

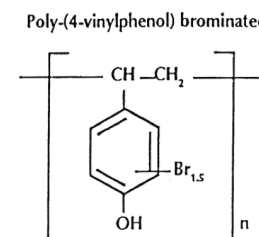
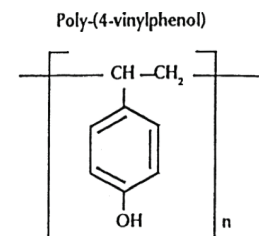
TECHNICAL DATA SHEET 198

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Poly-(4-vinylphenol) and Poly-(4-vinylphenol) brominated

TYPICAL PROPERTIES:

	<i>Poly-(4-vinylphenol)</i>	<i>Poly-(4-vinylphenol) brominated</i>
Appearance	white-orange powder	pale-orange powder
Weight-average MW	1,500-7,000	3,000-14,000
OH-Equivalent	about 120	224-246
Melting Point	160-200°C	190-220°C
Decomposition Temperature:		
10%	320-340°C	320°C
50%	360°C	340°C
Residue	10-30%	20-40%
Specific Gravity	1.2g / cc	1.8-2.0g / cc
Water Content	2-3%	1%
Monomer Content	up to 1%	up to 1%
Oligomer	up to 2%	up to 2%
Bromine	---	47-52%
Solubility:		
Soluble in	polar organics	polar organics
Insoluble in	hydrocarbons	hydrocarbons



Poly-4(4-vinylphenol) is thermally stable at 300°C. This soluble reactive polymer has excellent dimensional stability and chemical resistance. It finds applications for printed circuits, electric insulators, and support polymers for peptide synthesis and antibody binding. The polymer undergoes typical aromatic chemical reactions such as halogenation, sulfonation, nitration, diazocoupling, quarternization, Friedel-Crafts and Mannich reactions. The brominated analog containing 50% bromine is also available as a flame retardant.

Epoxy cured Poly-4(4-vinylphenol) shows improved properties over conventional epoxies and offers material suitable for high grade copper clad laminates. The copper clad laminate has outstanding thermal stability, enough to withstand solder float for 3 minutes at 350°C and retains 70% flexural strength at 150°C. Peel strengths are excellent (12lb/in at room temperature, 6lb/in at 200°C), and they are virtually not lowered after being solder floated or immersed in various chemicals.

High glass transition temperature, (170-180°C), superior dimensional stability, low z-coefficient of thermal expansion (200 x 10⁻⁶ in/in°C at 200°C) and low water absorption are principal properties. Poly-4(4-vinylphenol) has good compatibility with common synthetic resins such as phenolic, melamine, polyester, epoxy, urethane, alkyd, acrylate, vinyl acetate, and polyvinyl alcohol resins. Toxicological investigations with rats, mice, and guinea pigs on Poly-4(4-vinylphenol) and Poly-4(4-vinylphenol) brominated exhibited no symptoms of acute and subacute toxicity or skin irritation.

ORDERING INFORMATION:

Cat. #	Description	Size
06527	Poly-4(4-vinylphenol)	10g
		50g
09762	Poly-4(4-vinylphenol) brominated	50g

REFERENCES:

1. Packham, D.I., J. Chem. Soc., 2617 (1964).
2. Blasius, E., et al., Die Agnew. Makromol., Chem., 12, 167 (1970).
3. Fridkin, M., et al., JACS, 90, 2953 (1968).
4. Williams, R.E., J. Polymer Sci., A-1, 10, 2123 (1972).

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