

## NKESTER MONOMERS

No	Structural Formula	MW	Appearance	APHA	Viscosity	REFRACTIV E INDEX	MELTING POINT	SPECIFIC GRAVITY	INHIBITOR (MEHQ/ppm)	TSCA	Number of Acryloyl Gr	Tg( )	ACID VALUE	PII
<b>Monoester</b>														
1	M-20G	188	Liq	20	2	1.438	< -18	1.020	100	45103-58-0	1	-51		0.7
2	M-40G	278	Liq	40	7	1.449	< -18	1.056	100	26915-72-0	1	-67		1
3	M-90G	483	Liq	30	23	1.458	-1 ~ 2	1.080	100	26915-72-0	1	-69		
4	M-230G	1140	Wax	30	55/40	1.460/40	33 ~ 38	1.088/40	100	26915-72-0	1			
5	AM-30G	218	Liq	50	5	1.444	< -18	1.058	100	32171-39-4	1			
6	AM-90G	464	Liq	40	25	1.460	6 ~ 7	1.094	100	32171-39-4	1			
7	AMP-10G	192	Liq	20	10	1.519	< -18	1.104	300	48145-04-5	1			1.5
8	AMP-20GY	247	Liq	100	15	1.509	< -18	1.104	100	56641-05-5	1			
9	AMP-60G	390	Liq	100	50	1.495	< -18	1.118	100	56641-05-5	1			0.5
10	NPA-10G	317	Liq	80	76	1.502	< -18	1.004	100	50974-47-5	1	-8		
11	NPA-5E	493	Liq	100	120	1.494	< -18	1.036	250	50974-47-5	1			
12	NPA-5P	563	Liq	100	150	1.481	< -18	0.990	250	50974-47-5	1			
13	LMA	254	Liq	10	5	1.444	< -18	0.870	250		1	-65		
14	LA	243	Liq	20	4	1.442	< -18	0.875	100	2156-97-0	1	-30		
15	S	338	Liq	50	8/30	1.450/30	20	0.862	250	32360-05-7	1	38		
<b>Diester</b>														
16	1G	198	Liq	10	3	1.4519	< -18	1.052	HQ 100	97-90-5	2			
17	2G	242	Liq	20	5	1.457	< -18	1.064	60	2358-84-1	2			0.5
18	3G	286	Liq	30	9	1.459	< -18	1.071	60	109-16-0	2			
19	4G	330	Liq	40	14	1.461	< -18	1.081	100	25852-47-5	2			0.5
20	9G	536	Liq	40	35	1.466	-14 ~ -11	1.094	100	25852-47-5	2			
21	14G	736	Liq	30	64	1.467	4 ~ 8	1.101	100	25852-47-5	2			
22	23G	1136	Wax	30	79/40	1.462	30 ~ 32	1.094	100	25852-47-5	2			
23	A-200	308	Liq	20	24	1.464	< -18	1.114	100	26570-48-9	2	14		2.5
24	A-400	508	Liq	20	58	1.466	-10 ~ -4	1.119	100	26570-48-9	2			0.4
25	A-600	708	Liq	30	70	1.468	12 ~ 17	1.122	100	26570-48-9	2			1.0
26	A-1000	1130	Wax	50	100/40	1.464/40	37 ~ 39	1.104/40	100	26570-48-9	2			
27	BPE-100	478	Liq	500	920	1.539	< -18	1.120	HQ 500	41637-38-1	2			
28	BPE-200	540	Liq	200	650	1.532	< -18	1.120	HQ 500	41637-38-1	2			1.0
29	BPE-500	804	Liq	200	400	1.513	< -18	1.124	250	41637-38-1	2	7.5		0.9
30	BPE-1300	1684	Liq	500	550	1.491	20	1.123	200	41637-38-1	2			
31	BPE-1300N	1684	Liq	60	650	1.492	20	1.123	200	41637-38-1	2	-65		
32	A-BPE-4	512	Liq	150	1100	1.537	< -18	1.145	250	64401-02-1	2	82.5		0.7
33	A-BPE-10	776	Liq	70	620	1.516	< -18	1.138	100	64401-02-1	2			
34	A-BPP-3	506	Liq	1500	3050	1.527		1.099	500		2			
35	9PG	536	Liq	100	27	1.450	< -18	1.010	100	25852-49-7	2			
36	APG-100	224	Liq	60	8	1.449	< -18	1.053	100	52496-08-9	2			2.8
37	APG-200	282	Liq	150	12	1.449	< -18	1.042	100	42978-66-5	2	90		1.0
38	APG-400	536	Liq	100	27	1.449	< -18	1.023	100		2			
39	APG-700	808	Liq	70	71	1.450	< -18	1.014	100		2			1.2
40	BG	226	Liq	10	4	1.450	< -18	1.013	200	1189-08-8	2			
41	HD	254	Liq	150	6	1.457	-10>	0.997	50	6606-59-3	2			0.5
42	NOD	282	Liq	200	8	1.458	< -18	0.970	200		2			
43	NPG	240	Liq	20	5	1.451	15 ~ 16	1.000	60	1985-51-9	2			0
44	A-HD	226	Liq	150	8	1.456	8 ~ 10	1.023	50	13048-33-4	2	105		5.0
45	A-NOD	254	Liq	180	8	1.456	< -18	0.986	200	107481-28-7	2	67.6		3.0
46	A-NPG	212	Liq	20	6	1.4496	< -18	1.023	100	2223-82-7	2	70		4.1
47	A-HPN	314	Liq	10	19	1.452	< -18	1.046	200	30145-51-8	2			1.2
48	A-DCP		Liq	100	120			1.105	800					
<b>Triester and others</b>														
49	TMPT	338	Liq	30	42	1.471	< -18	1.063	60	3290-92-4	3			0.8
50	A-TMPT	296	Liq	80	95	1.475	< -18	1.113	100	15625-89-5	3	250		4.8
51	A-TMPT-3EO	428	Liq	40	55	1.471	< -18	1.104	200	28961-43-5	3	120		1.0
52	A-TMPT-3PO	470	Liq	70	85	1.462	< -18	1.055	500	52408-84-1	3			< 2
53	AD-TMP	466	Liq	60	590	1.477	< -18	1.103	500	94108-97-1	4			< 2
54	A-TMMT	352	Wax	150	159/40	1.480/40	25 ~ 30	1.170/40	100	4986-89-4	4			3.0
55	ATM-4E	528	Liq	70	160	1.477	< -18	1.150	500		4			< 2
56	ATM-4P	584	Liq	150	240	1.465	< -18	1.089	500		4			< 2
57	A-DPH	Ca578	Liq	100	6500	1.490		1.188	500	4986-89-4	6			0.8
	-Cl													
58	TOPOLENE M-OH	178.6	Liq	10	32	1.474	< -18	1.192	HQ 250	13159-52-9	1	75		
59	701	228	Liq	40	40	1.470	< -18	1.117	200	1830-78-0	2			0.6
60	701A	214	Liq	40	44	1.471	< -18	1.141	100		2			3.4
61	A-TMM-3	Ca298	Liq	120	1000	1.485	2	1.184	HQ 200	3524-68-3	3	250		
62	A-TMM-3L	Ca298	Liq	200	700	1.483	2	1.185	HQ 200	3524-68-3	3	250		3.4
63	A-TMM-3LM-COOH	Ca298	Liq	40	850	1.486	2	1.183	1000			250		
64	SA	230	Liq	100	160	1.463	< -18	1.193	100	20882-04-6		9	244	
65	A-SA	216	Liq	150	200	1.463	< -18	1.230	200	50940-49-3	1	-14	260	4.5
66	CB-1	278	Liq	20	3200	1.520	-11	1.235	300	27697-00-3		55	126	

*Physical property list of the urethane (meth)acrylate*

SHIN-NAKAMURA CHEMICAL CO., LTD.

	PRODUCT NAME	MOLECULAR WEIGHT	NUMBER OF FUNCTIONAL GROUP	COLOR (APHA)	VISCOSITY (mPa·s/ )	GROWTH RATE (%)	TENSILE STRENGTH (kg/cm <sup>2</sup> )	PENCIL HARDNESS	DILUENT	CAS.	APPLICATION
Urethane acrylate for the hard coat	U-2PPA	482	2	30	20,000/40			2H		120705-63-7	Paper· Wood· Plastics Hard coating (UV/EB cure)
	U-4HA	596	4	20	20,000/25			7H		91105-84-9	
	U-6HA	1,019	6	30	40,000/50			4H		121484-12-6	
	UA-100H		6	70	230/25			7H	Toluene(20%)	77001-81-1	
	U-6LPA	818	6	70	400,000/25			6H		99898-53-0	
	U-15HA	2,300	15	70	45,000/40			7H		167972-43-2	
	UA-32P		9	80	18,000/25			6H	PGMAC(25%)* <sup>1)</sup>	99898-53-0	
	U-324A	350 ~ 1,300	6 ~ 10	70	20,000/40			7H			
UA-NDP		2	50	25,000/25			2H	A-IND(30%)* <sup>2)</sup>			
Urethane methacrylate for the hard coat	U-4H	624	4	30	20,000/25			7H		80937-22-0	Hard coating (UV/EB cure)
	U-6H	1,047	6	20	70,000/50			4H			
Urethane acrylate for the soft coat	U-108A	1,600	2	30	42,000/40	120	70	6B		152187-46-7	Adhesive, adhesive, etc..
	U-200AX	2,700	2	100	85,000/40	220	90	6B			
	UA-511	3,000	2	70	80,000/25	80	75	6B	A-NOD(15%)* <sup>2)</sup>		
	U-412A		2	30	20,000/25	120	10	6B		73297-27-5	
	UA-4200	1,300	2	50	2,000/25	30	20	6B		199875-93-9	
	UA-4400	1,300	2	100	2,000/25	30	30	6B		52404-32-7	
	UA-340P	13,000	2	60	30,000/25	150	8	6B	APG-700 (20%)* <sup>2)</sup>	73297-27-5	
	UA-2235PE		2	40	17,000/25	40	20	2B	APG-700 (20%)* <sup>2)</sup>	131539-14-5	
	UA-160TM	1600	2	30	23,000/40	85	80	2B		82339-25-1	
	UA-6100	2,300	2	60	90,000/40	70	170	3B			
UA-6200	3,300	2	60	15,000/50	90	20	6B				
Urethane methacrylate for the soft coat	U-108		2	20	30,000/40	100	180	6B		221238-16-0	Adhesive, adhesive, etc..
	UA-4000		2	70	2,000/25	130	10	6B			
Urethane acrylate for the toughness type	UA-122P	1,100	2	50	43,000/40	50	220	2H	AMP-20GY(20%)* <sup>2)</sup>	167940-08-1	Adhesive, adhesive, etc..
	UA-5201	1,000	2	40	43,000/25	40	250	HB			
	UA-512	2,800	2	200	250,000/25	100	300	5B	APG-200 (30%)* <sup>2)</sup>		
	UA-6373P		3	100	35,000/25			6B			
Urethane (meth)acrylate for the water soluble type	UA-W2A	4,200	2	60	30,000/25	140	16	6B		131539-14-5	Photo sensitive resin etc.
	UA-W2	4,200	2	50	30,000/25	180	24	6B		167940-07-0	
	UA-7000	1,500	2	20	3,000/25	20	30	5B			
	UA-7100	2,000	3	20	30,000/25	30	40	2B			
	UA-7200		3 ~ 6	30	60,000/25			3H			

\*1)PGMAC: Propylene glycol monomethylether acetate(b.p:146 )

\*2)NK ESTER(Our products)

## EPOXY ACRYLATE

PRODUCT NAME		MOLECULAR WEIGHT	NUMBER OF FUNCTIONAL GROUP	COLOR (APHA)	VISCOSITY (mPa·s/25 )	NON VOLATILE(%)	DILUENT	TSCA	PENCIL HARDNESS	INHIBITOR(ppm)	NOTES
EA-1010/ECA	BPA	450	1	50	12,000	90	ECA	NO DATA	HB	MQ 500	HALF TYPE
EA-1020	BPA	520	2	20	60,000/40			NO DATA	2H	MQ 100	
EA-1025	BPA	520	2	20	8,000		APG-200	NO DATA	3H	MQ 130	
EA-1026	BPA	520	2		10,000		A-HD	NO DATA	2H	MQ 100	
EA-1028	BPA	520	2	50	40,000		A-BPE-4	NO DATA	F	MQ 130	
EA-5520	AL		2	150	750			NO DATA	6B>	MQ 300	Water soluble 35phr/25
EA-5521	AL		2	150	750			NO DATA		MQ 500	Water soluble 10phr/25
EA-5821	PE		2	500	1,000			NO DATA		MQ 500	Water soluble 195phr/25
EA-5921	PE		2	400	1,300			NO DATA		MQ 500	Water soluble 15phr/25
EA-6310/ECA	PN	620	2.2		11,000	80	ECA	REGISTERED	H	HQ 500	HALF TYPE
EA-6320/PGMAc	PN	1,100	4		35,000	80	PGMAc	REGISTERED	3H	HQ 500	
EA-6340/PGMAc	PN	1,400	4		15,000	70	PGMAc	NO DATA	3H	HQ 500	COOH TYPE
EA-7120/PGMAc	CN		6		14,000	70	PGMAc	NO DATA	3H	HQ 500	
EA-7140/PGMAc	CN		6		55,000	70	PGMAc	NO DATA	3H	HQ 500	COOH TYPE
EA-7420/PGMAc	CN		13		50,000	70	PGMAc	NO DATA	3H	HQ 500	
EA-7440/PGMAc	CN		13		12,000	60	PGMAc	NO DATA	3H	HQ 500	COOH TYPE

BPA: Bisphenol A Type

PN: Phenol Nobolak Type

CN: Cresol Nobolak Type

AL: Alkyl Type

PE: Poly Ether

ECA: Ethylcellosolve acetate

PGMAC: Propylene glycol monomethylether acetate(b.p:146 )