

# Biobased polyester polyol

Corporate Website  
Product information



**GX-1499-100 · GX-1500-100 · GX-1501-100**

Most or all of the components of the polyol are derived from biomass.  
※ Biobased synthetic polymer content : 70 ~ 100% (ISO 16620-3 compliant)

General properties		GX-1499-100	GX-1500-100	GX-1501-100
Biobased synthetic polymer content*		100%	98%	70%
OH value(mgKOH/g)		112	75	112
Acid value(mgKOH/g)		<1.0	<1.0	<1.0
Molecular weight(Mn) **		1000	1500	1000
Viscosity(mPa·s/75°C)		100	400	850
Tg		-50°C	N.D.	N.D.
Melting point		N.D.	54°C	2°C
Feature		Amorphous	Crystalline	Crystalline
Solvent solubility**	Acetone	○	○	○
	MEK	○	○	○
	DMF	○	○	○
	EtOAc	○	○	○

\*Biobased synthetic polymer content : amount of biobased synthetic polymer present in the product, ISO16620-3 compliant.

\*\*Mn : Calculated from OH value.

\*\*Solvent solubility : Dissolved at room temperature for GX-1499-100, 50°C for GX-1500-100, GX-1501-100 and at 70% solid content.

## Polyurethane polymerization properties / Polyurethane resin properties

Polymerization conditions : Polymerization using TDI\*(1.1 eq) in DMF at 80°C for 6 hours (No catalyst).

Polyol		GX-1499-100	GX-1500-100	GX-1501-100	PPG**	PTMG**
Polyurethane polymerization properties	Mw	29000	38000	42000	22000	159000
	Mn	13000	19000	21000	11000	80000
	Mw/Mn	2.2	2.0	2.0	2.0	2.0
	Tg	-31°C	N.D.	-12°C	-37°C	N.D.
	Melting point	N.D.	46°C	N.D.	N.D.	N.D.

\*TDI : Tolyene diisocyanate (CAS No. : 26471-62-5) \*\*PPG : Polypropylene Glycol 1000 (Diol Type, CAS No. : 25322-69-4)

\*\*PTMG : Poly(tetramethylene ether) Glycol 1000 (CAS No. : 25190-06-1)

Polyol		GX-1499-100	GX-1500-100	GX-1501-100	PPG**	PTMG**
Polyurethane resin properties	Feature	Colorless Tacky	Light white No tacky	Colorless Tacky	Colorless Tacky	Colorless Tacky
	Heat seal strength (N/15mm)	1.0	0.1	2.8	0.2	1.4
	Adhesion to PET	○	△	○	○	△
	Ethanol resistance (99%)	×	×	△	×	×
	Ethanol resistance (50%aq)	△	○	○	×	△

**Results** ○ : no change △ : whitening × : dissolution

- Heat seal condition (base material : PET film) : drying condition 120°C×5min, dry thickness about 3μm, heat seal pressure : 1 MPa×1 sec (80°C).
- Coating condition (base material : PET film) : drying condition 120°C×5min, dry thickness about 3μm.
- Ethanol resistance : Appearance change after rubbing (5 round trips) with a cotton swab, soaked in solvents.

