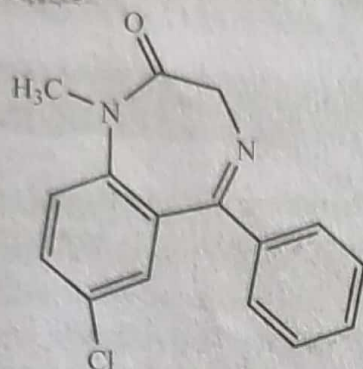


10.1.3.9. Diazepam

Diazepam is a benzodiazepine containing anticonvulsant, anxiolytic, sedative, muscle relaxant, and amnesic properties with long duration of action.

Chemical Structure



Diazepam

Molecular Formula: $C_{16}H_{13}ClN_2O$

IUPAC Nomenclature: 7-chloro-1-methyl-5-phenyl-2,3-dihydro-1H-1,4-benzodiazepin-2-one

Properties: Diazepam occurs as an off-white to yellow coloured crystalline powder. It is slightly soluble in water; and freely soluble in chloroform and alcohol.

Uses: Diazepam is used for treating severe anxiety disorders and as a hypnotic for managing insomnia for a shorter-term. It is also used as a sedative, an anticonvulsant, and a skeletal muscle relaxant. It is used for managing alcohol withdrawal syndrome.

Stability and Storage Conditions: Diazepam should be stored in light and air resistant, well-closed containers.

Types of Pharmaceutical Formulations: Tablet, capsule, rectal solution, gel, emulsion, and injection.

Brand Names: Calmpose, Valium, and Diazep.

10.1.3.10. Lorazepam

Lorazepam is a benzodiazepine which affects chemicals in the brain which are unbalanced in people with anxiety.

Molecular Formula: $C_{15}H_{10}Cl_2N_2O_2$

IUPAC Nomenclature: 7-chloro-5-(2-chlorophenyl)-3-dihydro-1,4-benzodiazepin-2-one

Properties: Lorazepam occurs as a white powder or almost white crystalline powder. It is insoluble in water; and sparingly soluble in ethanol and methylene chloride. It shows polymorphism.

Uses: Lorazepam is used for treating anxiety disorders. It is orally used for insomnia due to anxiety. It also contains hypnotic, anticonvulsant, and sedative properties and has been recommended as a pre-anaesthetic agent.

Types of Pharmaceutical Formulations: Injection and tablets.

Brand Names: Larposa and Lorvan.

10.1.3.11. Meprobamate

Meprobamate is a carbamate having hypnotic, sedative, and muscle relaxant properties. In therapeutic doses, reduction of anxiety is responsible for muscle relaxation rather than a direct effect.

Molecular Formula: $C_9H_{18}N_2O_4$

IUPAC Nomenclature: 2-[(carbamoyloxy)methyl]-2-methylpentyl carbamate

Properties: Meprobamate occurs as a white powder with a bitter taste. It is slightly soluble in water.

Uses: Meprobamate is used for managing anxiety disorders or for relieving the symptoms of anxiety for a shorter period of time.

Types of Pharmaceutical Formulation: Tablet.

Brand Names: Miltown and Equanil.