

## Product Information

### Nystatin Cell Culture Tested

Product Number **N6261**  
Storage Temperature -0 °C

#### Product Description

Molecular Formula of Nystatin A<sub>1</sub><sup>1</sup>: C<sub>47</sub>H<sub>75</sub>NO<sub>17</sub>  
Molecular Weight of Nystatin A<sub>1</sub><sup>1</sup>: 926.1  
CAS Number: 1400-61-9  
Melting Point: Gradually decomposes above 160 °C without melting by 250 °C<sup>1</sup>  
 $\lambda_{\text{max}}$ : 290, 307, and 322 nm (ethanol)<sup>1</sup>  
Specific Rotation (at 25 °C)<sup>1</sup>: -10° (glacial acetic acid)  
+25° (pyridine)  
+12° (DMF)  
-7° (0.1 N HCl in methanol)

This product is cell culture tested and recommended for use in cell culture applications (50 mg/L). This is a non sterile powder and is not recommended for aseptic work.

Nystatin is a fungistatic and fungicidal polyene antibiotic, which increases the permeability of the cell membrane of sensitive fungi by binding to sterols, chiefly ergosterol.<sup>2</sup> Its main action is against *Candida species*. It is also effective against *Aspergillus*, *Coccidioides immitis*, *Cryptococcus neoformans*, *Histoplasma capsulatum*, *Blastomyces dermatidis*, and other yeasts and fungi.<sup>3</sup> Nystatin has been used to enrich mutants by killing yeast cells.<sup>6</sup> Nystatin has no antibacterial activity.<sup>5</sup> The minimum inhibitory concentration for most sensitive fungi has been reported to range from 1.56 to 6.25 µg/ml.

Nystatin is poorly absorbed from the gastrointestinal tract. It is not absorbed through the skin or mucous membranes when applied topically.

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

Nystatin is soluble at 28 °C in the following: methanol (11.2 mg/ml), ethanol (1.2 mg/ml), carbon tetrachloride (1.23 mg/ml), chloroform (0.48 mg/ml), benzene (0.28 mg/ml), and ethylene glycol (8.75mg/ml).<sup>1</sup> Nystatin is soluble in DMSO (5 mg/ml), yielding a clear, bright yellow solution. This product is freely soluble in DMF and formamide.<sup>4</sup> A 3% suspension in water has pH 6.5-8.0.<sup>3</sup>

It is not recommended to autoclave or sterile filter solutions of Nystatin. If sterility is required, Product No. N 4014 is  $\gamma$ -irradiated.

#### Storage/Stability

Solutions and aqueous suspensions begin to lose activity soon after preparation. Heat, light, and oxygen accelerate decomposition. Aqueous suspensions are stable for 10 minutes when heating to 100 °C at pH 7. Nystatin (in tissue culture media) is stable at 37 °C for three days. It is also stable in moderately alkaline media, but labile at pH 9 and 2. Activity is not diminished by blood or serum.<sup>1,2</sup>

Nystatin, cell culture tested (Product No. N 1638) is a sterile nystatin suspension in Dulbecco's Phosphate Buffered Saline. This product is stored frozen and shipped on dry ice. It has a shelf life of 24 months when stored frozen.

#### References

1. The Merck Index, 11th ed., Entry# 6658.
2. Brezis, M., et al., Polyene toxicity in renal medulla: injury mediated by transport activity. Science, **224**, 66-68 (1984).
3. Martindale The Extra Pharmacopoeia, 29th ed., Reynolds, J. E. F., ed., The Pharmaceutical Press (London, England: 1989), pp. 432-433.

4. Clarke's Isolation & Identification of Drugs, 2nd ed., Moffat, A.C., et al., eds., The Pharmaceutical Press (London, England: 1986), p. 829.
5. Upson's Handbook of Clinical Veterinary Pharmacology, 2nd ed., Udson, D. W., Veterinary Medicine Publishing Co. (Lenexa, KS: 1985), p. 640.
6. Fink, G. R., The Biochemical Genetics of Yeast. Meth. Enzymol., **17-A**, 59-78 (1970).

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