Polyvinyl Alcohol (PVA) Manufacturing Industry

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Capacity</td>
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<td>Plant and machinery cost</td>
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<td>Working Capital</td>
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<td>Rate of return (ROR)</td>
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<td>Break Even Point (BEP)</td>
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<tr>
<td>TCI</td>
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<td>Cost of Project</td>
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Polyvinyl Alcohol (PVA) Manufacturing Industry. The Global Polyvinyl Alcohol (PVA) Market is expected to Reach USD 1.21 Billion by 2025

Polyvinyl alcohol, also known as PVOH, PVA, or PVAL, is a synthetic polymer that is soluble in water. It is effective in film forming, emulsifying, and has an adhesive quality. It has no odor and is not toxic, and is resistant to grease, oils, and solvents. It is ductile but strong, flexible, and functions as a high oxygen and aroma barrier.

Polyvinyl Alcohol (PVA) is produced by polymerization of vinyl acetate monomer followed by hydrolysis. PVA finds application in various end-use industries such as food packaging, paper, textile, construction, coatings, and pharmaceutical. Polyvinyl Alcohol exhibits resistance to moisture and therefore, is predominantly used in the food packaging. Due to high water solubility and biodegradability, PVA has increasingly been used in the packaging industry.

Uses:

Polyvinyl Alcohol use is growing in packaged food products due to the benefits associated with it such as film forming and retention of taste & texture of the product. It is also used in the nutritional supplement pills, tablets and capsules owing to its viscosity. Polyvinyl alcohol is used as an additive in mortar and cement in order to increase of their cohesion and fluidic properties, reducing the drying time for the concrete surface. This increases the coating adaptability and prevents concrete cloth from chapping.

Polyvinyl alcohol is widely used to strengthen textile yarn and papers, particularly to make the latter more resilient to oils and grease. It is also used in freshwater sports fishing. PVA is added into bags that are filled with oil-based or dry fishing bait and attached to the hook. As PVA is soluble in water, when the bag lands on the bed of the water, it breaks down, leaving the hook bait surrounded by pellets and ground bait. This attracts fish to the hook bait, although the PVA does cause the plastic to dissolve in water.

PVA may also be used as a coating agent for food supplements and does not pose any health risks as it is not poisonous. One of the leading industrial uses for PVA is for food packaging, accounting for 31.4 percent of the global share in 2016. To combat moisture formation from foodstuff, PVA film is created to be thin and water-resistant. Its crosslinking density and resistance to moisture are added benefits to its usability in this area.

Polyvinyl alcohol is a resin, a natural or synthetic organic compound made of non-crystalline or viscous substance. Hence, it is often utilized as the starting point for the creation of other resins such as polyvinyl butyral (PVB) or polyvinyl formal (PVF). PVB has an adhesive quality and is a water-resistant, plastic film, which is often used to laminate safety glass for vehicles. PVF is commonly used to insulate wires.

It is also interesting to note that in another growing market, the pharmaceutical market, use of polyvinyl alcohol for coating of medicinal tablets is quite prominent. Its various chemical properties have shown the benefit of its use in health applications, and in particular in pharmaceutics. However, extensive experimentation and pharmaceutical use of PVA/PVOH has been limited due to regulations on food and drugs.

Market Outlook

The global polyvinyl alcohol (PVA) market is expected to reach USD 1.21 billion by 2025, reflecting a compound annual growth rate of 4.59%. PVA finds application in various end-use industries including food packaging, paper, textile, construction, coatings, and pharmaceutical. Polyvinyl alcohol is available in a wide-range of grades, which is also a major positive for the product as it allows end users a wider option to select from. Moreover, the product’s high resistance to moisture, high water solubility and biodegradability makes it suitable for various industrial application. The product is increasingly being used in manufacturing sustainable packaging owing to its physiochemical characteristics. Factors as such are expected to support the global market for PVA during the review period.
Increasing need for biocompatible and non-toxic packaging solutions in food & beverage industry is expected to drive the growth. PVA is extensively used in food packaging industry owing to its advantageous properties such as good crosslinking density and moisture content.

The demand for PVA is expected to boost owing to the growth in various end-use industries in the Asia Pacific region. Different grades of polyvinyl alcohol are used in the papermaking process with high, intermediate and low viscosities. These grades can be either fully, partially or intermediately hydrolyzed in nature.

In addition, changing packaging trends in the cosmetics, and food & beverage industries are also fueling the growth of this region. Furthermore, rising use of biodegradable material by packaging industry in order to prevent pollution is also contributing to the increasing demand for PVA. Rising innovation in packaging coupled with consumers’ demand for properties such as convenience, safety, technology, and sustainability, is expected to fuel the demand for PVA during the forecast period.

Asia Pacific is the fastest growing market for Polyvinyl Alcohol as a result of rapidly growing demand from packaging industry especially pertaining to convenience food, from the working class in the developing economies such as India, China, Thailand, and South Korea. The product demand for packaged food products is growing due to convenience and longer shelf life of the products. Growing healthcare industry is also propelling the market growth with respect to rising disease burden among the consumers.

Increasing need for bio-based PVA alcohol products is key growth factor to drive polyvinyl alcohol market growth. In addition, rising demand from Asia Pacific region is further propelling the demand over the forecast period.

By end use industry, the market has been segmented into packaging, paper, construction, electronics, textile, and medical. Currently, packaging is the leading segment while the textile segment is likely to be the fastest growing segment. The intensive use of PVOH in biodegradable packaging aids the packaging segment to gain the leading position in the market, and currently accounts for 38.2% share of the market. The textile segment is expected to expand at a CAGR of 5.49% owing to extensive use of PVOH for wrap sizing applications. Moreover, increased demand for textiles has resulted in the consistent growth of the textile industry.

The polyvinyl alcohol market is segmented into North America, Europe, Asia Pacific, Latin America, and the Middle East & Africa regions for the purpose of the regional analysis. The Asia Pacific region has emerged as the most rapidly developing market in 2017 and is projected to develop at a strong CAGR of 5.45 percent through the review period and is anticipated to touch USD 791.3 million by the end of 2023. The reinforcing growth of the application industries such as textile, food packaging, and construction can be credited towards this development. The demand for sustainable packaging can be accredited to the market growth in the region. The North American region is another major region in the market for polyvinyl alcohol with growing demand for the product as a polymerization aid.

Demand for Polyvinyl Alcohol as an emulsifying and dispersing agent also boosts the growth of the market. Furthermore, Polyvinyl Alcohol is also used in vinyl-based emulsion in an array of applications including paints & coatings, textile, re-dispersible powders, and construction which adds to the growth of the market.

Growing constructional activities are expected to provide an opportunity for the Global Polyvinyl Alcohol Market as it is used in a number of construction chemicals. However, volatility in the price of raw materials might act as a setback to the growth of the Global Polyvinyl Alcohol Market.

Cost Estimation:
Plant capacity: 2.0 MT/Day
Plant & machinery: 131 Lakhs
Working capital: 149 Lakhs
T.C.I: 358 Lakhs
Return: 62.67%
Breakeven Point: 42.18%

Tags
#Manufacture_of_Polyvinyl_Alcohol, #Polyvinyl_Alcohol_(PVA), #Polyvinyl_Alcohol_Production, #Preparation_of_Polyvinyl_Alcohol_(PVA), Poly (Vinyl Alcohol) (PVA), #Production_of_Polyvinyl_Alcohol, Manufacturing of Polyvinyl Alcohol, #Polyvinyl_Alcohol_Manufacturing_Plant, Polyvinyl Alcohol, Also Known as PVOH, PVA, or PVAL, Properties and Applications of Polyvinyl Alcohol, Manufacturing Process and Application of Polyvinyl Alcohol, Polyvinyl Alcohol (PVA) Manufacturing Process, Polyvinyl Alcohol Uses, Polyvinyl Alcohol Production Business, Process for the Manufacture of Polyvinyl Alcohol, Chemical Compound, Polyvinyl Alcohol Manufacturing Unit, Manufacture of Polyvinyl Alcohol, #Project_Report_on_Polyvinyl_Alcohol_(PVA)_Manufacturing_Industry, #Detailed_Project_Report_on_Polyvinyl_Alcohol_(PVA)_Manufacturing, Project Report on Polyvinyl Alcohol Production, #Pre_Investment_Feasibility_Study_on_Polyvinyl_Alcohol_Production, Techno-Economic feasibility study on Polyvinyl Alcohol (PVA) Manufacturing, #Feasibility_report_on_Polyvinyl_Alcohol_Production, Free Project Profile on Polyvinyl Alcohol Production, Project profile on Polyvinyl Alcohol Production, Download free project profile on Polyvinyl Alcohol (PVA) Manufacturing

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