

# Technical Information

Raw Material I HVB - 0001 PVB 30 MB (HIPOL B 30)



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POLYVINYL BUTYRAL RESIN (HIPOL)

### Introduction

PVB Resin B30 MB is the most versatile grade of Polyvinyl Butyral Resin. PVB Resin B30 MB is most widely used in formulation of Printing Inks, Wash Primer, Specialty Coatings and Adhesives.

### Properties

Sr. No.	Test	Results
1.	Physical Appearance	White Fluffy Powder
2.	Viscosity in Sec @ 30°C (20% solution in Ethanol in FCB4)	180 - 250
3.	Volatile Content (% w/w Max.)	2
4.	Acid Value (MG KOH / GM)	1.0 Max

### General Properties

PVB Resin B30 MB -

- offers excellent adhesion to metals, plastics, glass, ceramics, wood, leather etc. It is having very large surface area combined with medium molecular weight enables faster dissolution in solvent under mild agitation with minimum loss of solvent
- is soluble in low cost solvents like Alcohols, Glycol Ethers & has ability to accept Ester, Ketones etc
- offers excellent film formation property. Film being clear, transparent, odour free & tasteless
- shows excellent outdoor weather resistance against sunlight apart from pigment wetting in non-aqueous medium
- shows excellent compatibility with other film forming resins like Nitrocellulose, Epoxy Resins, Epoxy Alkyds, Phenolic Resins, Polyurethanes, Melamine-Formaldehyde Resins, Ketonic Resins, and Polyamides etc
- has free hydroxyl groups that are chemically reactive & undergo reactions with Phenolic, Isocyanates group of Polyurethanes, Epoxy Resins
- being medium molecular weight resin offering excellent flexibility. It shows good resistance against wide range of chemicals & water
- is a thermoplastic resin with low softening temperature & hence good heat sealing properties. Heat sealing temperature can be reduced by incorporation of plasticizer on the other hand sealing temperature can be increased by incorporating Nitrocellulose. Thermoplasticity can be reduced or eliminated completely by cross-linking reaction involving free hydroxyl groups

### Solubility & Solution Viscosity

PVB Resin B30 MB like other grades in the series has solubility in lower Alcohols, Glycol Ethers, and Cyclohexanone. Resin is insoluble in Aromatic/Aliphatic Hydrocarbons, Esters, and Ketones. Hipol resins are

generally soluble in combination of solvents like Alcohol and Aromatic/Aliphatic, Esters, Ketones. Generally choice of solvents is decided by the nature of substrate and/or mode of application.

## **Applications**

Unique combination of physical and chemical characteristics of PVB Resin B30 MB results in diversity of applications such Printing Inks, Wash Primer, Etch Primer, Paints, Coatings, Adhesives, Ceramics, and Pigment Chips etc.

## **Printing Inks**

PVB Resin B30 MB is an ideal choice for formation of printing inks for flexible packaging industry users (Flexographic & Gravure application). Resin offers good water resistance combined with good blocking resistance, excellent pigment melting characteristics & good flow. PVB Resin B30 MB can be used for formulation of inks used in food packaging application. PVB Resin B30 MB has good adhesion to flexible packaging film like Cellulose Acetate, Polyester, Polystyrene, Metalized Foils etc. Adhesion could be improved by incorporating Polyethylene or Amino Alkyl Silanes.

## **Lacquers**

PVB Resin B30 MB is widely used in clear & good lacquers for Metalized Paper/Foils/Films. Solvent combinations are selected taking into consideration dye solubility & evaporation rate. Preferred solvent combination is Ethanol & Ethylcellosolve, Ethanol & Diacetone Alcohol, Ethanol & N-Propyl acetate, Ethanol & Ethyl acetate.

## **Wash Primers**

One of the well - known application of PVB Resin B30 MB is in formulation of wash primers for steel storage tanks, bottom of ships, airplane, bridges, dam locks, trailers, farm equipment, automotive, rail coaches etc. PVB Resin B30 MB offers flexible adherent film to metal surface there by protecting the surface from corrosion. Further primer allows subsequent printing & provides good bonding.

## **Adhesives**

Adhesive formulations having outstanding interfacial adhesion, flexibility, impact strength, solvent/chemical/heat resistance & low temperature resistance are formulated by incorporating PVB Resin B30 MB into thermosetting adhesive formulations based on Epoxy, Phenolic, Melamine-Formaldehyde Resins and Isocyanates. PVB Resin B30 MB essentially acts as a plasticizer for adhesive formulation. Major applications are in production of copper clad laminates for PCB, honeycomb structures for wings of aircraft, helmets, composites etc.

## **Ceramics**

Hipol solution is widely used as a temporary binder for ceramic powder. At 2 - 4% loading Hipol-Ceramic slurry/rough could be extended/moulded/casted/machined to produce ceramic articles having complex shapes with sufficient green strength. During sintering process Hipol undergoes thermal degradation leaving virtually no residue; during the same time ceramic undergoes irreversible fusion process to give finished product with minimum shrinkage.

## **Available Packing**

10 Kg HDPE Laminated Paper Bag.

## **Shelf Life**

1 year from the date of manufacture provided it is kept in a dry and well ventilated place at ambient temperature.

**Note** - All technical properties are for guidance only. Our data reflect the latest of our knowledge and are based on the characteristics established in the laboratory and on practice experience. No warranties of any kind, either expressed or implied, are made regarding the products here described.