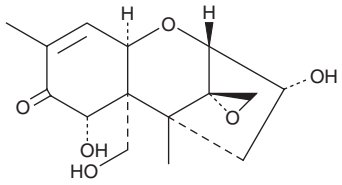
PRODUCT INFORMATION

4-deoxy Nivalenol

Item No. 11428

CAS Registry No.: 51481-10-8
Formal Name: 12,13-epoxy-3α,7α,15-trihydroxy-trichothec-9-en-8-one
Synonyms: DON, NSC 269144, Vomitoxin, Deoxynivalenol
MF: $C_{15}H_{20}O_6$
FW: 296.3
Purity: ≥98%
UV/Vis.: λ_{max}: 219 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

4-deoxy Nivalenol is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-deoxy Nivalenol in the solvent of choice, which should be purged with an inert gas. 4-deoxy Nivalenol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4-deoxy Nivalenol in ethanol and DMF is approximately 30 mg/ml and approximately 25 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 4-deoxy Nivalenol can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 4-deoxy Nivalenol in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4-deoxy Nivalenol is a trichothecene mycotoxin that has been found in *Fusarium*.[1] It binds to eukaryotic ribosomes and inhibits protein synthesis in mice when administered at doses ranging from 5 to 25 mg/kg. 4-deoxy Nivalenol (0.1 and 0.2 mg/kg) induces emesis in pigs and decreases feed consumption in pigs when administered at a dose of 40 ppb in the diet.[2] It induces lethality in mice (LD_{50} = 46-78 mg/kg).[3] 4-deoxy Nivalenol has been found in *F. graminearum*-infected cereal grains such as wheat, barley, and corn.

References

1. Pestka, J.J. and Smolinski, A.T. Deoxynivalenol: Toxicology and potential effects on humans. *J. Toxicol. Environ. Health B. Crit. Rev.* **8(1)**, 39-69 (2005).
2. Forsyth, D.M., Yoshizawa, T., Morooka, N., *et al.* Emetic and refusal activity of deoxynivalenol to swine. *Appl. Environ. Microbiol.* **34(5)**, 547-552 (1977).
3. Pestka, J.J. Deoxynivalenol: Mechanisms of action, human exposure, and toxicological relevance. *Arch. Toxicol.* **84(9)**, 663-679 (2010).

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