

Tomadol® Ethoxylated Alcohols and Nonidet™ Alkoxylated Surfactants

Description

Air Products produces a wide variety of nonionic surfactants. The Tomadol ethoxylates include both synthetic and plant-derived alcohols, and vary in both hydrophobe and ethylene oxide chain lengths, to yield a wide range of physical and surfactant properties. The Tomadol ethoxylates are excellent wetting agents, emulsifiers and detergents. Tomadol ethoxylates are moderate foamers. The Nonidet surfactants are nonionic surfactants that incorporate both ethylene oxide and propylene oxide to provide lower foam and good detergency.

	EO Groups (Avg.)	Molecular Weight	EO Content wt%	Melting range, °C	Color (APHA)	Sp. Gravity @ 25 °C	Viscosity, cSt @100 °F	Hydroxyl No., mg KOH/g	Surface Tension (0.1 wt%)	Flash pt. °C	Cloud pt. °C	Pour pt. °C	HLB
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Tomadol Ethoxylated Alcohol Surfactants

Made from linear synthetic alcohols, a complete range of excellent wetting agents, emulsifiers and detergents provide ease of handling and formulation

Tomadol 91-2.5	2.7	281	42.3	-25 to -17	5-10	0.925	12	200	24	124	(b)	-13	8.5
Tomadol 91-6	6	425	62.1	-5 to 15	5-10	0.984	23	132	29	143	52	6	12.4
Tomadol 91-8	8.3	524	69.7	7 to 24	5-10	1.008	39	107	30	159	80	15	13.9
Tomadol 1-3	3	305	43.3	-15 to 4	5-10	0.936	10	184	25	142	(b)	-7	8.7
Tomadol 1-5	5	392	56.1	-4 to 17	5-10	0.966	21	143	25	148	(b)	6	11.2
Tomadol 1-7	7	479	64.3	4 to 20	5-10	0.996	28	117	28	165	58	13	12.9
Tomadol 1-73B	5.6	418	59	4 to 20	5-10	0.987	48	134	26	147	36	13	11.8
Tomadol 1-9	9	569	69.6	15 to 28	5-10	1.011	31	99	31	176	74	18	13.9
Tomadol 23-1	1	238	18.5	2 to 11	5-10	0.873	13	236	(a)	143	(b)	5	3.7
Tomadol 23-3	2.9	322	39.6	-4 to 6	5-10	0.922	14	174	25	152	(b)	1	7.9
Tomadol 23-5	5	413	53.3	-3 to 23	5-10	0.965	23	136	26	157	(b)	7	10.7
Tomadol 23-6.5	6.6	484	60	11 to 25	5-10	0.984	29	116	28	168	43	15	12
Tomadol 25-3	2.8	330	37.3	2 to 11	5-10	0.921	19	170	26	157	(b)	3	7.5
Tomadol 25-7	7.3	524	61.3	2 to 26	5-10	0.965	34	107	30	186	50	19	12.3
Tomadol 25-9	8.9	597	65.6	14 to 30	5-10	0.982	41	94	30	188	74	21	13.1
Tomadol 25-12	11.9	729	71.8	20 to 34	5-10	0.999	53	77	34	223	78 ^(c)	27	14.4
Tomadol 45-7	7	529	58.2	9 to 31	5-10	0.959	35	106	29	185	45	19	11.6
Tomadol 45-13	12.9	790	71.8	25 to 37	5-10	1.003	59	71	34	249	80 ^(c)	30	14.4

Tomadol L Series Surfactants

Based on plant-derived alcohols and suitable for a wide range of surfactant applications including HI&I cleaners, industrial process and formulation aids

Tomadol L80	EO	330	40	-7 to 10	5-10	0.911	45	171	26	>120	(b)	11	8.0
Tomadol L124	EO	520	62	-5 to 20	5-10	0.974	44	109	29	>120	60	19	12.4
Tomadol L130	EO	595	66	12 to 35	5-10	0.993	50	95	32	>120	78	23	13.0
Tomadol L144	EO	725	72	24 to 40	5-10	1.014	65	78	36	>120	81 ^(c)	31	14.4

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Tomadol 400, 600, 900, 1200 Surfactants – NPE Alternatives													
<i>High-performance, environmentally-friendly nonionic surfactants designed specifically for ease of re-formulation when replacing nonyl phenol ethoxylates</i>													
Tomadol 400	EO	300	44.5	-25 to -7	5-10	0.93	15	189	24	124	(b)	-10	8.9
Tomadol 600	EO	400	53	-5 to 24	5-10	0.97	21	134	26	157	(b)	7	10.6
Tomadol 900	EO	460	65	2 to 15	5-10	0.98	15	122	27	159	64	8	13.1
Tomadol 901	EO	445	60	2 to 11	5-10	0.97	15	126	26	124	39	3	12.1
Tomadol 910	EO	495	59	2 to 15	5-10	0.99	30	113	27	182	43	8	11.8
Tomadol 1200	EO	590	68	15 to 28	5-10	1.00	35	95	30	145	80	19	13.6

Nonidet Alkoxylated Surfactants

Low-foam, nonionic surfactants that provide multi-functional benefits in applications where foam control is a concern

Nonidet RK-18	EO,PO	--	--	-31 to 4	100	1.02	83	--	34	232	17	-8	6
Nonidet SF-3	EO,PO	--	--	-25 to 12	100	0.99	53	--	33	154	39-48	4	9
Nonidet SF-5	EO,PO	--	--	-25 to 7	100	0.99	54	--	34	177	35-40	-1	8

(a) – aqueous solubility < 0.1 wt%

(b) – aqueous solubility < 1 wt%

(c) – measured in 5% NaCl solution

For samples

If you would like additional information or technical assistance in preparing specific formulations, contact us.

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Pub.No. 120-08-036-US