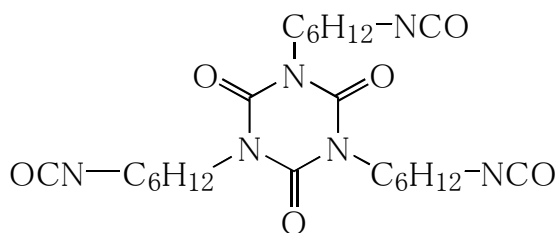


Type Aliphatic Polyisocyanate (HDI Trimer)



Features

- # High NCO content
- # Low viscosity
- # Good coating film appearance
- # Good weather resistance
- # Low residual monomer

Applications

- # Two-component applications
- # Plastic coatings
- # Automotive refinishes
- # 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	21.7 wt%
Viscosity	2,600 mPa · s at 25°C
Color value	< 1 (Gardner)
NCO equivalent weight	Approx. 194
Flash point	252 °C
Relative density	1.17(20 °C) (H ₂ O = 1)

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

Stability / thinnability

DURANATE™ TKA-100 can be thinned with esters, ketones and aromatic hydrocarbons such as ethyl acetate, butyl acetate, methoxypropylacetate(PMA), methyl ethyl ketone, methyl iso-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™ TKA-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-100	+
	TPA-90SB	+
	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

Desmodur; Covestro AG, VESTANAT; Degussa

With polyols and other resins

Resin solution

Dried film

Acrylic	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

Acrylic; DIC Co.,Ltd., Halwemer; DSM NeoResins, Hypomer; Deuchem Co.,Ltd., Setalux; Nuplex Resins(ex-Akzo Nobel Resins' product) ,Lumiflon; Asahi Glass Co.,Ltd.

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

Storage

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

Drying and curing properties at 23°C, 50RH%

	DURANATE™ TKA-100	Comparison
Hardness (Koenig)		
Glass=180 oscillation		
1 Day	39	40
2 Days	72	81
4 Days	113	120
6 Days	143	140
7 Days	143	140
Gel-fraction (wt%)		
1 Day	35	45
2 Days	79	82
4 Days	93	93
5 Days	94	94
7 Days	95	95

Weatherability

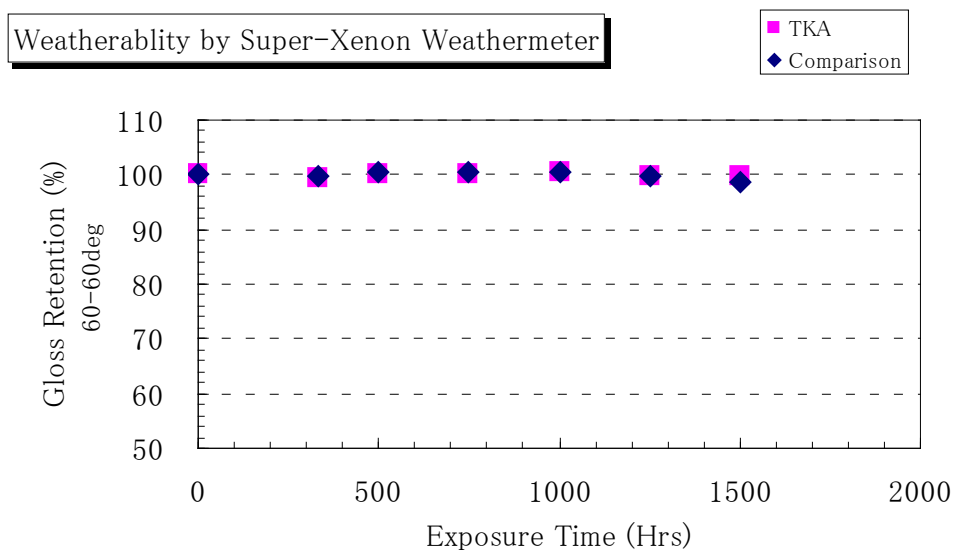


Fig-1. Weatherability of DURANATE™ TKA-100 with acrylic polyol
 Polyol: Acrylic A801 (supplier DIC Co., Ltd.)

Weatherability measured by Super-Xenon Weathermeter

Weathering conditions;

	light exposure	light + Spray
Temp.;	Black panel =63°C	temp.=28°C
Humidity(%);	50	95
Energy W/m ² ;	180	180
Time;	102 min	18 min

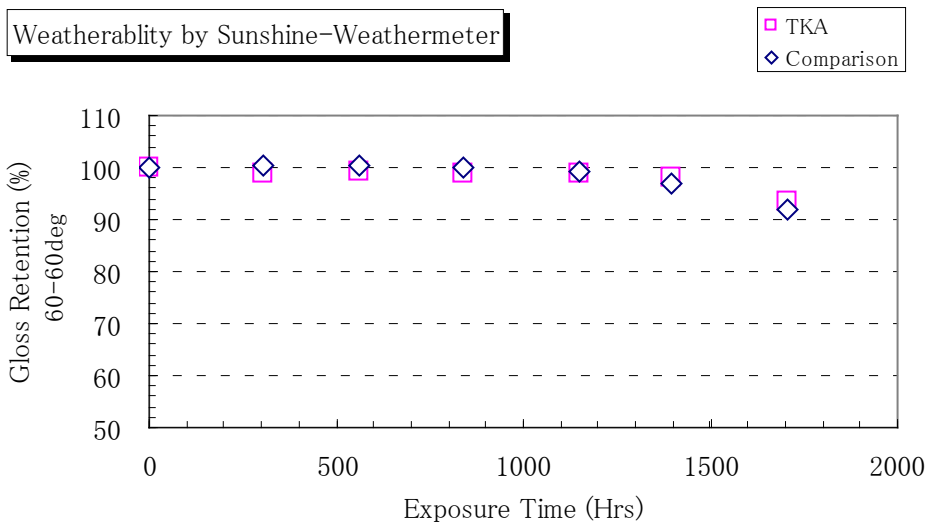


Fig-2. Weatherability of DURANATE™ TKA-100 with acrylic polyol

Polyol: Acrylic A801 (supplier DIC Co., Ltd.)

Weatherability measured by Sun-shine Weathermeter

Weathering conditions;

	light exposure	light + Spray
Temp.;	Black panel =63 °C	
Time ;	60 min	12 min

For further information:

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