit. Rev. Biochem. Mol. Biol.* **44**(6), 393-433 (2009).
3. Kanatani, M.S. and Guglielmo, B.J. The new macrolides. Azithromycin and clarithromycin. *Western J. Med.* **160**(1), 31-37 (1994).
4. Westphal, J.F. Macrolide - induced clinically relevant drug interactions with cytochrome P-450A (CYP) 3A4: An update focused on clarithromycin, azithromycin and dirithromycin. *Br. J. Clin. Pharmacol.* **50**(4), 285-295 (2000).
5. Bibi, Z. Role of cytochrome P450 in drug interactions. *Nutr. Metab. (Lond)* **5**(27) (2008).
6. Suh, K.-H., Seong, M.-R., Kim, N.-D., *et al.* Method of preparing clarithromycin. **US 6,809,188 B1** (2004).

#### 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, 11/18/2024

#### 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