

# Aliphatic Isocyanates for coating formulations & resin synthesis

## Aliphatic Isocyanates monomers for resin synthesis

	Molecular weight (g/mol)	Color(Hazen or APHA)	Hydrolysable Chlorine (ppm)	Total Chlorine(ppm)	Assay (%)	NCO (%)	Bulk density at 25 °C (kg/m <sup>3</sup> )	Vapor Pressure at 20 °C (Pa)
HDI	168.2	≤ 15	< 350	< 1,000	> 99.5	approx.50	1,050	0.22
IPDI	222.3	≤ 30	< 200	< 400	> 99.5	37.5 to 37.8	1,058	0.04

## Easaqua™ for waterborne polyurethane formulations

	Viscosity (mPa.s) <sup>1)</sup>	NCO (%) <sup>2)</sup>	Solids content (average) (%)	Metal	Plastics	Wood	Concrete
Self-emulsifiable polyisocyanates for two-component (2K) formulations							
Easaqua™ M 501	1,100	21.6	100	✓ <sup>5)</sup>	✓	✓ <sup>5)</sup>	✓
Easaqua™ M 502	3,600	18.3	100	✓	✓	✓	❖
Easaqua™ L 600	1,800	20.5	100	✓	✓	✓	✓
Easaqua™ X D 401	1,050	15.8	85 <sup>3)</sup>	✓	❖	✓ <sup>6)</sup>	❖
Easaqua™ X D 803	200	12.2	69 <sup>4)</sup>	✓	❖	✓	✓
Easaqua™ X D 870	380	12.4	69 <sup>7)</sup>	❖	❖	✓	✓

✓ Recommended ❖ Possible <sup>1)</sup> average value at 25 °C <sup>2)</sup> average value on delivery form <sup>3)</sup> 85% in butyl Acetate

<sup>4)</sup> 69% in Butoxyl (3-methoxyl-1-butyl acetate) <sup>5)</sup> for primers and matt finishes <sup>6)</sup> for industrial wood application <sup>7)</sup> 69% in Propylene Glycol DiAcetate



# Tolonate™ for solvent-based, solvent free and high solids formulations

		Color <sup>1)</sup>	Viscosity <sup>2)</sup> (mPa.s)	NCO <sup>3)</sup> (%)	Free Monomer (%)	Solids content (%)	Solvent type	Bulk density at 25°C (kg/m <sup>3</sup> )	Flash point(°C)	Equivalent <sup>3)</sup> weight (g)
HDI derivatives	Biurets									
	Standard grades									
	HDB	≤ 40	9,000 ± 2,000	22.0 ± 1.0	< 0.3	100	-	1,120	> 120	191
	HDB 75 MX <sup>4)</sup>	≤ 40	250 ± 100	16.5 ± 0.5	< 0.3	75 ± 1	MX	1,067	38	255
	HDB 75 BX <sup>5)</sup>	≤ 40	150 ± 100	16.5 ± 0.5	< 0.3	75 ± 1	BX	1,050	35	255
	Low viscosity HDB-LV*	≤ 40	2,000 ± 500	23.5 ± 1.0	< 0.3	100	-	1,120	> 120	179
	Trimers									
	Standard grades									
	HDT	≤ 40	2,400 ± 400	22.0 ± 0.5	< 0.2	100	-	1,160	> 120	191
	HDT 90	≤ 40	500 ± 100	19.8 ± 0.7	< 0.2	90 ± 1	SB	1,120	53	212
	HDT 90 B	≤ 40	450 ± 100	20.0 ± 1.0	< 0.2	90 ± 1	B	1,132	48	210
	Fast drying FD 90 B	≤ 60	2,000 ± 1,000	17.4 ± 0.6	< 0.5	90 ± 1	B	1,130	48	241
	Low viscosity									
HDT-LV*	≤ 40	1,200 ± 300	23.0 ± 1.0	< 0.2	100	-	1,160	> 120	183	
HDT-LV2*	≤ 40	600 ± 150	23.0 ± 1.0	< 0.5	100	-	1,131	> 120	183	
Perfect balance hardness & flexibility										
Tolonate™ X F 800*	≤ 80	800 ± 200	20.1 ± 1.0	< 0.3	100	-	1,095	> 120	209	
Bio based**										
Tolonate™ X FLO100*	Approx 80	140 ± 80	12.3 ± 1.0	< 0.5	100	-	Approx 1,041	> 120	341	
For thermosetting formulations										
D2	≤ 40	3,250 ± 750	11.2***	-	75 ± 2	S	1,060	49	370	
IPDI trimers	IDT 70 B	≤ 60	600 ± 300	12.3 ± 1.0	< 0.5	70 ± 2	B	1,060	29	342

1) Hazen or APHA

2) at 25 °C

3) on delivery form

4) available in B & M dilutions

5) only available in North America

\* can also be used in waterborne formulations

B = butyl acetate

X = xylene

M = methoxypropyl acetate

S = aromatic hydrocarbon

\*\* 32% of carbon from renewable resources

\*\*\* blocked NCO

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