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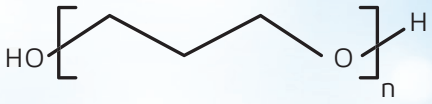
AUSTIN

Austin Chemical Company, Inc.

VELVETOL®

PO3G Polypropanediol

Molecular Weight: 500 – 2700 g/mol
CAS-No.: 345260-48-2



Properties of Velvetol®

Property	Units	H500	H1000	H2000	H2700
Content	%	100	100	100	100
Molecular weight	Dalton	400 - 600	900 - 1100	1900 - 2100	2600 - 2800
Hydroxyl number	mg KOH/kg	280 - 187	125 - 102	59,1 - 53,4	40,7 - 43,9
CPR * (Alkalinity)	meqKOH / 30 kg	-2,0 - +2,0	-2,0 - +2,0	- 2,0 - +2,0	-2,0 - +2,0
	ppm	< 5	< 5	< 5	< 5
Acid number	mg KOH/g	< 0.05	< 0.05	< 0.05	< 0.05
Na metal content	ppm	< 10	< 10	< 10	< 10
Other Metal Content**	ppm	< 5	< 5	< 5	< 5
Peroxide Content	ppm	< 5	< 5	< 5	< 5
Water	ppm	< 500	< 500	< 500	< 500
Colour	max 50	max 50	max 50	max 50	max 120
Viscosity 40°C	mPas	90 - 120	200 - 300	750 - 900	1450 - 1850
Density 40°C	g/ml	1.02	1.018	1.016	1.016
Melting Point	°C	0 - 5	12 - 14	16 - 18	23 - 25

** K, Ca, Mg, Fe, Al

*** Includes bio-based stabilizer

Velvetol® a plant-derived polyol, stands out with its consistent quality and range of applications

Outstanding properties of Velvetol®

- Low mp (9–22°C), low viscosity (100–1500 cp)
- High boiling point (>340°C)
- Low freezing point (down to –50°C with additives)
- High thermal heat capacity
- Pumpable liquids (9–19°C) versus (poly tetramethylene ether)-glycol (23–28°C)
- Hydrolysis resistant, high oxidative stability
- More resistant against acid and heat compared to PTMEG
- Water-soluble / insoluble depending on the molecular weight
- Excellent abrasion resistance
- Improved flexibility and low temperature (Tg<30°C)

Unique characteristics of Velvetol®

- Increases the content of bio-based materials in end products (up to 80% in elastomers, up to 30% in plasticizers)
- Good processibility (low mp, low viscosity, slow crystallization rates, low Tg)
- Thermo-oxidatively stable
- Increased durability in various end use applications including artificial leather and coatings
- 100% sustainable content
- Environmentally friendly and safe
- Low volatility and bio-degradable
- Clear liquids with low or no melting points

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Various Application Fields of Velvetol®

If you are looking for a green, safe, effective and compatible alternative for commonly used petroleum-based ingredients and polyols for your final product formulations, Velvetol® is the answer. Offering exceptional performance and superior value to end-products in various markets, Velvetol® should be your first choice for making high-performance thermoplastic elastomers (TPE), performance coatings, ink-jet inks, functional fluids, apparel and footwear.

High-Performance TPE

Velvetol® is an ideal high-performance alternative to petroleum-based ingredients used in PU (polyurethane), COPA (copolyamide) and COPE (copolyester) elastomers. Velvetol® allows an easy drop-in, soft-segment replacement for PTMEG thermoplastic elastomers, offering unique characteristics including good chemical resistance, high mechanical strength and toughness as well as increased softness and elastic recovery.

Performance Coatings

Velvetol® can be used as an ingredient or additive for auto refinishing, industrial metal coatings and PU dispersions in any or all of the coating layers, replacing any petroleum-based polyols. For base coatings, Velvetol® provides excellent adhesion to metal. With color coatings, Velvetol® offers outstanding color dispersion and chip resistance. When used as an additive in clear coatings, Velvetol® provides increased flexibility and improved gravel and flake resistance.

Ink-jet Inks

Velvetol® based polyurethane added to pigment-based ink-jet ink formulations ends up in distinctive, value added characteristics without compromising functionality. Velvetol® based pigment inks combine the depth and clarity properties of dyes with the inherent durability of pigments.

Functional Fluids

Thanks to its excellent features such as increased thermal conductivity, improved thermal stability and lubricity, excellent low temperature properties as well as low toxicity and inherent biodegradability, Velvetol® is an ideal base fluid for lubricants, dielectric coolants and heat-transfer fluids.

Apparel and Footwear

Due to its superior abrasion resistance and moisture vapor transmission rate Velvetol® is the perfect choice for footwear and performance textile applications, including leathers.

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