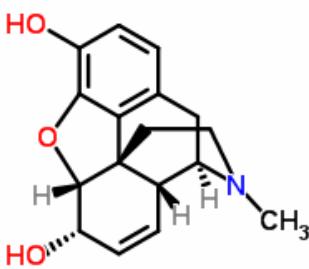


Name	MORPHINE
Structure	 The chemical structure of morphine is a tricyclic compound. It features a central tetrahydrofuran ring fused to a cyclohexene ring, which is further fused to a benzene ring. The benzene ring has a hydroxyl group (HO) at position 3 and a methyl group (CH3) at position 17. There are two chiral centers in the molecule. At the 13-position, there is a hydroxyl group (HO) with a wedge bond and a hydrogen atom with a dash bond. At the 14-position, there is a hydrogen atom with a wedge bond and a hydroxyl group (HO) with a dash bond. The nitrogen atom is part of a methyl group (CH3).
Systematic name	1S,5R,13R,14S,17R)-4-Methyl-12-oxa-4-azapentacyclo[9.6.1.01,13.05,17.07,18]octadeca-7(18),8,10,15-tetraene-10,14-diol
Formula	C ₁₇ H ₁₉ NO ₃
MW	285.3377
Monoisotopic mass	285.136493479
Mp	253-254°C dec
H bond acceptors	4
H bond donors	2
Acid pKa	10.26 (phenol)
Basic pka	9.12
ACD Log D pH 5.5	-1.80
ACD Log D pH 7.4	0.043
Solubility	50 mg/ml in water (hydrochloride)
LD50	461 mg/Kg rat p.o.
Therapeutic cat	opioid analgesic
ATC	N02AA01 N NERVOUS SYSTEM N02 ANALGESICS N02A OPIOIDS N02AA Natural opium alkaloids
Receptors	OP ₃

Nomi commerciali (IT)	
MORFINA CL, MORFINA CLORIDR, MORFINA SOLFATO	A, RNR, iniettabile, compresse, sciroppo