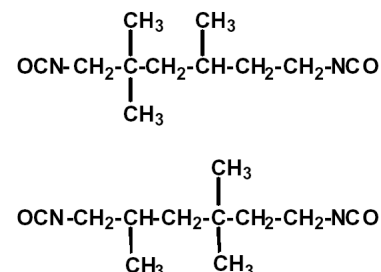


VESTANAT[®] TMDI

2,2,4-Trimethyl-hexamethylene diisocyanate

2,4,4-Trimethyl-hexamethylene diisocyanate



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General description

VESTANAT TMDI is an aliphatic diisocyanate bearing methyl groups. It represents a mixture of 2,2,4- and 2,4,4-trimethyl-hexamethylene diisocyanate (about 1 : 1). VESTANAT TMDI is a low viscosity, colourless liquid with a weak but specific odour.

Specification

Property	Value	Unit	Test method
NCO content	39.7 – 40.0	% by wt.	EN ISO 11 909 ASTM D 2572
Purity	≥ 99.5	% by wt.	gas chromatography

Typical data

Total chlorine	≤ 10	ppm	–	–
Density at 20 °C	1.010 – 1.016	g/cm ³	DIN 51 757	ASTM D 2111
Viscosity at 23 °C	5 – 8	mPa·s	DIN EN ISO 3219	–
Colour (APHA)	≤ 10	–	DIN/ISO 6271	–
Refractive index n _D ²⁵	1.461	–	DIN 51 423, Part 2	–
Vapour pressure at 20 °C	2.7 · 10 ⁻³	hPa	–	–
Flash point (closed cup)	148	°C	DIN 51 758	–
Ignition temperature	440	°C	DIN 51 794	–

Properties and Applications

Being an aliphatic diisocyanate VESTANAT TMDI is used to manufacture light and weather resistant polyurethanes. In contrast to cycloaliphatic diisocyanates VESTANAT TMDI imparts flexible segments to the resulting polyurethanes. Polyurethane resins based on VESTANAT TMDI exhibit excellent compatibility. The property profile of the resins is highly influenced by the coreactants, e.g. the polyols.

VESTANAT TMDI is used for manufacturing of urethane modified resins for coatings. The characteristics of the resulting derivatives are high flexibility, excellent compatibility and low viscosity. Applications are e.g. heat curing systems, polyurethane dispersions and radiation curable urethane acrylics. Even proportional use of VESTANAT TMDI in the diisocyanate moiety may lead to significant changes with regard to above mentioned properties.

Reactivity and Catalysis

As an aliphatic diisocyanate VESTANAT TMDI is less reactive than aromatics but it is significantly more reactive than cycloaliphatic diisocyanates. If acceleration is necessary, 0.001 to 0.01 % dibutyl tin dilaurate (DBTDL) is recommended.

Storage and Packaging

VESTANAT TMDI can be stored in unopened containers for at least one year without loss of quality in accordance with the above specification.

VESTANAT TMDI is supplied in non returnable 25 kg cans and 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.

For further information on the safe handling of VESTANAT TMDI please refer to our Material Safety Data Sheet.

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