

VESTANAT® T 1890**GENERAL DESCRIPTION**

VESTANAT® T 1890 is a cycloaliphatic polyisocyanate based on isophorone diisocyanate (VESTANAT® IPDI). It contains isocyanurate groups and has a NCO-functionality between 3 and 4. VESTANAT® T 1890 is available in n-butyl acetate (VESTANAT® T 1890 E), n-butyl acetate / solvent naphtha = 1:2 (VESTANAT® T 1890 L), and solvent naphtha (VESTANAT® T 1890 SN). Each is a low to medium viscosity liquid. VESTANAT® T 1890 is also available as a solvent-free, solid material (VESTANAT® T 1890/100).

SPECIFICATION

Property	VESTANAT T 1890 E	VESTANAT T 1890 L	VESTANAT T 1890 SN	Unit	Test method
Non volatile matter (test conditions)	70 ± 1 (1.2 - 1.5 g 1 h 150°C)	70 ± 1 (1.2 - 1.5 g 1 h 150°C)	70 ± 1 (0.2 g 1 h 120°C)	% by wt.	DIN EN ISO 3251
NCO Content	12.0 ± 0.3	12.0 ± 0.3	12.0 ± 0.3	% by wt.	DIN EN ISO 11909 ASTM D 2572
Viscosity at 23 °C	0.9 ± 0.25	1.7 ± 0.4	2.0 ± 0.6	Pa·s	DIN EN ISO 3219
IPDI monomer	≤ 0.3	≤ 0.3	≤ 0.3	% by wt.	DIN EN ISO 10 283

TYPICAL DATA

Property	VESTANAT T 1890 E	VESTANAT T 1890 L	VESTANAT T 1890 SN	Unit	Test method
Solvent	n-butyl acetate	n-butyl acetate/ solvent naphtha (1:2)	solvent naphtha	-	-
Density at 15 °C	1.06	1.06	1.06	g/cm ³	DIN 51 757 ASTM D 2111
Colour (Hazen)	≤ 80	≤ 80	≤ 80	mg Pt/l	DIN EN ISO 6271

PROPERTIES AND APPLICATIONS

VESTANAT® T 1890 is used as a crosslinker in 2K-PUR paints based on suitable polyesters, acrylates, flexible medium-oil or short-oil alkyd resins and other resins containing OH-groups. In combination with suitable polyols, polyurethane paints with outstanding weather resistance and light fastness are obtained. By partial use of VESTANAT® T 1890 in 2K-PUR paints based on linear aliphatic polyisocyanates the drying performance, the surface hardness, the pot life or the chemical resistance against environmental etch can be improved.

Typical applications are automotive OEM and car repair paints, fleet coatings, maintenance coatings, etc. VESTANAT® T 1890 is also available as 100 % solids material.

VESTANAT® T 1890 E, VESTANAT® T 1890 L and VESTANAT® T 1890 SN may be diluted with aromatics and esters to a solids content of 10 % by wt. without separation or precipitation. Diluting with mineral spirits e.g. Kristallöl 21/30*, solids contents below 30 % by wt. should be avoided.

Solvents for diluting VESTANAT® T 1890 should in general be of urethane grade, i.e. the water content should be below 0.05 %. Also protic solvents like alcohols or amines have to be avoided.

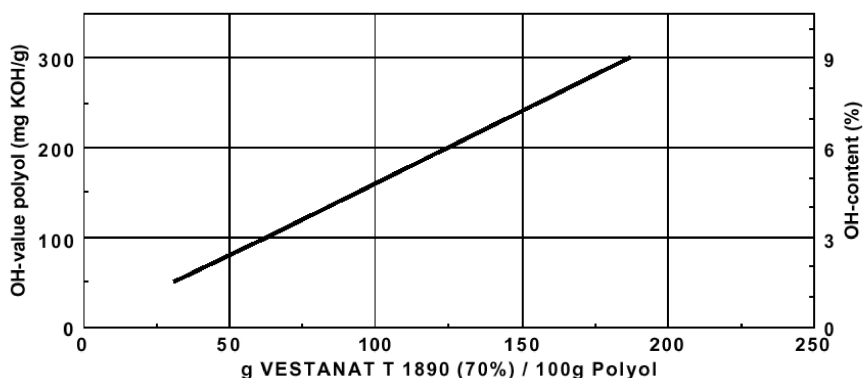
CATALYSTS

The basic reactivity of VESTANAT® T 1890 is lower compared to linear aliphatic polyisocyanates. Slow curing at ambient temperature and extremely long pot life can be a consequence of inadequate catalysis. In order to improve the reactivity, the use of tin or bismuth based catalysts are recommended. The amount to be used depends on the type and the OH-number of the resin and is typically in the range of 0.01 and 0.1 % by wt., calc. on solids. More information are available on request.

CONCENTRATION OF CROSSLINKING AGENT

The amount of VESTANAT® T 1890 in a 2K PUR paint is mainly depending on the hydroxyl content of the polyol. A stoichiometric crosslinking ratio of NCO : OH = 1:1 is recommended. The addition of excessive VESTANAT® T 1890 should be avoided, a slight under-crosslinking can be advantageous in certain applications. The diagram below gives an indication of the recommended ratios.

Ratio of VESTANAT T 1890 and polyol at a stoichiometric level of NCO : OH = 1:1



- *Kristallöl 21: mineral spirit, 19 % by wt.-aromatics, boiling range 130 – 175 °C
- *Kristallöl 30: mineral spirit, 19 % by wt.-aromatics, boiling range 145 – 200 °C
- *Solvent Naphtha: blend of aromatics, boiling range 165 – 179 °C

STORAGE AND PACKAGING

VESTANAT® T 1890 E, -L, -SN can be stored in unopened containers for at least one year without loss of quality in accordance with the above specification.

VESTANAT® T 1890 E and VESTANAT® T 1890 L are supplied in non-returnable cans of 30 kg and non returnable 200 kg drums; VESTANAT® T 1890 SN is supplied in non returnable 200 kg drums.

SAFETY AND HANDLING

The product is used as raw material for the industrial manufacture of resins and hardeners for coating materials, adhesives, sealants and elastomers. The handling of such materials containing reactive polyisocyanates and residual monomeric diisocyanates requires appropriate protective measures. Therefore these products may be used only in industrial or professional applications. They are not suitable for use in homemaker (DIY) applications.

Please refer to our Safety Data Sheet.

This data sheet replaces all former issues.

VESTANAT® is a registered trademark of Evonik Industrie AG or one of its subsidiaries.

Disclaimer

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