DURANATE™ TPA-100

AsahiKASEI
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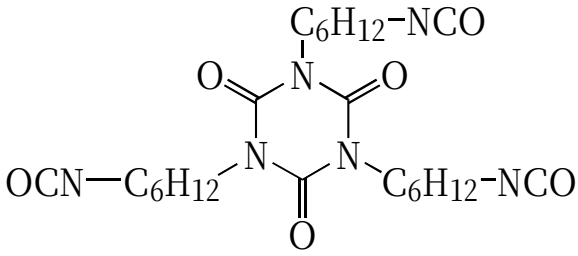
Type Aliphatic Polyisocyanate (HDI Trimer)



Features

High NCO content

Lower viscosity

Good coated film appearance

Good weather resistance

Low residual monomer

Applications

Two-component applications

Plastic coatings

Auto refinish coatings

Automobile, motorcycle ; base coat and top coat

Heavy duty coatings

Typical properties

Appearance	Colorless to slightly yellowish clear liquid
Non-volatile	100 wt%
Solvent	None
NCO content	23.1 wt%
Viscosity	1,400 mPa · s at 25℃
Color value	< 1 (Gardner)
NCO equivalent weight	Approx. 182
Flash point	252 ℃
Density at 20℃	1.17

These values provide general information and are not part of the product specifications.

Stability / thinnability

DURANATE™ TPA-100 can be thinned with esters, ketones and aromatic, hydrocarbons such as ethyl acetate, butyl acetate, methoxypropylacetate(PMA), methyl ethyl ketone, methyl-butyl ketone, cyclohexanone, toluene, xylene, Solvesso #100 and mixture thereof. Generally speaking, it has good compatibility with the solvent mentioned. However, the solutions formed must be tested for their storage stability.

Only PU grade solvents can be used (max. 0.05% water, absence of reactive groups such as hydroxyl or amines groups). Aliphatic hydrocarbons such as hexane, cyclohexane, methylcyclohexanes and mineral spirits, are unsuitable as solvents because of their poor solubility.

Aromatics	Toluene	+
	Xylene	+
	Solvesso#100	+
Esters	Ethyl acetate	+
	n-Butyl acetate	+
Ketones	Methyl ethyl ketone	+
	Methyl iso-butyl ketone	+
Ether-esters	Methoxypropylacetate (PMA)	+
Aliphatics	Cyclohexane	~
	Methylcyclohexane	~
	Mineral spirit	~

+ ; Soluble, ~ ; Insoluble

DURANATE™ TPA-100 should not be thinned to below a solid content of 40%.

Prolonged storage of solution with lower solid content may result in turbidity and sedimentation.

Compatibility

With polyisocyanates		Resin solution
DURANATE™	24A-100	+
	22A-75PX	+
	21S-75E	+
	TPA-90SB	+
	TKA-100	+
	MFA-75X	+
	TSA-100	+
	TSS-100	+
	TSE-100	~
	E-402-90T	+
	E-405-80T	+
	D-101	+
	D-201	+
VESTANAT	T1890L	+
	T1890E	+
Desmodur	Z4470	+

+ ; Soluble, ~ ; Insoluble

With polyols and other resins		Resin solution	Dried film
Acrydic	A801	+	+
	A801-P	+	+
	A851	+	+
	50-257	+	+
Halwemer	F-45	+	+
Hypomer	FX-2050	+	+
	FX-3070	+	+
Setalux	1198	+	+
	1753	+	+
Lumiflon	LF-100	+	+
	LF-200	+	+
	LF-400	+	+
		+ ; Soluble, ~ ; Insoluble	+ ; Transparent, ~ ; Hazy

Mixing ratio of DURANATE™ TPA-100 with polyols is based on NCO/OH equivalent ratio of 1/1.

Storage

DURANATE™ TPA-100 is sensitive to moisture and should therefore always be stored in sealed containers.

Characteristics of viscosity

1. Solid vs. Viscosity

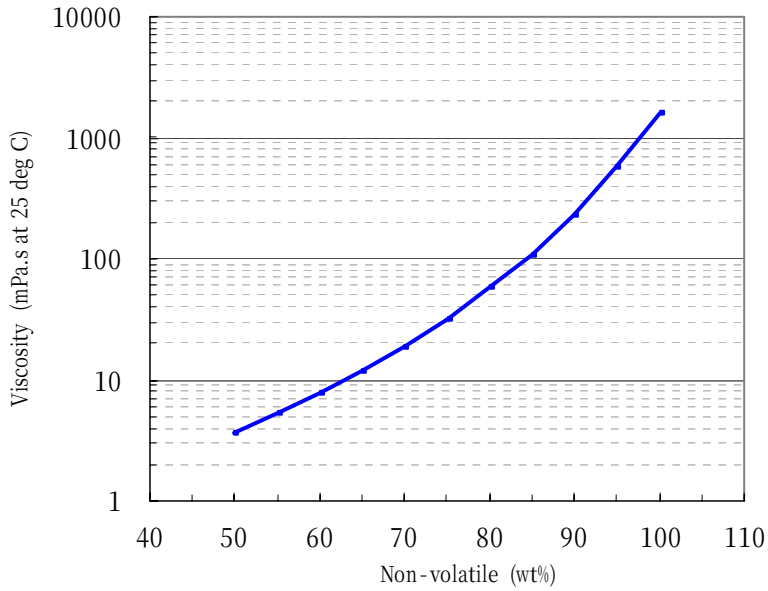


Fig-1. Dilution behavior of DURANATE™ TPA-100

2. Temperature vs. Viscosity

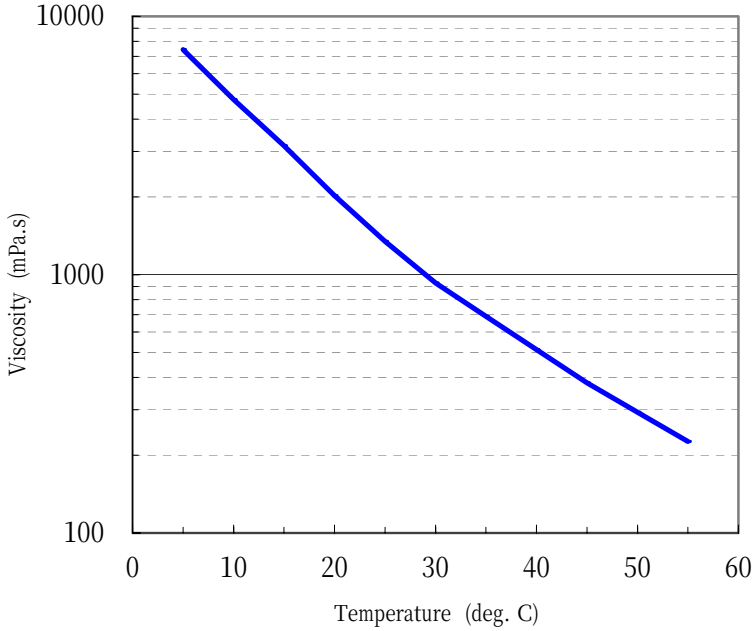


Fig-2. Temperature behavior of DURANATE™ TPA-100

Weatherability

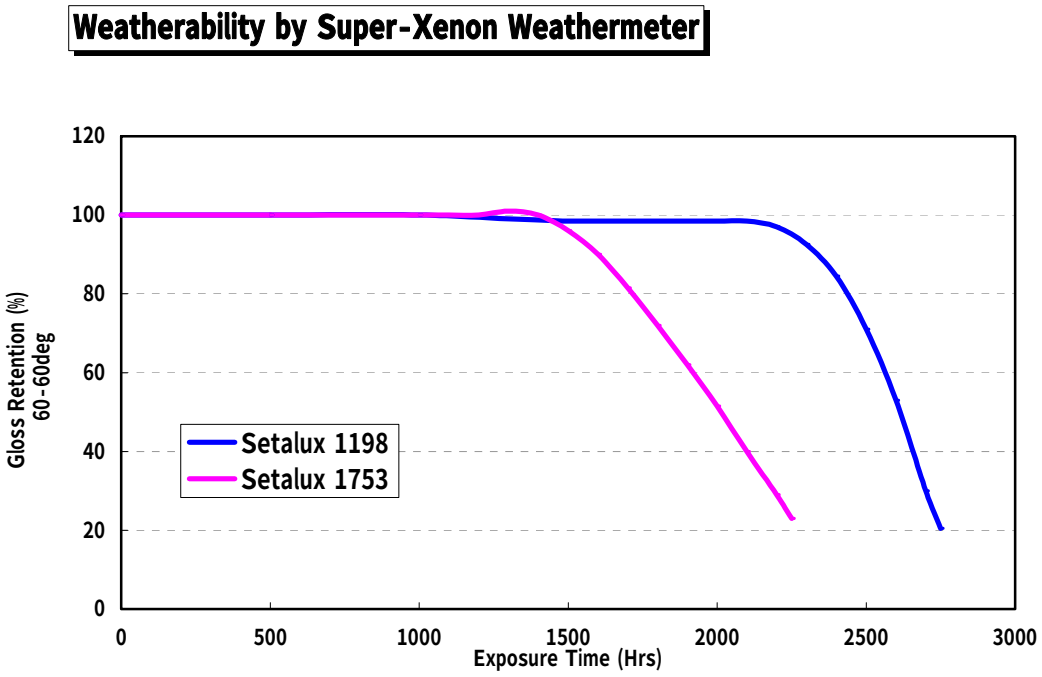


Fig-3. Weatherability of DURANATE™ TPA-100 with acrylic polyol

Polyol; Setalux 1198 & 1753 (Nuplex Resins)

Weathered by Super-Xenon Weathermeter

For further information:

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