

RESIN AND RESIN COMBINATIONS

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RESINS AND RESINS COMBINATION

The term 'resin' is applied to more or less solid, amorphous products of complex chemical nature. These are amorphous mixtures of essential oils, oxygenated products of terpenes and carboxylic acids



- Resins and related resinous products are produced in plants during normal growth or secreted as a result of injury to the plants
- They are usually occur in schizogenous or schizolysigenous cavities or ducts



GENERAL PROPERTIES

Physical characters –

1. All resins are heavier than water , they are usually amorphous ,hard, and brittle solids.

2. They are insoluble in water and usually insoluble in petroleum ether but dissolve more or less completely in alcohol, chloroform and ether.


3. Chemically, resins are complex mixtures of resin acids, resin alcohols (resinols), resin phenols (resinotannols), esters and chemically inert compounds known as resenes.

4. Many resins, when boiled with alkalies yield soaps



5. By the action of heat they soften yielding clear, adhesive fluids, Resins burn with a characteristic, smoky flame.

6. Resins are often associated with volatile oils (*oleoresins*), with gums (*gum-resins*) or with oil and gum (*oleo-gum-resins*).

7. Resins may also be combined in a  glycosidal manner with sugars.

CHEMICAL NATURE :

- Chemically resins are not pure substances but complex mixtures of several resinous substances as resin acids, resin alcohols, resin esters, and neutral resins.
- Resins do not contain **nitrogen** elements
- (Non nitrogenous compounds)



CLASSIFICATION OF RESINS

- Resins are classified in three different ways:
 1. Taxonomical classification, i.e. according to botanical origin, e.g. *Berberidaceae* resins.
 2. Classification according to predominating chemical constituent; e.g. acid resins, resene resins, glycosidal resins; etc.

3. Resins may be classified according to the portion of the main constituents of the resin or resin combination; e.g. resins, oleoresins, oleo-gum-resins, balsams.



CLASSIFICATION OF RESINS

1. Acid resins –

Here the resins occur along with their acids.

Examples –

Colophony – Abietic acid

Sandrac – Sandracolic acid

Myrrh – Commiphoric acid

Copaiba – Copaivic acid



2. Ester resins –

This group contains esters as the chief constituents of the resins–

Examples

Benzoin and Storax ,

Benzoin contains **benzyl benzoate**,

Storax contains **cinnamyl cinnamate**



3. Resin alcohols –

They occurs as in free state or as esters ,
examples –

Balsam of peru with perru resino tannol

Guaiacum resin with guaic resinol



They are also further classified into –

Resins: colophony, cannabis.

Oleoresins: copaiba, ginger.

Oleo-gum-resins: asafoetida, myrrh.

Balsams: balsam of Tolu, balsam of Peru.

Glycoresins : jalap

Resenes : Asafoetida, colophony





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