

## ***Pharmacopoeia:***

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**Pharmacopoeia:** The word derives from the ancient Greek *pharmakopoiia*, from (*pharmako-*) "drug", (*poi-*) "make" and these can be rendered as "drug-mak-ing" or "to make a drug".

A pharmacopoeia, pharmacopeia, or pharmacopoea, in its modern sense, is a legally binding collection, prepared by a national or regional authority, of standards and quality specifications for medicines used in that country or region.

### **Types of pharmacopoeia:**



- U.S.A. pharmacopoeia (U. S.P).
  - British pharmacopoeia (B.P).
  - European pharmacopoeia (ph. Eur).
  - International pharmacopoeia (IP).
- And **British veterinary codex (B.Vet.C)**.

**\*\*The pharmacopoeia include information about:**

#### **1-scientific and common name of drug.**

Every drug has several different names, and some have a very large number. This profusion of names is often a source of confusion and can indeed be dangerous. The various names have different origins and uses.

##### **► Chemical name:**

Chemical name defines the structure of drug molecule, because of this the chemical name of a drug is complex and unsuitable for use in prescribing.

##### **► Approved (generic) name:**

It is the official name given to the drug. The **generic** name is the one which should be used in prescribing.

##### **► Propriety(Trade) name:**

Is the commercial name given to the drug by the pharmaceutical company which make and promotes it.

**Table(1): Names of drug.**

Chemical Name	7-chloro-1, 3-dihydro-1, methyl-5-phenyl-2h-1
Generic Name	Diazepam
Official Name	diazepam, USP
Brand Name	Valium®

## 2-Chemical structure

The intrinsic activity of an API is determined by its chemical structure in solution and how it interacts with its targets (for example, receptors and enzymes).

Depending upon the degree to which chemical structure affects biological action, drugs can be classified as:

- Structurally non-specific.
  - They have no specific site of action.
  - The activity does not depend on chemical structure.
- Structurally specific
  - They act at specific sites, such as a receptor or an enzyme.
  - Biological action is related to the chemical structure.

## 3-Chemical and physical properties.

As has been stated before, most of the drugs used in medicine behave in solution as weak acids, weak bases, or sometimes as both weak acids and weak bases.

► The influence of the organic functional groups within a drug molecule on:

- Water solubility.
- Lipid solubility.
- permeability.
- Acid-base properties.

► Water solubility Versus Lipid solubility

- Majority of drugs' molecules possess balanced solubility (have some degree of solubility in both aqueous and lipid media).
- Because there is a need for drugs' molecules to move through both aqueous (plasma, extracellular fluid, cytoplasm, etc.) and lipid media (biologic membranes) in the biological system.

#### **4-Dosage, storage and administration**

• Dose. The amount of medication that is received per animal.

For instance, a dog could receive a dosage of chemical at the rate of 2 mg/kg/day. The Factors Affecting the Dose are **Age**, sex, weight, Severity of disease.

##### **► storage**

The storing of pharmaceutical products and materials up to their point of use.

##### **● Expiry date**

The date given on the individual container (usually on the label) of a drug product up to and including which the product is expected to remain within specifications, if stored correctly.

##### **● Normal storage conditions**

Storage in dry, well-ventilated premises at temperatures of 15–25°C or, depending on climatic conditions, up to 30 °C. Extraneous odors, other indications of contamination, and intense light must be excluded.

\*\*The use of the following labeling instructions are recommended:  
(Note; this for observation only).

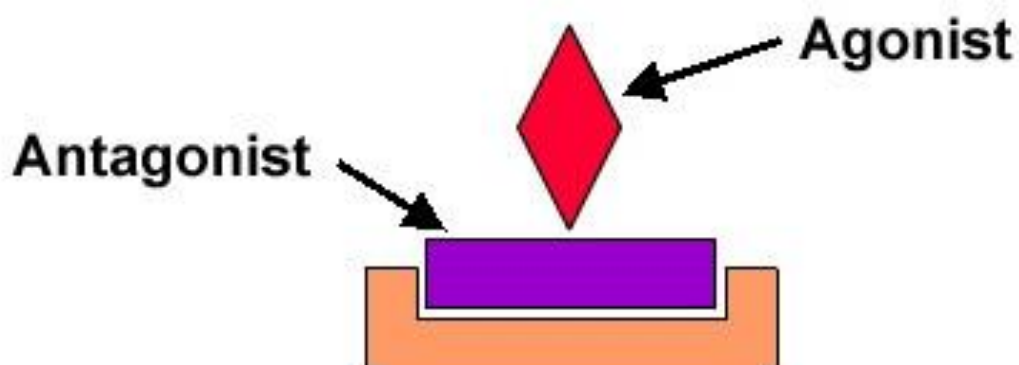
##### **On the label**

##### **Means**

“Do not store over 30 °C”	from +2 °C to +30°C.
“Do not store over 25 °C”	from +2 °C to +25°C.
“Do not store over 15 °C”	from +2 °C to +15°C.
“Do not store over 8 °C”	from +2 °C to +8°C.
“Do not store below 8 °C”	from +8 °C to +25°C.
“Protect from moisture”	No more than 60% relative humidity in normal storage conditions; to be provided to the patient in a moisture resistant container.
“Protect from light”	To be provided to the patient in a light-resistant container.

## 5-Mechanism of action.

In [pharmacology](#), the term **mechanism of action** refers to the specific biochemical interaction through which a [drug](#) substance produces its pharmacological effect.



-A mechanism of action usually includes mention of the specific molecular targets to which the drug binds, such as an [enzyme](#) or [receptor](#). Receptor sites have specific affinities for drugs based on the chemical structure of the drug, as well as the specific action that occurs there.

- Drugs that do not bind to receptors produce their corresponding therapeutic effect by simply interacting with chemical or physical properties in the body. Common examples of drugs that utilize this method are antacids and laxatives.

## 6-Toxicity.

Toxicity is the quantity or amount of a poison that causes a toxic effect. “Toxicity” and “toxicosis” are often mistakenly used interchangeably.

**Threshold dose:** The highest dose of a toxicant at which toxic effects are not observed.

**Lethal Dose (LD<sub>50</sub>):**The dose at which 50% of the animals die during some period of observation .

- Toxicity is usually measured with LD<sub>50</sub>.
- The toxicity can be quite diverse and depend essentially on the dose.
- Some factors (environmental, genetics, drug-drug interaction) have a role in the level of toxicity

### Apply Your Knowledge :

Q: Which is a generic, Brand name of the following drugs?

<b>Acetylsalicylic Acid</b>	<b>Trade N.</b>	<b>Aspirin</b>	<b>Generic N.</b>
<b>Actagen-C Cough</b>		<b>Codeine</b>	
<b>Bactine First Aid</b>		<b>Neomycin</b>	
<b>Obermine</b>		<b>Phentermine</b>	
<b>Atropine</b>		<b>Barophen</b>	
<b>Baron-X</b>		<b>Yohimbe</b>	
<b>Chlorpheniramine</b>		<b>Dallergy-D</b>	
<b>Decaderm</b>		<b>Dexamethasone (topical)</b>	
<b>Dexamethasone (ophthalmic)</b>		<b>Decadron</b>	