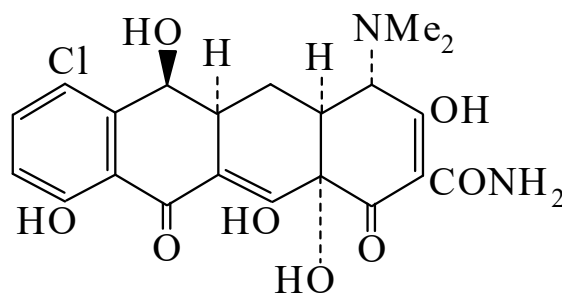




>>Entry Name: Demeclocycline, BAN, INN

Synonym(s): 7-Chloro-4-dimethylamino-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-1,11-dioxonaphthacene-2-carboxamide, 9Cl. 6-Demethyl-7-chlorotetracycline. Ledermycin. Declomycin. Biotercilin. Deganol. Pericicline. RP 10192. Many other names



CAS Registry Number: 127-33-3

Molecular Formula: C₂₁H₂₁ClN₂O₈

Molecular Weight: 464.858

Accurate Mass: 464.098645

Percentage Composition: C 54.26%; H 4.55%; Cl 7.63%; N 6.03%; O 27.53%

General Statement: Tetracycline antibiotic

Biological Source: Prod. by a mutant strain of *Streptomyces aureofaciens*

Use/Importance: Clinically used antibacterial agent. Activity similar to Aureomycin [CKR88-Y](#) but more stable

Physical Description: Sesquihydrate

Melting Point: Mp 174-178 dec.°

Optical Rotation: $[\alpha]_D^{25} -258$ (c, 0.5 in 0.1N H₂SO₄)

Solubility: BERDY SOL: Sol. MeOH, bases, butanol, acids; fairly sol. Me₂CO, Et₂O, CHCl₃

Calculated Log P Data: Log P -1.55 (calc)

UV: [neutral] λ_{max} 227 (E1%/1cm 357); 268 (E1%/1cm 362); 368 (E1%/1cm 249) (MeOH) (Berdy)

Other Data: Useful starting material for semisynthetic tetracyclines

Hazard & Toxicity: Adverse effects reported when used therapeutically incl. gastrointestinal disturbances, skin effects, hepatotoxicity and photosensitivity; deposited in bones and teeth. LD₅₀ (rat, orl) >6750 mg/kg. LD₅₀ (rat, ipr) 358 mg/kg. Exp. reprod. and teratogenic effects ; BERDY HAZD : LD₅₀ (mus, ivn) 140 mg/kg

>>Derivative: Hydrochloride

Synonym(s): Demeclocycline hydrochloride, USAN. Demetraciline. Detraavis. Meciclin. Mexocine. Clortetrin

CAS Registry Number: 64-73-3

Hazard & Toxicity: LD₅₀ (rat, orl) 2372 mg/kg. Human renal and reprod. effects when used therapeutically

Fluka: 30910

Sigma: D6140

References:

- McCormick, J.R.D. *et al.*, *J.A.C.S.*, 1957, **79**, 4561, (*synth*)
Dobrynin, V.N. *et al.*, *Tet. Lett.*, 1962, 901, (*abs config*)
Neidleman, S.L. *et al.*, *Biochim. Biophys. Acta*, 1963, **41**, 199, (*biosynth*)
Rosenblatt, J.E. *et al.*, *Antimicrob. Agents Chemother.*, 1966, 134, (*props*)
Goldenthal, E.I., *Toxicol. Appl. Pharmacol.*, 1971, **18**, 185, (*tox*)
Asleson, G.L. *et al.*, *J.A.C.S.*, 1975, **97**, 6246, (*cmr*)
Palenik, G.J. *et al.*, *J.A.C.S.*, 1978, **100**, 4458, (*cryst struct*)
Casy, A.F. *et al.*, *J. Pharm. Biomed. Anal.*, 1983, **1**, 281, (*pmr*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th edn., Akademie-Verlag, 1987, 6058, (*synonyms*)
Kirk-Othmer *Encycl. Chem. Technol.*, 4th edn., Wiley, 1991, **3**, 331, (*rev*)
Martindale, *The Extra Pharmacopoeia*, 30th edn., Pharmaceutical Press, 1993, 158
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, DAI485; MIJ500