

# Product Information



## Valinomycin

Catalog No. 10009152

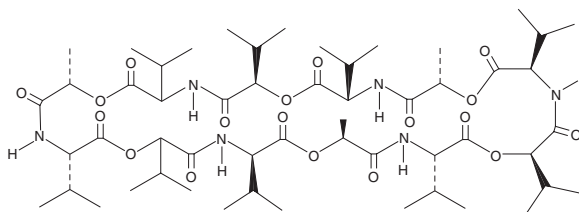
**CAS Registry No.:** 2001-95-8  
**Formal Name:** 3,6,9,15,18,21,27,30,33-nonaisopropyl-12,24,36-trimethyl-1,7,13,19,25,31-hexaaza-4,10,16,22,28,34-hexaaza-cyclohexatriacontane-2,5,8,11,14,17,20,23,26,29,32,35-dodecaone

**Synonym:** NSC 122023  
**MF:** C<sub>54</sub>H<sub>90</sub>N<sub>6</sub>O<sub>18</sub>  
**FW:** 1,111.3

**Purity:** ≥95%

**Stability:** ≥2 years at -20°C

**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that valinomycin be stored as supplied at -20°C. It should be stable for at least two years.

Valinomycin is supplied as a crystalline solid. A stock solution may be made by dissolving the valinomycin in an organic solvent purged with an inert gas. Valinomycin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of valinomycin in these solvents is approximately 10, 5, and 30 mg/ml respectively.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Valinomycin is a cyclododecadepsipeptide potassium-selective ionophore antibiotic that is isolated from various strains of *Streptomyces*. The hydrophilic interior is the right size to accommodate the potassium ion, but not other ions, while the hydrophobic exterior allows the complex to pass through the lipid bilayer. Valinomycin induces apoptosis in several cell types, including CHO cells, by stimulating potassium efflux. Apoptotic events produced by valinomycin include phosphatidylserine membrane translocation, caspase-3 activation, and mitochondrial membrane depolarization.<sup>1</sup> Due to the ion-selective nature of valinomycin it is used in ion-selective electrodes.

### References

1. Abdalah, R., Wei, L., Francis, K., *et al.* Valinomycin-induced apoptosis in Chinese hamster ovary cells. *Neurosci. Lett.* **405**, 68-73 (2006).

### Related Products

Thiocarlide - Cat. No. 10006976 • FK-506 - Cat. No. 10007965

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery**.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy located on our website and in our catalog**.

Copyright Cayman Chemical Company, 08/31/2010

### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

custserv@caymanchem.com

#### Web

www.caymanchem.com