

Product Information

Patulin

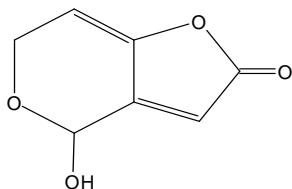
Product Number **P1639**

Storage Temperature -0°C

CAS #: 149-29-1

Synonyms: 4-Hydroxy-4H-furo[3,2-C]-pyran-2[6H]-one;
claviformin; clavitin; expansin; clavacin; penicidin;
mycoicin C; mycoicin; leucopin; tercinin

Product Description



Molecular formula: C₇H₆O₄

Formula weight: 154.12

E^M(276 nm) = 14,600 (methanol)¹

P1639 is produced by fermentation and purified by chromatography. It is a white crystalline powder, with melting point range 110-111°C. It can be crystallized from benzene. Conditions for analysis by TLC, GLC, and NMR are reported. A molar extinction coefficient of 16,600 is reported for absorbance at 276 nm¹ (although Sigma data indicates a value closer to 14,600 in methanol).

Patulin is a mycotoxin produced by various species of *Penicillium*, *Aspergillus* and *Byssoschlamys* fungi. It has been found to be carcinogenic in rats^{2,3} and acutely toxic in many animal species.^{4,5,6} It has been detected in rotten apples and cider produced from them.⁷ Analytical methods for the detection of patulin in apple juice^{8,9} and other food products¹⁰ have been published.

Patulin has a wide antibiotic activity and has appeared in the literature under the names of clavacin, claviformin, expansin, mycoicin C and penicidin^{11,12} and was at one time used in human clinical trials as an antibiotic, but was found to be too toxic for use in humans.^{1,13}

Storage/Stability

The stability of patulin has been investigated by several groups.^{4,14,15,16}

Patulin is stable at least two years stored frozen.

Sigma tests solubility at 9-11 mg/mL in water; a clear colorless solution is obtained. It is also reported to be soluble in alcohols, acetone; sparingly soluble in ethyl ether or benzene. Although soluble in water, it is somewhat unstable in polar solvents such as water and methanol and loses its biological potency in alkaline conditions.^{1,17} Sigma has not tested solution stability.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

References

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