

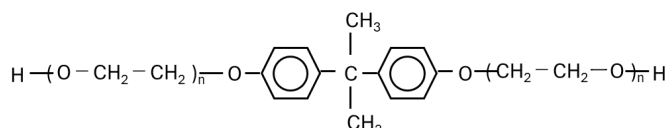
# NEWPOL BPE, BP Series

## Product Features

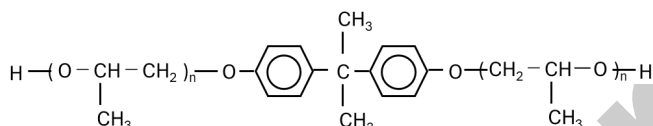
NEWPOL BPE and BP are used as raw materials for resins such as polyester and polyurethane resins and as resin modifiers.

### •Chemical Structure

NEWPOL BPE Series



NEWPOL BP Series



### •Applications

Polyester resins (heat resistant resins, toner binders, engineering resins)

Polyurethane resins (coatings, urethane modified acrylate adhesives, casting sand binders)

### •Application Methods

Example of use as raw material for polyester resin-based paints

•Raw material

Raw materials Mass ratio (molar ratio)

- (1) NEWPOL BPE-20: 189.8 (0.56)
- (2) Ethylene glycol: 107.2 (1.65)
- (3) Dimethyl terephthalate: 203 (1.00)
- (4) Zinc acetate: 0.09
- (5) Antimony trioxide: 0.09

•Synthesis method

(1), (2), (3), (4), and (5) above are fed into a reaction vessel and melted, followed by a normal pressure dehydration-condensation reaction and then a decompression dehydration-condensation reaction. The reaction endpoint is set at a Tg of 70°C or higher.

•Properties of Synthetic Polyester Resin for Coatings

Appearance: Pale yellow solid

Tg: 73°C

Weight average molecular weight (GPC): 102,000

•Coating

The resulting resin is blended with organic solvents, pigments such as titanium dioxide, and melamine resin to form a coating.

**•Typical Properties (These data aren't specifications.)**

Name of product	Appearance (20±5°C)	Number of colors (Hazen)	Hydroxyl value	Acid value	Viscosity [mPa·s (60°C)]	pH	Moisture content [%] *5
BPE-20	White solid (block)	30 *2	344	0.1	-	7.2 *3	0.2
BPE-40	Colorless to pale yellow liquid	20	276	0.05	278	6.5 *3	0.04
BPE-60	Colorless to pale yellow liquid	10	228	0.05	174	6.2 *4	0.04
BPE-100	Colorless liquid	10	167	0.06	120	5.9 *4	0.04
BP-23P	Colorless to light yellow liquid*1	20	310	0.03	1,230	6.8 *3	0.03
BP-5P	Colorless liquid	10	211	0.02	180	6.8 *3	0.03

\*1 Solid at 20°C

\*2 Melted and measured at 110°C

\*3 Measured by dissolving 10g sample in 60mL of water/isopropanol = 60/100 (vol ratio, pH 7)

\*4 Measured in 1 mass% aqueous solution

\*5 Measured by the Karl Fischer method

**•Packaging**

BPE-20 : Net 20kg paper bag  
 Others : Net 18kg can