



Specialized in chemicals

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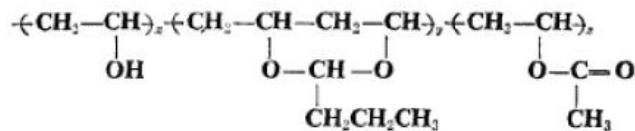
## Technical Data Sheet

# Polyvinyl Butyral

### Product Information

Chemical Name	Polyvinyl Butyral (PVB Resin)
CAS #	63148-65-2
Formula	(C <sub>8</sub> H <sub>14</sub> O <sub>2</sub> ) <sub>n</sub>
Synonyms	

Chemical Structure



### Description

#### Characteristics

PVB Resin is fine-grained, free-flowing white powder. PVB is produced by reacting polyvinyl alcohol (PVOH) with butyraldehyde in an acid medium (acetalization reaction).

It is a thermoplastic polymer showing good mechanical properties, good flexibility, optical clarity and excellent adhesion to different substrates.

It is compatible with a broad range of other resins and shows good solubility in different organic solvents. PVB can be used in a manifold of applications such as industrial coatings, lacquers, primers, printing inks, adhesives, fiber binders, temporary binder for ceramics, Film for safety glass, etc.

#### Recommended Use

Binder for coatings (adhesion promotion/corrosion protection primers, shop primers, wash primers, stoving enamels, varnishes and lacquers for different substrates).

Binder for printing inks.

Co-binder for powder coatings.

Temporary binder for ceramics.

Binder for textile printing and non-woven.

Wetting agent for grindings of organic pigments.  
Adhesives, pressure-sensitive adhesives and hotmelts etc.

### Physical Properties

Melting point, °C .	165-185
Density @ 20°C, g/cm <sup>3</sup>	1.10

### Specification

Butyl aldehyde, %	65-81
Hydroxy, %	≥ 15
Acetyl, %	≤ 3.0
Acid Value, %	≤ 0.15
Vol, %	≤ 3
Viscosity,	40~120

(mPas 10wt% in Ethanol 94% solution at 20 degree)

### Applications

#### Used as coatings

##### Coating for lumber:

The surface-finishing agent for glued boards, substratum coatings for hard boards and insulating materials.

##### Coating for metals:

Mixed with other natural resins, synthetic resins and drying oil, it can better the resistance to impact, flexibility and bond ability of thermoset resins.

##### Priming paint for metals:

PVB resin has very strong adhesiveness to metals, and good bondability to surface coatings. So it can be used as a priming paint for metallic materials, such as steel, aluminium, galvanized iron, copper and so on. And it is widely exploited in boats and ships, bridges, aircrafts and electron devices, etc.

##### Concrete coating:

PVB liquor can be used as substratum coating; the durability of water emulsion coating film can be improved.

##### Waterproof coating:

As a waterproof coating, good result can be achieved after PVB is added in, and it can be used for making tents, overcoats, food bags, etc. Protective coating for gloss surfaces: It is used as varnish for wooden handicrafts, paint for wires and other metal plating surfaces.

##### Coating for leather:

The thin film of PVB shows its very strong extensibility at normal temperature, and it can also maintain this property at low temperature. As a result, it can be used to produce soft and elastic leather films for its distinctive character.

##### Coating for vacuum vapor deposition:

PVB liquor can be adhesive to the surfaces of plastic,

##### Paper and metals.

So it can be used for vacuum vapor deposition, for instance, the adhesive for vacuum aluminium plating and

the coating for its processing surface.

**Coating for metal foil:**

Coat PVB liquor on metal foil, then the strength and moisture resistance of foil can be improved, and heat sealing just can wrap foil wholly, applying to the package of foodstuff, such as chocolate, biscuits, and automatic packing of medicine and camera attachments, etc. Oil-ink for metals: Mixed with nitro-cotton and malefic acid resin, etc., it can be used as oil-ink for aluminium and copper sheets, etc.

**Used as adhesives**

**Adhesive to enamel-insulated coils of wire:**

Coat PVB liquor on the coils and heat it, then the coils can be adhered.

**Adhesive to metals:**

When PVB is mixed with phenolic resin, it can be made up into acetal phenolic glue of different specifications and used to adhere various metals. Coat the liquor on the surfaces of metals, and after it vaporates, the coated metals are pressed heat.

**Adhesive to glass:**

PVB resin has very high adhesive force, it is used to adhere glass for its moderate elasticity and softness.

**Adhesive for "Transfer Printing Trademarks":**

PVB can be used as the adhesive agent of "Transfer Printing Trademarks" For porcelains. For instance, "Pattern Papers for Porcelains" has become one of its important uses. In addition, it can also be used for "Transfer Printing Trademarks" in textile products.

**Pressure-sensitive adhesive:**

It is used as raw material of pressure-sensitive adhesive tapes, such as the adhesive tape for glass paper, polyethylene adhesive tape and so forth.

**Adhesive for heat sealing:**

PVB can be mixed with natural resins, synthetic resins and plasticizing agent and used as adhesive for heat sealing.

**Film adhesive bond:**

PVB is mixed with other synthetic resins, synthetic rubber and plasticizing agent, then it can be used to adhere cloths or other materials by heating.

**Adhesives for other uses:**

PVB can be used as materials to produce adhesive for non-woven fabric, adhesive for electrostatic flocking and adhesive for leather.

**Application in fiber processings**

**Coating:**

Coat PVB liquor added in with plasticizing agent on kinds of textile products, and the goods are awarded the properties of water-proofness and resistance to soiling, etc., and it won't destroy the original feel and style. And the processing result can be improved by adding cross-linking resin and curing agent in, etc. PVB emulsion can also be processed in this way.

**Dyeing and printing of clothes:**

Both PVB liquor and emulsion can be used for dyeing and printing of cloths. Further more, the dyeing and printing result is satisfying. It is good in washing resistance and non-discoloration. The abrasion-proofness and pliability of cloths can be improved by improved by finishing with other resins.

**Packaging**

15kg per PP bag  
8.10mt per 20ft container

### **Storage & Handling**

Always refer to the Material Safety Data Sheet (MSDS) for detailed information on handling and disposal.

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