



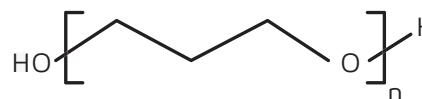
MEMBER OF WEYLICHEM  
GROUP OF COMPANIES

# VELVETOL®

## P03G Polypropanediol

### Properties of Velvetol®

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



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	mPa·s	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

# 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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