

Hyoscyamus

Synonym: *Hyoscyamus herb*, henbane

B.S: It consists of dried leaves & flowering tops of the plant *Hyoscyamus niger*, family Solanaceae. It should contain not less than 0.05% of total alkaloids calculated as hyoscyamine.

C.C: It contains alkaloids hyoscyamine, hyoscyne (scopolamine) & atropine.

Uses: It is used to counteract gripping due to purgatives & also to relieve spasms of the urinary tract. It is also sedative & used to check salivary secretions. It is an antispasmodic & anti-asthmatic.

Substitutes: Egyptian henbane.



Datura

Synonym: Datura herb

B.S: It consists of dried leaves & flowering tops of the plant Datura metel variety fastuosa Safford, family Solanaceae. It should contain not less than 0.5% of total alkaloids calculated as hyoscyamine.

C.C: It contains alkaloids ,hyoscine (scopolamine) . Only small quantities of hyoscyamine& atropine are present.

Uses: The drug is parasympathetic depressant. It is used in the treatment of asthma & cough. It is also an antispasmodic & a CNS depressant.

Chemical test (Vitali-Morin Reaction)

- 1.Tropane alkaloid is treated with fuming nitric acid, followed by evaporation to dryness & addition of methanolic KOH solution to an acetone solution of nitrated residue. Violet coloration takes place due to tropane derivative.
- 2.On addition of silver nitrate soln to soln of hyoscine hydrobromide, yellowish white ppt is formed, which is insoluble in nitric acid, but soluble in dilute ammonia.



Belladonna herb

Synonym: Belladonna leaf, Deadly night shade

B.S: It consists of dried leaves or the leaves & other aerial parts of the plant *Atropa belladonna* or *Atropa acuminata* or mixture of both the species collected when the plant are in flowering stage, family Solanaceae. It should contain not less than 0.3% of total alkaloids calculated as hyoscyamine.

C.C: It contains alkaloids l-hyoscyamine, scopoletin, belladonnine & other alkaloids.

Uses: The drug is parasympathetic depressant. It is used to reduce secretion of sweat, salivary & gastric glands. It acts as powerful spasmolytic in intestinal colic. It is valuable antidote in opium, chloral hydrate & muscarine poisoning.

Adulterants: *Phytolacca americana*, *Solanum nigrum*.



aconite

Synonym: Aconite root, Monk hood

B.S: It consists of dried tuberous roots of *Aconitum napellus*, family- Ranunculaceae.

C.C: It contains alkaloids aconitine, aconine, mesaconitine, neopellelline, napelline & neoline. Starch, aconitic acid & succinic acid are the other constituents of the drug.

Uses: Aconitine is used externally in the form of liniment in the treatment of neuralgia, sciatica, rheumatism & inflammation. It is also analgesic & cardiac depressant.

Substitutes: Indian aconite roots.

Japanese aconite roots.



aswagandha

Synonym: Ashwagandha, Indian Ginseng, Asgand.

B.S: It consists of dried roots & stem bases of Withania somnifera, family- Solanaceae.

C.C: It contains alkaloids cuscohygrine, tropine, pseudotropine, anaferine & others. Withasomnine & vasamine are the newly isolated alkaloids. Starch, reducing sugar, glycosides & resin are the other constituents of the drug.

Uses: Aswagandha is used as hypotensive & depressant. The alkaloids are antispasmodic & anthelmintic. It has action on smooth muscles & hence used in asthma. It is used as a tonic & an antitumour drug.

Substitutes: Withania coagulance roots.



ephedra

Synonym: Ma-Haung.

B.S: It consists of dried young stem of *Ephedra gerardiana* & *Ephedra nebrodensis*, family- Ephedraceae (Gnetaceae).

C.C: It contains alkaloids ephedrine, norephedrine, pseudoephedrine.

Uses: Ephedra is used for early relief of asthma, in hay fever & whooping cough. It is a sympathomimetic drug. The action of ephedrine is more prolonged than adrenaline. It can be administered orally.



opium

Synonym: Raw opium.

B.S: It consists of dried latex obtained from the unripe capsules of the plant *Papaver somniferum*, family- Papaveraceae .

C.C: It contains 25alkaloids which are largely combined with meconic acid. The alkaloids are divided pharmacologically into two classes- narcotic & non narcotic alkaloids & chemically as phenanthrene derivatives & benzyl isoquinoline derivatives. The important alkaloids are morphine, codiene, noscapine, papaverine & thebaine.

Uses: Opium is an analgesic, hypnotic or narcotic. Morphine checks peristalsis & contracts the pupil of eye. Codiene is an expectorant.



cannabis

Synonym: Indian hemp, ganja, marihuana.

B.S: It consists of dried flowering tops of the cultivated female plants of *Cannabis sativa*, family-Cannabinaceae .

C.C: It contains resin which contains major active euphoric principle 1-3-4 trans tetrahydrocannabinol. It also contains volatile oil, trigonelline & choline.

Uses: It is narcotic, sedative & analgesic. It causes intoxication, euphoria & large mental disturbances.



Nux vomica

Synonym: Crow-fig, semen strychni..

B.S: It consists of dried ripe seeds of *Strychnos nux-vomica*, family-Loganiaceae .

C.C: It contains bitter indole alkaloids chief constituents of which are strychnine & brucine. It also contains other alkaloids vomicine, α -colubrine, pseudostrychnine & strychnicine. Seeds also contain fat.

Uses: It is used as bitter stomachic & tonic. It is stimulant to central nervous system. It increases blood pressure & is recommended in certain forms of cardiac failure. Brucine is used as a standard for bitterness & as a strong dog poison.

Adulterants: Dried seeds of *Strychnos nux-blanda* & *Strychnos potatorum*.

Substitutes: Dried seeds of *Strychnos wallichiana* & *Strychnos ignatii*.

