



**IJPPR**

INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH  
An official Publication of Human Journals

ISSN 2349-7203



## **AN OVERVIEW OF HERBAL BINDER EXCIPIENT**

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### **ABSTRACT**

The excipient is defined as a substance which is used as a medium for giving a medicament; this is to say that easy function of inert assist of the energetic precept or standards 1. it is derived from the Latin phrase excipients it mean to acquire, to the out , together.the same old of the product relies upon at the manufacturing tactics, lively pharmaceutical factor (API) & the excipients which are used inside the components.

**Keywords:** - Herabl excipients, binders, Natural source, Gelatin, Xanthane



## **INTRODUCTION:**

An excipient is defined as a substance that is used as a medium for giving a medicament that is to say with virtually the function of inert support of the energetic precept or standards 1. An excipient is derived from the Latin word excipients that suggest receiving, together, to the out. the same old of the product relies upon on the production methods, energetic pharmaceutical component (API) and the excipients which are used within the method.

The rhizome of *Enhalus acoroides* (L.f.) Royle is used in traditional medication for remedy of many diseases e.g., muscle pains, wounds and stomach problems where in pharmacognostical studies are missing. Many chemical additives; luteolin, apigenin, luteolin glycosides, stigmasterol, daucosterol have been stated. The intention of this artwork become to perform pharmacognostical assessment techniques: Macroscopical, microscopical and physicochemical parameters have been assessed. The World health organization (WHO) describes excipient as non-energetic elements that have been effectively analyzed for protection and protected in a drug delivery system to:

1. Processing help for the duration of improvement of drug transport device.
2. Protect useful resource and improve stability, bioavailability and acceptability of patients.
3. Allows inside the identification of substance
4. Improve another function of the drug's normal protection and effectiveness at some stage.

## **Binder:**

Binders, as their name indicates, are the excipient used to bind or keep all of the components used within the dosage method. Binders are used inside the aggregate to explicit plasticity or to increase the capacity of binding between the formulated particles. Herbal binders which include starch gums the mucilage of dried fruit have binding residences and a few other traits. Binders keep collectively pigments and sometimes filling fabric to form paints, pastels, and other substances used for artistic and utilitarian portray. Substances consist of wax, linseed oil, natural gums which include gum Arabic or gum tragacanth, methyl cellulose, or proteins such as egg white or casein. Glue is historically made by means of the boiling of hoofs, bones, or skin of animals and then blending the hard gelatinous residue with water. Natural gum-based binders are crafted from materials extracted from flowers. Larger quantities of dry substance are delivered to liquid binders to be able to forged or version sculptures and reliefs.

## **Uses of binders:**

1. It is far within your budget and safe.
2. It is used to maintain the pigments collectively.

3. In cooking the diverse suitable for eating thickening retailers are used as binders.
4. A few polymers are also used as binder for plastic explosive. Example – polyisobutylene
5. It is non poisonous much less luxurious and without problems available.
6. It regarding less regulatory troubles in comparison to their artificial counter parts.

**Advantages of natural binders:**

1. It improves the organoleptic properties of the medication. It important if you want to enhance patient adherence.
2. Binders increase stability, precision and accuracy of the dosage forms.
3. Biodegradable, without problems available.
4. Low toxicity and low of cost.

**Types of binders:**

Classification of binder:

Binders are classified into two types:

1. Synthetic source
2. Natural source

**1. Synthetic source:**

Ex- methylcellulose, Ethylcellulose

**2. Natural source:**

A) Marin source

Ex- starch, alginic acid

B) Animal source –

Ex-. Chitosan

C) Plant source –

Ex-. Acacia, tragacanth

D) Microbial source – Ex- Xanthan, Dextran.

**1. Gelatin:**

**Synonym:** Gelatinum

**Biological source:**

Gelatin is a protein extracted by way of the partial hydrolysis of animal tendons ligament and collagenous tissue like skins.

**Family:** Bovidae

**Preparations:** The manufacturing of gelatin varies from factory to factory.

**Raw materials:** Animal tendons ligament and collagenous tissue like skins accumulated and subjected to liming operations

**Liming technique:** The uncooked materials are subjected to the treatment called as liming procedure. The animal pores and skin is thoroughly washed with run of animal tendons ligament. And collagenous tissue like skins running water.

**Defatting:** In case of animal bones are removed by treatment of HCL

**Chemical constituent:** Gelatin mainly contains of protein, cystine & cysteine, leucine, valine

**Uses:** Gelatin use to prepare pastes, suppositories. Gelatin used as thickener & texturizer in food.

## 2. Karaya:

**Synonym:** Karaya Gum

**Biological Source:** Gum Karaya as the dried exudate obtained from *Sterculia urens* Roxd and other related species of Sterculia.

**Family:** Sterculiaceae

**Preparation:** The gum is obtained from the Sterculia species with the aid of making incisions and, thereafter, gathering the plant exudates generally after an opening of 24 h. The huge abnormal masses of gums (tears) which weigh between 250 g to one kg about are handpicked and dispatched to the diverse accumulating centers. The gum is normally tapped at some stage in the dry season spreading over from March to June. every healthful absolutely grown tree yields from 1 to 5 kg of gum in line with yr; and such operations can be finished approximately five times for the duration of its lifetime. In quick, the massive bulky lumps (tears) are broken to small pieces to purpose effective drying. The overseas particles, as an example, pieces of bark, sand debris and leaves are removed. for that reason, purified gum is available in two varieties, particularly:

- 1) Granular or Crystal Gum: Having a particle size ranging between 6 to 30 mesh, and
- 2) Powdered Gum: It has particle size of 150 mesh

**Chemical Constituents:** Karaya gum is partially acetylated polysaccharide contain-ing about 8% acetyl groups and about 37% uronic acid residues.

**Uses:**

Karaya gum is also used in paper and textile industries.

karaya gum is effective bulk laxative as gum particles absorbs water and swell to 60–100 times there original volume

## 3. Shellac

**Synonym:** Lacca & Lac

**Biological Source:** Shellac is substance prepared from the excretion of scale insects *Laccifer lacca*.

**Family:** Coccidae.

**Preparation:** The seed lac is melted in alongside sausage formed bag suspended over a charcoal fireplace and the lac is squeezed out. it's miles cooled after which stretched right into a big sheet. it's miles broken up to give flake shellac of commerce. sometimes the shellac is poured into circular moulds and on cooling

**Chemical Constituents:** It consists of wax, crimson colouring be counted, laccaic acid, resin. Hydrolysis of the resin offers a complicated mixture of aliphatic and alicyclic hydroxyl acid and their polyesters.

**Uses:**

It is used for coating confections and medicinal tablets; finishing leather, in lacquers and varnishes.

Used in manufacturing buttons, grinding wheels, seeling wax, cements, inks, records, paper; for stiffing hats; in electrical machines.

It is also used in polishes.



#### 4. Xanthane:

**Synonym:** Xynthan gum

**Biological Source:** Xanthane microbial polysaccharide produced from, *Xanthomonas compestris*.

**Preparation:** one of the techniques of biotechnology, this is, recombinant DNA technology has been duly exploited for the industrial manufacturing of xanthan gum. to start with the genomic banks of *Xanthomonas compestris* are meticulously made in *Escherichia coli* via strategically mobilizing the broad-host-range cosmids getting used as the vector. Finally, the conjugal transfer of the genes take area from *E. coli* into the nonmucoid *Xanthomonas compestris*. Therefore, the wild kind genes are duly separated with the aid of virtue in their precise potential to repair mucoid phenotype. As a result, some of the cloned plasmids incorporated inside the wild kind lines of *Xanthomonas compestris* shall come up with the money for an expanded manufacturing of xanthan gum.

**Chemical Constituent's:**

Xanthan gum composed of D-glucosyl, D mannosyl and D-glucosyluronic acid residues along with different quantum of O-acetyl and pyruvic acid acetal.

**Uses:**

It is used as a stabilizer and suspending agent in emulsion, paints, agricultural and herbicidal sprays. Applications are found in food, pharmaceutical and other industries, used as a viscosity controller in abrasives and adhesives.

**CONCLUSION**

A few polysaccharides obtained from plant life inclusive of carrageen an, alginate, konjac glucomannan, gum arabic, guar gum and locust bean gum have proven first rate capacity as carrier substances in matrix type managed launch dosage forms which includes microparticles, beads, drugs and move-connected hydrogels. Excipients that have never been used earlier than ought to bypass bold regulatory necessities before being included into approved dosage forms.

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