

# *biodegradable polymer*

- ❖ *Product name : BIODEGRADABLE POLYMER*
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# Introduction

- ❖ *Biodegradable polymer* are specific type of polymer that breaks down after its intended purpose to result in natural byproduct such as gases carbon dioxide and nitrogen gas ,water ,biomass and inorganic salts .
- ❖ These polymer are found both naturally and synthetically made and largely consist of ester ,amide, and ether functional groups . Their properties and breakdown mechanism are determined by their exact structure these polymer are often synthesized by condensation reaction ,ring opening ,polymerization , and metal catalysts .there are vast examples and application of biodegradable polymer .
- ❖ A polymer that can be decomposed by bacteria is called a biodegradable polymer . The biodegradable polymer are the polymer which are degraded by the micro-organism within a suitable period , so that the biodegradable polymer their degraded product do not cause any serious affect on the environment.
- ❖ Various examples of natural polymer starch ,cellulose , chitin ,alginates ,proteins etc . Natural polymer does not cause any affect to environment ,so its eco-friendly

# Need of product

- ❖ *Starch is natural polymer consisting of large number of glucose units joined by glycosidic bonds.*
- ❖ *It is renewable and biodegradable and it is also perfect raw material as a substitute for fossil fuel components in numerous chemical application such as plastic , detergents, glues etc.*
- ❖ *It is found in plant by the process of photosynthesis and also called elementary sugar. Its is used in the various field such as industry, agriculture etc .*
- ❖ *by genetic modification starch can be modified & further used in the agriculture field and also by fermentation method it is used in the industry for wine, beer production .*
- ❖ *This product is degradable so we can use this product .*

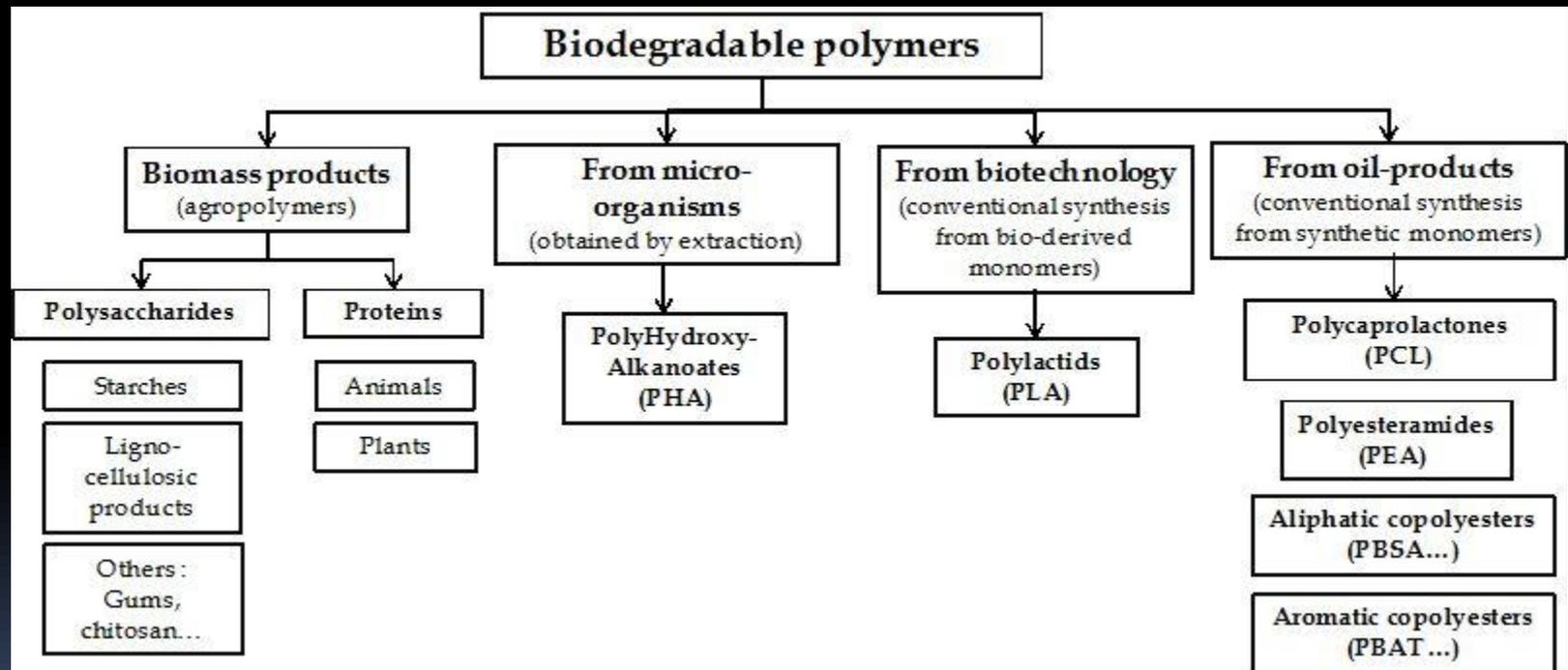
# Features of the product

- ❖ *Compost derived in part from biodegradable substances increases the soil organic content .*
- ❖ *The water and nutrient are retained .*
- ❖ *The chemical inputs and plant diseases are suppressed .*
- ❖ *Biodegradable shopping and waste bags disposed in landfill can increase the rate of organic waste degradation in landfills .*
- ❖ *Methane harvesting potential is also enhanced .*
- ❖ *Biodegradable polymer also offer important environmental benefits through the use of renewable energy resources and reduced greenhouse gas emissions .*
- ❖ *It is non toxic product.*
- ❖ *Capable of maintaining integrity until degraded .*
- ❖ *Capable of controlled rates of degradation .*
- ❖ *Can be modified to get semi synthetic forms .*
- ❖ *Comparatively inexpensive .*
- ❖ *Readily and abundantly available .*

# Raw material

- ❖ *it is found in maize , wheat , and potato from which it is extracted as well as in many other plants : rice ,barley, vegetables ,manioc ,sweet potato .*
- ❖ *Starch is extracted from agriculture raw material which is widely present in thousands of everyday food and non food application.*
- ❖ *Starch perfect raw material as a substitute for fossil fuel components in numerous chemical application such as plastic, detergents, gules etc .*
- ❖ *Starch produced by all vegetables as energy store.*

# Layout of the product



# Marketing strategy

- ❖ 5 key point about the strategy :
  - 1) clearly defined object : product is biodegradable polymer which has many application and benefits to the environment .biodegradable polymer do not cause to the environment .
  - 2) know exactly target audience : our target audience is market how to sell our product more , how product will be like by audience , audience will tell about the product ,how we will impress the audience to buy our product , fullfill the need consumer .
  - 3)optimize for maximum conversion: how we will sell our product, we are giving offer to the customer , or giving free delivery , and giving buy one get one free product on festival we will we decide the prize of the product &its
- also benefited for both seller and customer.
- ❖ 4) be good storyteller : storytelling is an art that become increasingly important for seller because of this customer should be able to relate with your brand with through its unique story .
- ❖ 5) advertisement : promote aggressively it is very essential for market because of the ads information get spread such from television , banners ,pemplate ,newspaper gives the ads on online websites ,poster etc .

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- ❖ *Men power and equipment are needed and also area for industry or company purpose .*
  - ❖ *How will get man power by giving the job with good facilities ,jobs are giving under qualification and payment are under how many hours they work .*
  - ❖ *Planning are already done but work on planning is remain step by step we proceed on planning many difficulties are occur but by solving and choosing the right decision*
  - ❖ *Funding are also main important aspect because of the funding we are marketing the product government also provied and many of the institute giving fund for small and large business many foreign country gives funding to many country*
  - ❖ *It is biodegradable polymer so it can modified and sell or use in the industry such starch is converted into sugar for example by malting and fermented to produce ethanol in the manufacture of beer ,whisky ,biofuel and so on bioplastic bags etc wheatpaste which can be used as a thickening or gluing agent .*

# Characterize the product

- ❖ *We modified the product form the raw material such as product is biodegradable polymer and natural polymer are the best because don not cause to environment and no side effect because it made from natural material .*
- ❖ *Raw material are available in nature such as for starch raw material is potato , maize ,wheat and all vegetables.*
- ❖ *Starch convert into sugar ,sugar come from all the vegetables ,potato ,maize wheat etc from extraction process we can extract product and use in the synthetic process .*
- ❖ *Many biopolymer are now available in market biofuel ,bioplastic, bags this are degradable material which can be degrade in the soil after some processing and after degradation done then soil can use as fertilizers or useful for agricultural field .*
- ❖ *The product is different because of the properties we modified the properties in good way so that product should be benefited for all seller ,consumer and ecofriendly*
- ❖ *No need of more man power ,no more equipment product should be inexpensive attractive ,useful, less money required as compaired to other product*

# future outlook

- ❖ *it is first most important eco friendly , product should be long lasting ,do not cause any harm to environment and to people , do not make pollution .*
- ❖ *For that we have take some precaution for future related to that product modified in that way*
- ❖ *Take more information about the product &in which field we can apply continuously research .*
- ❖ *Most updated for new generation and many changes in the old product will lead to new idea about that product*
- ❖ *how will product more attractive ,benfical , usefull by modifying the product additional material and many things .*
- ❖ *The biopolymer industry has a positive future driven mainly by the environmental benefits of using renewable resource feedstock sources . The ultimate goal for those working in development is to find a material with optimum technical performance and full biodegradability.*

# conclusion

- ❖ *There are a seemingly limitless number of areas where biodegradable polymer material may find use .... The sectors of agriculture ,automotives, medicines and packaging all require environmentally friendly polymer .the various modes of biodegradation are also a key advantage of such material because disposal methods may be tailored to industry specification*
- ❖ *Environment responsibility is constantly increasing in importance to both consumer and industry , although synthetic plastics are a more economically feasible choice than biodegradable ones an increased availability of biodegradable plastics will allow many consumer to choose them on the basis of their environmentally responsible disposal .*
- ❖ *Microbially grown plastic are scientifically sound and a novel idea but the infrastructure needed to commercially expand their use is still costly and inconvenient to develop . Time is of the essences for biodegradable polymer as society current views on environment responsibility make this an idea time for further growth of biopolymers .*