

anatrace

Detergent Properties

- Listed Alphabetically
- Listed by CMC Values

Detergent Analysis

CMC Determination

- By Dye Binding
- By Surface Tension



We set our standards high. So you can, too.

DETERGENTS | LIPIDS | CUSTOMS | HIGHER STANDARDS

Detergent Properties Listed Alphabetically

The detergents are arranged in alphabetical order. The conditions used to measure CMC values and aggregation numbers are located in the Anatrace catalog on the page numbers listed.

Product No.	Page No.	Detergent	Type	FW	CMC mM (%)	Aggregation No.
A110MT	144	2-Aminoethyl Methane Thiosulfonate Hydrobromide (MTSEA)	C	236.2	N/A	N/A
A835	129	Amphipol A8-35	C	~ 8000.0	N/A	N/A
A340	39	Anameg®-7	N	335.4	19.5 (0.65%)	~ 92
APT020	102	Anapoe-20	N	1228.0	0.059 (0.0072%)	N/A
APB035	102	Anapoe-35	N	avg. 1198.0	0.091 (0.011%)	40
APB058	102	Anapoe-58	N	1122	0.004 (0.00045%)	N/A
APT080	103	Anapoe-80	N	avg. 1310.0	0.012 (0.0016%)	~ 58
APO106	103	Anapoe-C ₁₀ E ₆	N	avg. 423.0	0.9 (0.038%)	~ 40
APO109	103	Anapoe-C ₁₀ E ₉	N	avg. 555.0	1.3 (0.072%)	N/A
APO128	104	Anapoe-C ₁₂ E ₈	N	avg. 539.0	0.09 (0.0048%)	~ 123
APO129	104	Anapoe-C ₁₂ E ₉	N	avg. 583.0	0.05 (0.003%)	N/A
AP1210	104	Anapoe-C ₁₂ E ₁₀	N	avg. 627.0	0.2 (0.013%)	N/A
APO138	105	Anapoe-C ₁₃ E ₈	N	avg. 553.0	0.1 (0.0055%)	N/A
APND40	105	Anapoe-NID-P40	N	avg. 603.0	0.05-0.3	100-155
APX100	105	Anapoe-X-100	N	avg. 647.0	0.23 (0.015%)	75-165
APX114	106	Anapoe-X-114	N	avg. 536.0	0.2 (0.011%)	N/A
APX305	106	Anapoe-X-305	N	avg. 1526.0	0.65	N/A
APX405	106	Anapoe-X-405	N	avg. 1967.0	0.81 (0.16%)	N/A
AZ308	107	Anzergent 3-8, Analytical Grade	Z	279.6	390 (10.9%)	N/A
AZ310	107	Anzergent 3-10, Analytical Grade	Z	307.6	39 (1.2%)	~ 41
AZ312	107, 120	Anzergent 3-12, Analytical Grade	Z	335.5	2.8 (0.094%)	~ 55-87
AZ314	108	Anzergent 3-14, Analytical Grade	Z	363.6	0.2 (0.007%)	~ 83-130
AZ316	108	Anzergent 3-16, Analytical Grade	Z	391.7	10 - 60	~ 155
AZ318	108	Anzergent 3-18, Analytical Grade	Z	419.7	N/A	N/A
B300	109	Big Chap, Analytical Grade	N	878.1	2.9 (0.25%)	~ 10
B310	109	Big Chap, Deoxy, Analytical Grade	N	862.1	1.4 (0.12%)	~ 8-16
B518	131	BisMalt-18	N	949.1	N/A	N/A
B520	131	BisMalt-20	N	977.1	N/A	N/A
B522	131	BisMalt-22	N	1005.2	N/A	N/A
B524	132	BisMalt-24	N	1033.2	N/A	N/A
B528	132	BisMalt-28	N	1089.4	N/A	N/A
B035	112	Brij 35	N	avg. 1198.0	~ 0.091 (0.011%)	~ 40
C316	76, 112	CHAPS, Anagrade	Z	614.9	~ 8 (0.49%)	~ 10
C316S	76, 112	CHAPS, Sol-Grade®	Z	614.9	~ 8 (0.49%)	~ 10
C317	76, 113	CHAPSO, Anagrade	Z	630.9	~ 8 (0.50%)	~ 11
C408	46	C-HEGA®-8, Anagrade	N	349.5	~ 277 (9.7%)	N/A
C409	46	C-HEGA-9, Anagrade	N	363.5	~ 108 (3.9%)	N/A
C410	46	C-HEGA-10, Anagrade	N	377.5	~ 35 (1.3%)	N/A
C411	47	C-HEGA-11, Anagrade	N	391.5	~ 11.5 (0.45%)	N/A
CH220	77, 113	Chobimalt, Anagrade	N	1035.2	~ 0.004	N/A
CH200	77, 113	Cholesterol	N	386.6	N/A	N/A
CH210	77, 114	Cholesteryl Hemisuccinate Tris Salt	C	607.9	N/A	N/A
S1010S	110	Cholic Acid, Sodium Salt	I	430.6	~9.5 (0.41%)	~ 2.0-4.8
C508	78	Cyclofos-2, Anagrade	Z	293.8	~ 256 (7.5%)	N/A
C510	78	Cyclofos-3, Anagrade	Z	306.9	~ 43 (1.3%)	N/A
C512	78	Cyclofos-4, Anagrade	Z	320.9	~ 8.45 (0.45%)	N/A
C514	79	Cyclofos-5, Anagrade	Z	335	~ 4.5 (0.15%)	N/A
C516	79	Cyclofos-6, Anagrade	Z	349.2	~ 2.68 (0.094%)	N/A
C518	79	Cyclofos-7, Anagrade	N	363.3	~ 0.62 (0.022%)	N/A
C323G	31	CYGLU®-3, Anagrade	N	304.4	~ 28 (0.86%)	N/A
C324G	31	CYGLU-4, Anagrade	N	318.4	~ 1.8 (0.058%)	N/A
C321	31	CYMAL®-1, Anagrade	N	438.5	~ 340 (15%)	N/A
C322	32	CYMAL-2, Anagrade	N	452.5	~ 120 (5.4%)	N/A
C323	32	CYMAL-3, Anagrade	N	466.5	~ 34.5 (1.6%)	~ 5
C324	32	CYMAL-4, Anagrade	N	480.5	~ 7.6 (0.37%)	~ 25
C325	33	CYMAL-5, Anagrade	N	494.5	~ 2.4-5.0 (0.12%)	~ 47
NG325	33, 65	CYMAL-5 Neopentyl Glycol	N	972.5	0.058	N/A
C325S	34	CYMAL-5, Sol-Grade	N	494.5	~ 2.4-5.0 (0.12%)	~ 47

The types of detergents: A = Anionic / C = Cationic / N = Nonionic / Z = Zwitterionic

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Detergent Properties Listed Alphabetically (continued)

Product No.	Page No.	Detergent	Type	FW	CMC mM (%)	Aggregation No.
C326	34	CYMAL-6, Anagrade	N	508.5	~ 0.56 (0.028%)	~ 91
C326LA	35	CYMAL-6, Anagrade	N	508.5	~ 0.56 (0.028%)	~ 91
NG326	35, 65	CYMAL-6 Neopentyl Glycol	N	1000.55	N/A	N/A
C326S	36	CYMAL-6, Sol-Grade	N	508.5	~ 0.56 (0.028%)	~ 91
C327	36	CYMAL-7, Anagrade	N	522.5	~ 0.19 (0.0099%)	~ 150
NG327	37, 65	CYMAL-7 Neopentyl Glycol	N	1028.58	N/A	N/A
C327S	37	CYMAL-7, Sol-Grade	N	522.5	~ 0.19 (0.0099%)	~ 150
D365	29	n-Decyl-N,N-Dimethylamine-N-Oxide, Anagrade	Z	201.4	~ 10.48 (0.211%)	~ 7
D352	110	n-Decyl-N,N-Dimethylglycine, Anagrade	Z	243.4	~ 19 (0.46%)	N/A
D321	39	n-Decyl- β -D-Glucopyranoside, Anagrade	N	320.4	~ 2.2 (0.070%)	N/A
NG321	39, 66	Decyl Glucose Neopentyl Glycol	N	624.41	N/A	N/A
D322HA	51	n-Decyl- α -D-Maltopyranoside, Anagrade	N	482.6	~ 1.66 (0.08%)	N/A
D322	51	n-Decyl- β -D-Maltopyranoside, Anagrade	N	482.6	~ 1.8 (0.087%)	~ 69
D322LA	51	n-Decyl- β -D-Maltopyranoside, Anagrade, Low Alpha	N	482.6	~ 1.8 (0.087%)	~ 69
D322S	52	n-Decyl- β -D-Maltopyranoside, Sol-Grade	N	482.6	~ 1.8 (0.087%)	~ 69
NG322	52, 66	Decyl Maltose Neopentyl Glycol	N	949.08	N/A	N/A
D910	52, 142	Decyl- β -D-Selenomaltoside	N	545.5	N/A	N/A
D323	68	n-Decyl- β -D-Thioglucopyranoside, Anagrade	N	336.4	~ 0.9 (0.30%)	N/A
D335	68	n-Decyl- β -D-Thiomaltopyranoside, Anagrade	N	498.6	~ 0.9 (0.045%)	~ 75
D380	110	Deoxycholic Acid, Sodium Salt, Anagrade	A	414.6	~ 6 (0.24%)	~ 22
D607	92	1,2-Diheptanoyl-sn-Glycero-3-Phosphocholine	Z	481.5	N/A	N/A
D516	92	1,2-Dihexadecanoyl-sn-Glycero-3-Phosphocholine	Z	734.039	N/A	N/A
D606	92	1,2-Dihexanoyl-sn-Glycero-3-Phosphocholine	Z	453.5	N/A	N/A
DH325	53	2,6-Dimethyl-4-Heptyl- β -D-Maltoside	N	468.5	~ 27.5 (1.2%)	N/A
D614	93	1,2-Dimystoyl-sn-Glycero-3-[Phospho-rac-(1-Glycerol)], Sodium Salt	C	688.9	N/A	N/A
D514	93	1,2-Dimystoyl-sn-Glycero-3-Phosphocholine	Z	677.9	N/A	N/A
D608	93	1,2-Dioctanoyl-sn-Glycero-3-Phosphocholine	Z	509.6	N/A	N/A
D518	94	1,2-Dioleoyl-sn-Glycero-3-Phosphocholine	Z	786.113	N/A	N/A
D360	29, 120	n-Dodecyl-N,N-Dimethylamine-N-Oxide, Anagrade	Z	229.4	~ 1-2 (0.023%)	~ 76
D360S	29	n-Dodecyl-N,N-Dimethylamine-N-Oxide, Sol-Grade	Z	229.4	~ 1-2 (0.023%)	~ 76
D350	111, 120	n-Dodecyl-N,N-Dimethylglycine, Anagrade	Z	271.4	~ 1.5 (0.041%)	N/A
D350S	111	n-Dodecyl-N,N-Dimethylglycine, Sol-Grade	Z	271.4	~ 1.5 (0.041%)	N/A
D318	40	n-Dodecyl- β -D-Glucopyranoside, Anagrade	N	348.5	~ 0.19 (0.0066%)	N/A
D310HA	53	n-Dodecyl- α -D-Maltopyranoside, Anagrade	N	510.6	~ 0.152 (0.0076%)	~ 90
D310	54	n-Dodecyl- β -D-Maltopyranoside, Anagrade	N	510.6	~ 0.17 (0.0087%)	~ 78-149
D310A	54	n-Dodecyl- β -D-Maltopyranoside, Anagrade	N	510.6	~ 0.17 (0.0087%)	~ 78-149
D310LA	55	n-Dodecyl- β -D-Maltopyranoside, Anagrade	N	510.6	~ 0.17 (0.0087%)	~ 78-149
D310S	55	n-Dodecyl- β -D-Maltopyranoside, Sol-Grade	N	510.6	~ 0.17 (0.0087%)	~ 78-149
D310T	56, 135	n-Dodecyl-d25- β -D-Maltopyranoside	N	535.8	~ 0.2	N/A
D912	56, 142	Dodecyl- β -D-Selenomaltoside	N	573.6	N/A	N/A
D342	68	n-Dodecyl- β -D-Thiomaltopyranoside, Anagrade	N	526.6	~ 0.05 (0.0026%)	~ 126
F300	81	Fos-Choline-8, Anagrade	Z	295.4	~ 114 (3.4%)	N/A
F300F	81, 139	Fos-Choline-8, Fluorinated, Anagrade	Z	529.2	2.2	N/A
F300S	81	Fos-Choline-8, Sol-Grade	Z	295.4	~ 114 (3.4%)	N/A
F302	82	Fos-Choline-9, Anagrade	Z	309.4	~ 39.5 (1.2%)	~ 5
F302S	82	Fos-Choline-9, Sol-Grade	Z	309.4	~ 39.5 (1.2%)	~ 5
F304	82	Fos-Choline-10, Anagrade	Z	323.4	~ 11 (0.35%)	~ 24
F304PDH	83, 135	Fos-Choline-10, Per Deuterated Head	Z	336.5	N/A	N/A
F304SDH	83, 135	Fos-Choline-10, Semi Deuterated Head	Z	332.5	N/A	N/A
F304S	83	Fos-Choline-10, Sol-Grade	Z	323.4	~ 11 (0.35%)	~ 24
F306	84	Fos-Choline-11, Anagrade	Z	337.4	~ 1.85 (0.062%)	~ 18
F306PDH	84, 135	Fos-Choline-11, Per Deuterated Head	Z	350.5	N/A	N/A
F306SDH	84, 136	Fos-Choline-11, Semi Deuterated Head	Z	346.5	N/A	N/A
F306S	84	Fos-Choline-11, Sol-Grade	Z	337.4	~ 1.85 (0.062%)	~ 18
F308	85, 121	Fos-Choline-12, Anagrade	Z	351.5	~ 1.5 (0.047%)	~ 54
F308D	85, 136	Fos-Choline-12, Deuterated	Z	389.8	~ 1.5 (0.047%)	~ 54
F308PDH	85, 136	Fos-Choline-12, Per Deuterated Head	Z	364.5	N/A	N/A
F308PDT	86, 137	Fos-Choline-12, Per Deuterated Tail	Z	376.6	N/A	N/A
F308SDH	86, 137	Fos-Choline-12, Semi Deuterated Head	Z	360.5	N/A	N/A
F308S	86	Fos-Choline-12, Sol-Grade	Z	351.5	~ 1.5 (0.047%)	~ 54

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Detergent Properties Listed Alphabetically (continued)

Product No.	Page No.	Detergent	Type	FW	CMC mM (%)	Aggregation No.
F310	87	Fos-Choline-13, Anagrade	Z	365.5	~ 0.75 (0.027%)	~ 87
F310S	87	Fos-Choline-13, Sol-Grade	Z	365.5	~ 0.75 (0.027%)	~ 87
F312	87	Fos-Choline-14, Anagrade	Z	379.5	~ 0.12 (0.0046%)	~ 108
F312D	88, 137	Fos-Choline-14, Deuterated	Z	421.5	~ 0.12 (0.0051%)	~ 108
F312PDH	88, 137	Fos-Choline-14, Per Deuterated Head	Z	392.6	N/A	N/A
F312SDH	88, 138	Fos-Choline-14, Semi Deuterated Head	Z	388.6	N/A	N/A
F312S	88	Fos-Choline-14, Sol-Grade	Z	379.5	~ 0.12 (0.0046%)	~ 108
F314	89	Fos-Choline-15, Anagrade	Z	393.5	~ 0.07 (0.0027%)	~ 131
F314S	89	Fos-Choline-15, Sol-Grade	Z	393.5	~ 0.07 (0.0027%)	~ 131
F316	89	Fos-Choline-16, Anagrade	Z	407.5	~ 0.013 (0.00053%)	~ 178
F316S	90	Fos-Choline-16, Sol-Grade	Z	407.5	~ 0.013 (0.00053%)	~ 178
FCI09	90	Fos-Choline-ISO-9, Anagrade	Z	309	~ 32 (0.99%)	N/A
FCI11	90	Fos-Choline-ISO-11, Anagrade	Z	337.4	~ 26.6 (0.9%)	N/A
FCU110	90	Fos-Choline-Unsat-11-10	Z	335.4	~ 6.2 (0.21%)	N/A
F208	91	Fos-Mea®-8, Anagrade	Z	267	~ 22.0 (0.59%)	N/A
F210	91	Fos-Mea-10, Anagrade	Z	295	~ 5.25 (0.15%)	N/A
F212	91	Fos-Mea-12, Anagrade	Z	323	~ 0.43 (0.014%)	N/A
GDN101	133	GDN	N	1165.31	N/A	N/A
H108	47	HEGA-8, Anagrade	N	351.5	~ 109 (3.8%)	N/A
H109	47	HEGA-9, Anagrade	N	365.5	~ 39 (1.4%)	~ 5
H110	48	HEGA-10, Anagrade	N	379.5	~ 7.0 (0.26%)	N/A
H111	48	HEGA-11, Anagrade	N	393.5	~ 1.4 (0.055%)	N/A
H300	40	n-Heptyl- β -D-Glucopyranoside, Anagrade	N	278.4	~ 70 (1.9%)	N/A
H300LA	40	n-Heptyl- β -D-Glucopyranoside, Anagrade	N	278.4	~ 70 (1.9%)	N/A
H907	41, 142	Heptyl- β -D-Selenoglucoside	N	341.3	N/A	N/A
H301	69	n-Heptyl- β -D-Thioglucofuranoside, Anagrade	N	294.4	~ 29 (0.85%)	N/A
H301LA	69	n-Heptyl- β -D-Thioglucofuranoside, Anagrade	N	294.4	~ 29 (0.85%)	~ 27
H320	56	n-Hexadecyl- β -D-Maltopyranoside, Anagrade	N	566.6	~ 0.0006 (0.00003%)	N/A
H360	114, 125	Hexaethylene Glycol Monodecyl Ether, Analytical Grade	N	422.6	0.9	~ 73
H350	114, 125	Hexaethylene Glycol Mono-octyl Ether, Anagrade	N	394.5	~ 10 (0.39%)	~ 32
H305	41	n-Hexyl- β -D-Glucopyranoside, Anagrade	N	264.4	~ 250 (6.6%)	N/A
H310	57	n-Hexyl- β -D-Maltopyranoside, Anagrade	N	426.4	~ 210 (8.9%)	N/A
I1003	114	IPTG	N	238.31	N/A	N/A
L360S	30	LAPAO, Sol-Grade	Z	300.6	~ 1.56 (0.052%)	~ 126
NG318	41, 66	Lauryl Glucose Neopentyl Glycol	N	680.47	N/A	N/A
NG310	57, 67	Lauryl Maltose Neopentyl Glycol	N	1005.19	N/A	N/A
L212	95	LysoFos Choline 12, Anagrade	Z	439.5	~ 0.32	N/A
L214	95	LysoFos Choline 14, Anagrade	Z	467.6	~ 0.036	N/A
L216	95	LysoFos Choline 16, Anagrade	Z	495.6	~ 0.0032	N/A
L412	96	LysoFos Choline Ether 12, Anagrade	Z	425.5	N/A	N/A
L414	96	LysoFos Choline Ether 14, Anagrade	Z	453.6	N/A	N/A
L416	96	LysoFos Choline Ether 16, Anagrade	Z	481.7	N/A	N/A
L312	97	LysoFos Glycerol 12, Anagrade	C	450.4	N/A	N/A
L314	97	LysoFos Glycerol 14, Anagrade	C	478.5	N/A	N/A
L316	97	LysoFos Glycerol 16, Anagrade	C	506.5	N/A	N/A
M319	48	Mega-8, Anagrade	N	321.4	~ 79 (2.5%)	N/A
M325	49	Mega-9, Anagrade	N	335.5	~ 25 (0.84%)	N/A
M320	49	Mega-10, Anagrade	N	349.5	~ 6-7 (0.21%)	N/A
LCP18	140	MonoOlein	N	356.54	N/A	N/A
LCP16	140	MonoPalmitolein	N	328.49	N/A	N/A
ND195	119	NDSB-195	Z	195.3	N/A	N/A
ND201	119	NDSB-201	Z	201.2	N/A	N/A
ND211	119	NDSB-211	Z	211.3	N/A	N/A
ND221	119	NDSB-221	Z	221.3	N/A	N/A
ND256	119, 121	NDSB-256	Z	257.4	N/A	N/A
NIDP40	115	Nonidet P40 Substitute	N	avg. 603.0	~ 0.05-0.3	~ 100-155
N324	42	n-Nonyl- β -D-Glucopyranoside, Anagrade	N	306.4	~ 6.5 (0.20%)	~ 133
N324LA	42	n-Nonyl- β -D-Glucopyranoside, Anagrade	N	306.4	~ 6.5 (0.20%)	~ 133
N324S	42	n-Nonyl- β -D-Glucopyranoside, Sol-Grade	N	306.4	~ 6.5 (0.20%)	~ 133
N330	58	n-Nonyl- β -D-Maltopyranoside, Anagrade	N	468.5	~ 6 (0.28%)	~ 55

The types of detergents: A = Anionic / C = Cationic / N = Nonionic / Z = Zwitterionic

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Detergent Properties Listed Alphabetically (continued)

Product No.	Page No.	Detergent	Type	FW	CMC mM (%)	Aggregation No.
N335	69	n-Nonyl- β -D-Thioglucofuranoside, Anagrade	N	322.4	~ 2.9 (0.093%)	N/A
N350	70	n-Nonyl- β -D-Thiomaltopyranoside, Anagrade	N	484.6	~ 3.2 (0.15%)	N/A
O330	115, 125	Octaethylene Glycol Monododecyl Ether, Anagrade	N	538.8	~ 0.09 (0.0048%)	~ 90-120
O330A	115, 125	Octaethylene Glycol Monododecyl Ether, Analytical Grade	N	538.8	~ 0.09 (0.0048%)	~ 90-120
O312	43	n-Octyl- β -D-Galactopyranoside, Anagrade	N	292.4	~ 29.5 (0.86%)	N/A
O311HA	43	n-Octyl- α -D-Glucopyranoside, Anagrade	N	292.4	~ 10-21 (0.3-0.6%)	N/A
O311	43	n-Octyl- β -D-Glucopyranoside, Anagrade	N	292.4	~ 18-20 (0.53%)	~ 27-100
O311S	44	n-Octyl- β -D-Glucopyranoside, Sol-Grade	N	292.4	~ 18-20 (0.53%)	~ 27-100
O311T	44, 138	n-Octyl-d17- β -D-Glucopyranoside	N	309.5	18-20	N/A
O311D	45, 138	n-Octyl-d17- β -D-Glucopyranoside-d7	N	316.5	~ 18-20	N/A
NG311	45, 67	Octyl Glucose Neopentyl Glycol	N	568.69	N/A	N/A
O310	58	n-Octyl- β -D-Maltopyranoside, Anagrade	N	454.4	~ 19.5 (0.89%)	~ 47
O310S	58	n-Octyl- β -D-Maltopyranoside, Sol-Grade	N	454.4	~ 19.5 (0.89%)	~ 47
O310F	59, 139	Octyl Maltoside, Fluorinated, Anagrade	N	688.4	~ 1.02	N/A
O908	45, 142	Octyl- β -D-Selenoglucoside	N	355.3	N/A	N/A
O918	59, 143	Octyl- β -D-Selenomaltoside	N	517.5	N/A	N/A
O314	70	n-Octyl- β -D-Thioglucofuranoside, Anagrade	N	308.4	~ 9 (0.28%)	N/A
O314LA	70	n-Octyl- β -D-Thioglucofuranoside, Anagrade	N	308.4	~ 9 (0.28%)	~ 189
O320	70	n-Octyl- β -D-Thiomaltopyranoside, Anagrade	N	470.6	~ 8.5 (0.40%)	N/A
P516	94	1-Palmitoyl-2-Oleoyl-sn-Glycero-3-Phosphocholine	Z	760.076	N/A	N/A
P416	94, 121	1-Palmitoyl-2-Oleoyl-sn-Glycero-3-Phosphoethanolamine	Z	717.996	N/A	N/A
P340	115, 126	Pentaethylene Glycol Monodecyl Ether, Anagrade	N	378.6	~ 0.81 (0.031%)	~ 73
P350	116, 126	Pentaethylene Glycol Mono-octyl Ether, Anagrade	N	350.5	~ 7.1 (0.25%)	N/A
P300	116	Pluronic F-68	N	~ 8400.0	~ 17.9	N/A
P305	116	Pluronic F-127	N	~ 12600.0	~ 3.97	N/A
P5008	129	PMAL®-C8	Z	~ 18500.0	N/A	N/A
P5012	130	PMAL-C12	Z	~ 12000.0	N/A	N/A
P5016	130	PMAL-C16	Z	~ 39000-65000	N/A	N/A
P310	59	2-Propyl-1-Pentyl Maltopyranoside, Anagrade	N	455.5	~ 42.5 (1.9%)	N/A
S2000	143	L-(+)-Selenomethionine, Anagrade	N	196.1	N/A	N/A
T908	126, 143	12-Selenotetraethyleneglycol Mono Octyl Ether	N	369.4	N/A	N/A
S300	116	Sodium Dodecanoyl Sarcosine, Anagrade	A	293.4	~ 14.4 (0.42%)	N/A
S300S	117	Sodium Dodecanoyl Sarcosine, Sol-Grade	I	293.4	~ 14.4 (0.42%)	N/A
S110MT	144	Sodium (2-Sulfonatoethyl) Methanethiosulfonate (MTSES)	C	242.28	N/A	N/A
S350	60	Sucrose Monododecanoate, Anagrade	N	524.6	~ 0.3 (0.016%)	N/A
T360	30	n-Tetradecyl-N,N-Dimethylamine-N-Oxide, Anagrade	Z	257.5	~ 0.29 (0.0075%)	N/A
T305	111	n-Tetradecyl-N,N-Dimethylglycine, Anagrade	Z	299.4	~ 0.034 (0.0010%)	N/A
T315	60	n-Tetradecyl- β -D-Maltopyranoside, Anagrade	N	538.6	~ 0.01 (0.00054%)	N/A
T315S	60	n-Tetradecyl- β -D-Maltopyranoside, Sol-Grade	N	538.6	~ 0.01 (0.00054%)	N/A
T350	117, 126	Tetraethylene Glycol Mono-octyl Ether, Anagrade	N	306.5	~ 8 (0.25%)	~ 82
TFA101	133	TFA	N	2148.42	N/A	N/A
T323	61	n-Tridecyl- β -D-Maltopyranoside, Anagrade	N	524.6	~ 0.033 (0.0017%)	~ 186
T323LA	61	n-Tridecyl- β -D-Maltopyranoside, Anagrade	N	524.6	~ 0.033 (0.0017%)	~ 186
T323S	61	n-Tridecyl- β -D-Maltopyranoside, Sol-Grade	N	524.6	~ 0.033 (0.0017%)	~ 186
T110MT	144	[2-(Trimethylammonium)ethyl] Methane Thiosulfonate Bromide	Z	278.24	N/A	N/A
T370	145	Tripao	Z	362.5	4.5	N/A
T385	145	Cy-Tripglu	N	665.8	1.8	N/A
T380	145	Ph-Tripglu	N	659.8	3.6	N/A
T1001	117	Triton X-100	N	avg. 647	~ 0.010-0.016 (w/v)	~ 75-165
T1002	117	Triton X-114	N	avg. 536	~ 0.009% (w/v)	N/A
T1003	118	Tween 20	N	avg. 1228	~ 0.059 (0.0072%)	N/A
T1005	118	Tween 40	N	~ 1284.0	0.027	N/A
T1004	118	Tween 80	N	avg. 1310	~ 0.012 (0.0016%)	~ 58
U300HA	62	n-Undecyl- α -D-Maltopyranoside, Anagrade	N	496.6	~ 0.58 (0.029%)	N/A
U300	62	n-Undecyl- β -D-Maltopyranoside, Anagrade	N	496.6	~ 0.59 (0.029%)	~ 71
U300LA	62	n-Undecyl- β -D-Maltopyranoside, Anagrade	N	496.6	~ 0.59 (0.029%)	~ 71
U300S	63	n-Undecyl- β -D-Maltopyranoside, Sol-Grade	N	496.6	~ 0.59 (0.029%)	~ 71
U360	30	n-Undecyl-N,N-Dimethylamine-Oxide, Anagrade	Z	215.4	~ 3.21 (0.069%)	N/A
U911	63, 143	Undecyl- β -D-Selenomaltoside	N	573.6	N/A	N/A
U342	71	n-Undecyl- β -D-Thiomaltopyranoside, Anagrade	N	512.7	~ 0.21 (0.011%)	~ 106
U310	63	ω -Undecylenyl- β -D-Maltopyranoside	N	494.6	~ 1.2 (0.059%)	N/A

The types of detergents: A = Anionic / C = Cationic / N = Nonionic / Z = Zwitterionic

Detergent Properties Listed by CMC Values

The detergents are arranged in the order of their CMC values. The conditions used to measure CMC values and aggregation numbers are located in the Anatrace catalog on the page numbers listed.

Product No.	Page No.	Detergent	Type	FW	CMC mM (%)	Aggregation No.
H320	56	n-Hexadecyl- β -D-Maltopyranoside, Anagrade	N	566.6	~ 0.0006 (0.00003%)	N/A
L216	95	LysoFos Choline 16, Anagrade	Z	495.6	~ 0.0032	N/A
APB058	102	Anapoe-58	N	1122	0.004 (0.00045%)	N/A
CH220	77, 113	Chobimalt, Anagrade	N	1035.2	~ 0.004	N/A
T1002	117	Triton X-114	N	avg. 536	~ 0.009% (w/v)	N/A
T315	60	n-Tetradecyl- β -D-Maltopyranoside, Anagrade	N	538.6	~ 0.01 (0.00054%)	N/A
T315S	60	n-Tetradecyl- β -D-Maltopyranoside, Sol-Grade	N	538.6	~ 0.01 (0.00054%)	N/A
T1001	117	Triton X-100	N	avg. 647	~ 0.010-0.016 (w/v)	~ 75-165
APT080	103	Anapoe-80	N	avg. 1310.0	0.012 (0.0016%)	~ 58
T1004	118	Tween 80	N	avg. 1310	~ 0.012 (0.0016%)	~ 58
F316	89	Fos-Choline-16, Anagrade	Z	407.5	~ 0.013 (0.00053%)	~ 178
F316S	90	Fos-Choline-16, Sol-Grade	Z	407.5	~ 0.013 (0.00053%)	~ 178
T1005	118	Tween 40	N	~ 1284.0	0.027	N/A
T323	61	n-Tridecyl- β -D-Maltopyranoside, Anagrade	N	524.6	~ 0.033 (0.0017%)	~ 186
T323LA	61	n-Tridecyl- β -D-Maltopyranoside, Anagrade	N	524.6	~ 0.033 (0.0017%)	~ 186
T323S	61	n-Tridecyl- β -D-Maltopyranoside, Sol-Grade	N	524.6	~ 0.033 (0.0017%)	~ 186
T305	111	n-Tetradecyl-N,N-Dimethylglycine, Anagrade	Z	299.4	~ 0.034 (0.0010%)	N/A
L214	95	LysoFos Choline 14, Anagrade	Z	467.6	~ 0.036	N/A
APO129	104	Anapoe-C ₁₂ E ₉	N	avg. 583.0	0.05 (0.003%)	N/A
D342	68	n-Dodecyl- β -D-Thiomaltopyranoside, Anagrade	N	526.6	~ 0.05 (0.0026%)	~ 126
APND40	105	Anapoe-NID-P40	N	avg. 603.0	0.05-0.3	100-155
NIDP40	115	Nonidet P40 Substitute	N	avg. 603.0	~ 0.05-0.3	~ 100-155
NG325	33, 65	CYMAL-5 Neopentyl Glycol	N	972.5	0.058	N/A
APT020	102	Anapoe-20	N	1228	0.059 (0.0072%)	N/A
T1003	118	Tween 20	N	avg. 1228	~ 0.059 (0.0072%)	N/A
F314	89	Fos-Choline-15, Anagrade	Z	393.5	~ 0.07 (0.0027%)	~ 131
F314S	89	Fos-Choline-15, Sol-Grade	Z	393.5	~ 0.07 (0.0027%)	~ 131
APO128	104	Anapoe-C ₁₂ E ₈	N	avg. 539.0	0.09 (0.0048%)	~ 123
O330	115, 125	Octaethylene Glycol Monododecyl Ether, Anagrade	N	538.8	~ 0.09 (0.0048%)	~ 90-120
O330A	115, 125	Octaethylene Glycol Monododecyl Ether, Analytical Grade	N	538.8	~ 0.09 (0.0048%)	~ 90-120
APB035	102	Anapoe-35	N	avg. 1198.0	0.091 (0.011%)	40
B035	112	Brij 35	N	avg. 1198.0	~ 0.091 (0.011%)	~ 40
APO138	105	Anapoe-C ₁₃ E ₈	N	avg. 553.0	0.1 (0.0055%)	N/A
F312	87	Fos-Choline-14, Anagrade	Z	379.5	~ 0.12 (0.0046%)	~ 108
F312D	88, 137	Fos-Choline-14, Deuterated	Z	421.5	~ 0.12 (0.0051%)	~ 108
F312S	88	Fos-Choline-14, Sol-Grade	Z	379.5	~ 0.12 (0.0046%)	~ 108
D310HA	53	n-Dodecyl- α -D-Maltopyranoside, Anagrade	N	510.6	~ 0.152 (0.0076%)	~ 90
D310	54	n-Dodecyl- β -D-Maltopyranoside, Anagrade	N	510.6	~ 0.17 (0.0087%)	~ 78-149
D310A	54	n-Dodecyl- β -D-Maltopyranoside, Anagrade	N	510.6	~ 0.17 (0.0087%)	~ 78-149
D310LA	55	n-Dodecyl- β -D-Maltopyranoside, Anagrade	N	510.6	~ 0.17 (0.0087%)	~ 78-149
D310S	55	n-Dodecyl- β -D-Maltopyranoside, Sol-Grade	N	510.6	~ 0.17 (0.0087%)	~ 78-149
C327	36	CYMAL-7, Anagrade	N	522.5	~ 0.19 (0.0099%)	~ 150
C327S	37	CYMAL-7, Sol-Grade	N	522.5	~ 0.19 (0.0099%)	~ 150
D318	40	n-Dodecyl- β -D-Glucopyranoside, Anagrade	N	348.5	~ 0.19 (0.0066%)	N/A
AP1210	104	Anapoe-C ₁₂ E ₁₀	N	avg. 627.0	0.2 (0.013%)	N/A
APX114	106	Anapoe-X-114	N	avg. 536.0	0.2 (0.011%)	N/A
AZ314	108	Anzergent 3-14, Analytical Grade	Z	363.6	0.2 (0.007%)	~ 83-130
D310T	56, 135	n-Dodecyl-d25- β -D-Maltopyranoside	N	535.8	~ 0.2	N/A
U342	71	n-Undecyl- β -D-Thiomaltopyranoside, Anagrade	N	512.7	~ 0.21 (0.011%)	~ 106
APX100	105	Anapoe-X-100	N	avg. 647.0	0.23 (0.015%)	75-165
T360	30	n-Tetradecyl-N,N-Dimethylamine-N-Oxide, Anagrade	Z	257.5	~ 0.29 (0.0075%)	N/A
S350	60	Sucrose Monododecanoate, Anagrade	N	524.6	~ 0.3 (0.016%)	N/A
L212	95	LysoFos Choline 12, Anagrade	Z	439.5	~ 0.32	N/A
F212	91	Fos-Mea-12, Anagrade	Z	323	~ 0.43 (0.014%)	N/A
C326	34	CYMAL-6, Anagrade	N	508.5	~ 0.56 (0.028%)	~ 91
C326LA	35	CYMAL-6, Anagrade	N	508.5	~ 0.56 (0.028%)	~ 91
C326S	36	CYMAL-6, Sol-Grade	N	508.5	~ 0.56 (0.028%)	~ 91
U300HA	62	n-Undecyl- α -D-Maltopyranoside, Anagrade	N	496.6	~ 0.58 (0.029%)	N/A

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Detergent Properties Listed by CMC Values (continued)

Product No.	Page No.	Detergent	Type	FW	CMC mM (%)	Aggregation No.
U300	62	n-Undecyl- β -D-Maltopyranoside, Anagrade	N	496.6	~ 0.59 (0.029%)	~ 71
U300LA	62	n-Undecyl- β -D-Maltopyranoside, Anagrade	N	496.6	~ 0.59 (0.029%)	~ 71
U300S	63	n-Undecyl- β -D-Maltopyranoside, Sol-Grade	N	496.6	~ 0.59 (0.029%)	~ 71
C518	79	Cyclofos-7, Anagrade	N	363.3	~ 0.62 (0.022%)	N/A
APX305	106	Anapoe-X-305	N	avg. 1526.0	0.65	N/A
F310	87	Fos-Choline-13, Anagrade	Z	365.5	~ 0.75 (0.027%)	~ 87
F310S	87	Fos-Choline-13, Sol-Grade	Z	365.5	~ 0.75 (0.027%)	~ 87
APX405	106	Anapoe-X-405	N	avg. 1967.0	0.81 (0.16%)	N/A
P340	115, 126	Pentaethylene Glycol Monodecyl Ether, Anagrade	N	378.6	~ 0.81 (0.031%)	~ 73
APO106	103	Anapoe-C ₁₀ E ₆	N	avg. 423.0	0.9 (0.038%)	~ 40
D323	68	n-Decyl- β -D-Thioglucopyranoside, Anagrade	N	336.4	~ 0.9 (0.30%)	N/A
D335	68	n-Decyl- β -D-Thiomaltopyranoside, Anagrade	N	498.6	~ 0.9 (0.045%)	~ 75
H360	114, 125	Hexaethylene Glycol Monodecyl Ether, Analytical Grade	N	422.6	0.9	~ 73
D360	29, 120	n-Dodecyl-N,N-Dimethylamine-N-Oxide, Anagrade	Z	229.4	~ 1.2 (0.023%)	~ 76
D360S	29	n-Dodecyl-N,N-Dimethylamine-N-Oxide, Sol-Grade	Z	229.4	~ 1.2 (0.023%)	~ 76
O310F	59, 139	Octyl Maltoside, Fluorinated, Anagrade	N	688.4	~ 1.02	N/A
U310	63	ω -Undecylenyl- β -D-Maltopyranoside	N	494.6	~ 1.2 (0.059%)	N/A
APO109	103	Anapoe-C ₁₀ E ₉	N	avg. 555.0	1.3 (0.072%)	N/A
B310	109	Big Chap, Deoxy, Analytical Grade	N	862.1	1.4 (0.12%)	~ 8-16
H111	48	HEGA-11, Anagrade	N	393.5	~ 1.4 (0.055%)	N/A
D350	111, 120	n-Dodecyl-N,N-Dimethylglycine, Anagrade	Z	271.4	~ 1.5 (0.041%)	N/A
F308	85, 121	Fos-Choline-12, Anagrade	Z	351.5	~ 1.5 (0.047%)	~ 54
F308D	85, 136	Fos-Choline-12, Deuterated	Z	389.8	~ 1.5 (0.047%)	~ 54
F308S	86	Fos-Choline-12, Sol-Grade	Z	351.5	~ 1.5 (0.047%)	~ 54
D350S	111	n-Dodecyl-N,N-Dimethylglycine, Sol-Grade	Z	271.4	~ 1.5 (0.041%)	N/A
L360S	30	LAPAO, Sol-Grade	Z	300.6	~ 1.56 (0.052%)	~ 126
D322HA	51	n-Decyl- α -D-Maltopyranoside, Anagrade	N	482.6	~ 1.66 (0.08%)	N/A
T385	145	Cy-Tripplu	N	665.8	1.8	N/A
C324G	31	CYGLU-4, Anagrade	N	318.4	~ 1.8 (0.058%)	N/A
D322	51	n-Decyl- β -D-Maltopyranoside, Anagrade	N	482.6	~ 1.8 (0.087%)	~ 69
D322LA	51	n-Decyl- β -D-Maltopyranoside, Anagrade, Low Alpha	N	482.6	~ 1.8 (0.087%)	~ 69
D322S	52	n-Decyl- β -D-Maltopyranoside, Sol-Grade	N	482.6	~ 1.8 (0.087%)	~ 69
F306	84	Fos-Choline-11, Anagrade	Z	337.4	~ 1.85 (0.062%)	~ 18
F306S	84	Fos-Choline-11, Sol-Grade	Z	337.4	~ 1.85 (0.062%)	~ 18
D321	39	n-Decyl- β -D-Glucopyranoside, Anagrade	N	320.4	~ 2.2 (0.070%)	N/A
F300F	81, 139	Fos-Choline-8, Fluorinated, Anagrade	Z	529.2	2.2	N/A
C325	33	CYMAL-5, Anagrade	N	494.5	~ 2.4-5.0 (0.12%)	~ 47
C325S	34	CYMAL-5, Sol-Grade	N	494.5	~ 2.4-5.0 (0.12%)	~ 47
C516	79	Cyclofos-6, Anagrade	Z	349.2	~ 2.68 (0.094%)	N/A
AZ312	107, 120	Anzergent 3-12, Analytical Grade	Z	335.5	2.8 (0.094%)	~ 55-87
B300	109	Big Chap, Analytical Grade	N	878.1	2.9 (0.25%)	~ 10
N335	69	n-Nonyl- β -D-Thioglucopyranoside, Anagrade	N	322.4	~ 2.9 (0.093%)	N/A
N350	70	n-Nonyl- β -D-Thiomaltopyranoside, Anagrade	N	484.6	~ 3.2 (0.15%)	N/A
U360	30	n-Undecyl-N,N-Dimethylamine-Oxide, Anagrade	Z	215.4	~ 3.21 (0.069%)	N/A
T380	145	Ph-Tripplu	N	659.8	3.6	N/A
P305	116	Pluronic F-127	N	~ 12600.0	~ 3.97	N/A
C514	79	Cyclofos-5, Anagrade	Z	335	~ 4.5 (0.15%)	N/A
T370	145	Tripao	Z	362.5	4.5	N/A
F210	91	Fos-Mea-10, Anagrade	Z	295	~ 5.25 (0.15%)	N/A
D380	110	Deoxycholic Acid, Sodium Salt, Anagrade	A	414.6	~ 6 (0.24%)	~ 22
N330	58	n-Nonyl- β -D-Maltopyranoside, Anagrade	N	468.5	~ 6 (0.28%)	~ 55
M320	49	Mega-10, Anagrade	N	349.5	~ 6-7 (0.21%)	N/A
FCU110	90	Fos-Choline-Unsat-11-10	Z	335.4	~ 6.2 (0.21%)	N/A
N324	42	n-Nonyl- β -D-Glucopyranoside, Anagrade	N	306.4	~ 6.5 (0.20%)	~ 133
N324LA	42	n-Nonyl- β -D-Glucopyranoside, Anagrade	N	306.4	~ 6.5 (0.20%)	~ 133
N324S	42	n-Nonyl- β -D-Glucopyranoside, Sol-Grade	N	306.4	~ 6.5 (0.20%)	~ 133
H110	48	HEGA-10, Anagrade	N	379.5	~ 7.0 (0.26%)	N/A
P350	116, 126	Pentaethylene Glycol Monoethyl Ether, Anagrade	N	350.5	~ 7.1 (0.25%)	N/A
C324	32	CYMAL-4, Anagrade	N	480.5	~ 7.6 (0.37%)	~ 25
C316	76, 112	CHAPS, Anagrade	Z	614.9	~ 8 (0.49%)	~ 10

The types of detergents: A = Anionic / C = Cationic / N = Nonionic / Z = Zwitterionic

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Detergent Properties Listed by CMC Values (continued)

Product No.	Page No.	Detergent	Type	FW	CMC mM (%)	Aggregation No.
C316S	76, 112	CHAPS, Sol-Grade	Z	614.9	~ 8 (0.49%)	~ 10
C317	76, 113	CHAPSO, Anagrade	Z	630.9	~ 8 (0.50%)	~ 11
T350	117, 126	Tetraethylene Glycol Monooctyl Ether, Anagrade	N	306.5	~ 8 (0.25%)	~ 82
C512	78	Cyclofos-4, Anagrade	Z	320.9	~ 8.45 (0.45%)	N/A
O320	70	n-Octyl- β -D-Thiomaltopyranoside, Anagrade	N	470.6	~ 8.5 (0.40%)	N/A
O314	70	n-Octyl- β -D-Thioglucopyranoside, Anagrade	N	308.4	~ 9 (0.28%)	N/A
O314LA	70	n-Octyl- β -D-Thioglucopyranoside, Anagrade	N	308.4	~ 9 (0.28%)	~ 189
S1010S	110	Cholic Acid, Sodium Salt	I	430.6	~9.5 (0.41%)	~ 2.0-4.8
H350	114, 125	Hexaethylene Glycol Monooctyl Ether, Anagrade	N	394.5	~ 10 (0.39%)	~ 32
O311HA	43	n-Octyl- α -D-Glucopyranoside, Anagrade	N	292.4	~ 10-21 (0.3-0.6%)	N/A
AZ316	108	Anzergent 3-16, Analytical Grade	Z	391.7	10-60	~ 155
D365	29	n-Decyl-N,N-Dimethylamine-N-Oxide, Anagrade	Z	201.4	~ 10.48 (0.211%)	~ 7
F304	82	Fos-Choline-10, Anagrade	Z	323.4	~ 11 (0.35%)	~ 24
F304S	83	Fos-Choline-10, Sol-Grade	Z	323.4	~ 11 (0.35%)	~ 24
C411	47	C-HEGA-11, Anagrade	N	391.5	~ 11.5 (0.45%)	N/A
S300	116	Sodium Dodecanoyl Sarcosine, Anagrade	A	293.4	~ 14.4 (0.42%)	N/A
S300S	117	Sodium Dodecanoyl Sarcosine, Sol-Grade	I	293.4	~ 14.4 (0.42%)	N/A
P300	116	Pluronic F-68	N	~ 8400.0	~ 17.9	N/A
O311T	44, 138	n-Octyl-d17- β -D-Glucopyranoside	N	309.5	18-20	N/A
O311	43	n-Octyl- β -D-Glucopyranoside, Anagrade	N	292.4	~ 18-20 (0.53%)	~ 27-100
O311S	44	n-Octyl- β -D-Glucopyranoside, Sol-Grade	N	292.4	~ 18-20 (0.53%)	~ 27-100
O311D	45, 138	n-Octyl-d17- β -D-Glucopyranoside-d7	N	316.5	~ 18-20	N/A
D352	110	n-Decyl-N,N-Dimethylglycine, Anagrade	Z	243.4	~ 19 (0.46%)	N/A
A340	39	Anameg-7	N	335.4	19.5 (0.65%)	~ 92
O310	58	n-Octyl- β -D-Maltopyranoside, Anagrade	N	454.4	~ 19.5 (0.89%)	~ 47
O310S	58	n-Octyl- β -D-Maltopyranoside, Sol-Grade	N	454.4	~ 19.5 (0.89%)	~ 47
F208	91	Fos-Mea-8, Anagrade	Z	267	~ 22.0 (0.59%)	N/A
M325	49	Mega-9, Anagrade	N	335.5	~ 25 (0.84%)	N/A
FCI11	90	Fos-Choline-ISO-11, Anagrade	Z	337.4	~ 26.6 (0.9%)	N/A
DH325	53	2,6-Dimethyl-4-Heptyl- β -D-Maltoside	N	468.5	~ 27.5 (1.2%)	N/A
C323G	31	CYGLU-3, Anagrade	N	304.4	~ 28 (0.86%)	N/A
H301	69	n-Heptyl- β -D-Thioglucopyranoside, Anagrade	N	294.4	~ 29 (0.85%)	N/A
H301LA	69	n-Heptyl- β -D-Thioglucopyranoside, Anagrade	N	294.4	~ 29 (0.85%)	~ 27
O312	43	n-Octyl- β -D-Galactopyranoside, Anagrade	N	292.4	~ 29.5 (0.86%)	N/A
FCI09	90	Fos-Choline-ISO-9, Anagrade	Z	309	~ 32 (0.99%)	N/A
C323	32	CYMAL-3, Anagrade	N	466.5	~ 34.5 (1.6%)	~ 5
C410	46	C-HEGA-10, Anagrade	N	377.5	~ 35 (1.3%)	N/A
AZ310	107	Anzergent 3-10, Analytical Grade	Z	307.6	39 (1.2%)	~ 41
H109	47	HEGA-9, Anagrade	N	365.5	~ 39 (1.4%)	~ 5
F302	82	Fos-Choline-9, Anagrade	Z	309.4	~ 39.5 (1.2%)	~ 5
F302S	82	Fos-Choline-9, Sol-Grade	Z	309.4	~ 39.5 (1.2%)	~ 5
P310	59	2-Propyl-1-Pentyl Maltopyranoside, Anagrade	N	455.5	~ 42.5 (1.9%)	N/A
C510	78	Cyclofos-3, Anagrade	Z	306.9	~ 43 (1.3%)	N/A
H300	40	n-Heptyl- β -D-Glucopyranoside, Anagrade	N	278.4	~ 70 (1.9%)	N/A
H300LA	40	n-Heptyl- β -D-Glucopyranoside, Anagrade	N	278.4	~ 70 (1.9%)	N/A
M319	48	Mega-8, Anagrade	N	321.4	~ 79 (2.5%)	N/A
C409	46	C-HEGA-9, Anagrade	N	363.5	~ 108 (3.9%)	N/A
H108	47	HEGA-8, Anagrade	N	351.5	~ 109 (3.8%)	N/A
F300	81	Fos-Choline-8, Anagrade	Z	295.4	~ 114 (3.4%)	N/A
F300S	81	Fos-Choline-8, Sol-Grade	Z	295.4	~ 114 (3.4%)	N/A
C322	32	CYMAL-2, Anagrade	N	452.5	~ 120 (5.4%)	N/A
H310	57	n-Hexyl- β -D-Maltopyranoside, Anagrade	N	426.4	~ 210 (8.9%)	N/A
H305	41	n-Hexyl- β -D-Glucopyranoside, Anagrade	N	264.4	~ 250 (6.6%)	N/A
C508	78	Cyclofos-2, Anagrade	Z	293.8	~ 256 (7.5%)	N/A
C408	46	C-HEGA-8, Anagrade	N	349.5	~ 277 (9.7%)	N/A
C321	31	CYMAL-1, Anagrade	N	438.5	~ 340 (15%)	N/A
AZ308	107	Anzergent 3-8, Analytical Grade	Z	279.6	390 (10.9%)	N/A
ND195	119	NDSB-195	Z	195.3	N/A	N/A
ND201	119	NDSB-201	Z	201.2	N/A	N/A
ND211	119	NDSB-211	Z	211.3	N/A	N/A

The types of detergents: A = Anionic / C = Cationic / N = Nonionic / Z = Zwitterionic

(Continued on next page)

Detergent Properties Listed by CMC Values (continued)

Product No.	Page No.	Detergent	Type	FW	CMC mM (%)	Aggregation No.
ND221	119	NDSB-221	Z	221.3	N/A	N/A
ND256	119, 121	NDSB-256	Z	257.4	N/A	N/A
A110MT	144	2-Aminoethyl Methane Thiosulfonate Hydrobromide (MTSEA)	C	236.2	N/A	N/A
A835	129	Amphipol A8-35	C	~ 8000.0	N/A	N/A
AZ318	108	Anzergent 3-18, Analytical Grade	Z	419.7	N/A	N/A
B518	131	BisMalt-18	N	949.1	N/A	N/A
B520	131	BisMalt-20	N	977.1	N/A	N/A
B522	131	BisMalt-22	N	1005.2	N/A	N/A
B524	132	BisMalt-24	N	1033.2	N/A	N/A
B528	132	BisMalt-28	N	1089.4	N/A	N/A
CH200	77, 113	Cholesterol	N	386.6	N/A	N/A
CH210	77, 114	Cholesteryl Hemisuccinate Tris Salt	C	607.9	N/A	N/A
NG326	35, 65	CYMAL-6 Neopentyl Glycol	N	1000.55	N/A	N/A
NG327	37, 65	CYMAL-7 Neopentyl Glycol	N	1028.58	N/A	N/A
NG321	39, 66	Decyl Glucose Neopentyl Glycol	N	624.41	N/A	N/A
NG322	52, 66	Decyl Maltose Neopentyl Glycol	N	949.08	N/A	N/A
D910	52, 142	Decyl- β -D-Selenomaltoside	N	545.5	N/A	N/A
D607	92	1,2-Diheptanoyl-sn-Glycero-3-Phosphocholine	Z	481.5	N/A	N/A
D516	92	1,2-Dihexadecanoyl-sn-Glycero-3-Phosphocholine	Z	734.039	N/A	N/A
D606	92	1,2-Dihexanoyl-sn-Glycero-3-Phosphocholine	Z	453.5	N/A	N/A
D614	93	1,2-Dimyrystoyl-sn-Glycero-3-[Phospho-rac-(1-Glycerol)], Sodium Salt	C	688.9	N/A	N/A
D514	93	1,2-Dimyrystoyl-sn-Glycero-3-Phosphocholine	Z	677.9	N/A	N/A
D608	93	1,2-Dioctanoyl-sn-Glycero-3-Phosphocholine	Z	509.6	N/A	N/A
D518	94	1,2-Dioleoyl-sn-Glycero-3-Phosphocholine	Z	786.113	N/A	N/A
D912	56, 142	Dodecyl- β -D-Selenomaltoside	N	573.6	N/A	N/A
F304PDH	83, 135	Fos-Choline-10, Per Deuterated Head	Z	336.5	N/A	N/A
F304SDH	83, 135	Fos-Choline-10, Semi Deuterated Head	Z	332.5	N/A	N/A
F306PDH	84, 135	Fos-Choline-11, Per Deuterated Head	Z	350.5	N/A	N/A
F306SDH	84, 136	Fos-Choline-11, Semi Deuterated Head	Z	346.5	N/A	N/A
F308PDH	85, 136	Fos-Choline-12, Per Deuterated Head	Z	364.5	N/A	N/A
F308PDT	86, 137	Fos-Choline-12, Per Deuterated Tail	Z	376.6	N/A	N/A
F308SDH	86, 137	Fos-Choline-12, Semi Deuterated Head	Z	360.5	N/A	N/A
F312PDH	88, 137	Fos-Choline-14, Per Deuterated Head	Z	392.6	N/A	N/A
F312SDH	88, 138	Fos-Choline-14, Semi Deuterated Head	Z	388.6	N/A	N/A
GDN101	133	GDN	N	1165.31	N/A	N/A
H907	41, 142	Heptyl- β -D-Selenoglucoside	N	341.3	N/A	N/A
I1003	114	IPTG	N	238.31	N/A	N/A
NG318	41, 66	Lauryl Glucose Neopentyl Glycol	N	680.47	N/A	N/A
NG310	57, 67	Lauryl Maltose Neopentyl Glycol	N	1005.19	N/A	N/A
L412	96	LysoFos Choline Ether 12, Anagrade	Z	425.5	N/A	N/A
L414	96	LysoFos Choline Ether 14, Anagrade	Z	453.6	N/A	N/A
L416	96	LysoFos Choline Ether 16, Anagrade	Z	481.7	N/A	N/A
L312	97	LysoFos Glycerol 12, Anagrade	C	450.4	N/A	N/A
L314	97	LysoFos Glycerol 14, Anagrade	C	478.5	N/A	N/A
L316	97	LysoFos Glycerol 16, Anagrade	C	506.5	N/A	N/A
LCP18	140	MonoOlein	N	356.54	N/A	N/A
LCP16	140	MonoPalmitolein	N	328.49	N/A	N/A
NG311	45, 67	Octyl Glucose Neopentyl Glycol	N	568.69	N/A	N/A
O908	45, 142	Octyl- β -D-Selenoglucoside	N	355.3	N/A	N/A
O918	59, 143	Octyl- β -D-Selenomaltoside	N	517.5	N/A	N/A
P516	94	1-Palmitoyl-2-Oleoyl-sn-Glycero-3-Phosphocholine	Z	760.076	N/A	N/A
P416	94, 121	1-Palmitoyl-2-Oleoyl-sn-Glycero-3-Phosphoethanolamine	Z	717.996	N/A	N/A
P5008	129	PMAL-C8	Z	~ 18500.0	N/A	N/A
P5012	130	PMAL-C12	Z	~ 12000.0	N/A	N/A
P5016	130	PMAL-C16	Z	~ 39000-65000	N/A	N/A
S2000	143	L-(+)-Selenomethionine, Anagrade	N	196.1	N/A	N/A
T908	126, 143	12-Selenotetraethyleneglycol Mono Octyl Ether	N	369.4	N/A	N/A
S110MT	144	Sodium (2-Sulfonatoethyl) Methanethiosulfonate (MTSES)	C	242.28	N/A	N/A
TFA101	133	TFA	N	2148.42	N/A	N/A
T110MT	144	[2-(Trimethylammonium)ethyl] Methane Thiosulfonate Bromide	Z	278.24	N/A	N/A
U911	63, 143	Undecyl- β -D-Selenomaltoside	N	573.6	N/A	N/A

The types of detergents: A = Anionic / C = Cationic / N = Nonionic / Z = Zwitterionic

Detergent Analysis

Each lot of Anatrace detergent is analyzed so that you can be assured of the highest consistent quality available anywhere. Our Anagrade detergents are purified to be greater than 99% pure as measured by HPLC and to be low in UV absorbing or fluorescent impurities.

We are pleased to list below the analytical procedures used to evaluate our detergents. Should you have any questions about these procedures, please feel free to contact us.

Measurement of Purity (HPLC)

Anagrade detergents are greater than 99% pure and Sol-Grade detergents are greater than 97% pure as determined by HPLC. The column used is a standard C18 column (4.6 mm x 250 mm) in conjunction with a light scattering detector. An eluant of either acetonitrile/water or methanol/water is acceptable. The ratio will vary depending on the hydrophobicity of the detergent. Some examples are given below:

Detergent	Acetonitrile/water	Methanol/water
n-Heptyl- β -D-Glucopyranoside	25/75	45/55
n-Nonyl- β -D-Glucopyranoside	35/65	55/45
n-Hexyl- β -D-Maltopyranoside	20/80	40/60
n-Octyl- β -D-Maltopyranoside	30/70	55/45
n-Nonyl- β -D-Maltopyranoside	35/65	60/40
n-Dodecyl- β -D-Maltopyranoside	45/55	75/25
n-Tridecyl- β -D-Maltopyranoside	60/40	80/20
n-Hexadecyl- β -D-Maltopyranoside	70/30	90/10
Fos-Choline-10	45/55	65/35
Fos-Choline-12	45/55	75/25
Fos-Choline-14	45/55	85/15
CYMAL-3	35/65	65/35
CYMAL-5	45/55	70/30

Some impurities may be less than one percent and still affect the properties of a detergent lot. Therefore, the following tests are also performed to insure that you receive the highest quality detergent available.

Absorbance

The absorbance of the detergent solution (1% w/v) in water is measured in the UV region. Glucosides and maltosides should have low absorbance throughout this region.

Fluorescence

The fluorescence of the detergent solution (0.1% w/v) in water is compared to a standard BSA solution unless otherwise stated. The excitation wavelength is 280 nm and the emission is measured at 345 nm.

Conductance

The conductance of the detergent solution (10% w/v) in water is routinely measured. For those detergents which are nonionic or zwitterionic, a detergent solution should have conductance nearly the same as deionized water.

Solubility in water:

The solubility of the detergent solution in water is routinely tested. Many of the impurities in detergent preparations are not soluble in water; the cloudiness of a detergent solution at a concentration where it is known to be soluble indicates the presence of an insoluble impurity.

Measurement of pH

The pH of the detergent solution is routinely measured. The pH should be neutral for detergents that are either nonionic or zwitterionic.

Alcohol contamination

Glucoside and maltoside detergents are prepared from the corresponding hydrophobic alcohol. Trace amounts of this alcohol in the detergent lot can cause cloudiness in a detergent solution. Therefore, we measure the amount of alcohol in each lot of detergent by HPLC.

Alpha isomer

Glucoside and maltoside detergents have two isomeric forms, α and β . Each β detergent is analyzed for the percent α isomer present by HPLC.

Lot analysis, shipping and storage

Every lot of Anatrace detergent will be shipped with a certificate of analysis listing the results of the appropriate tests described above.

Anapoe detergents should be stored refrigerated in the dark. All other detergents should be stored frozen and kept dry. Warm to room temperature before opening the container.

CMC Determination By Dye Binding

PURPOSE: To determine the critical micelle concentration (CMC) of nonionic detergents such as dodecyl maltoside and nonyl glucoside using the fluorescent probe, analino-naphthalene sulfonic acid (ANS).

INSTRUMENT: This assay requires a fluorescent spectrophotometer.

REAGENTS: The following reagents must be prepared just prior to performing this analytical test:

1. Dye Solution

Open an ampule containing 1 ml of a 1 mM solution of 8-anilino-1-naphthalene sulfonic acid. Avoid getting this solution on skin because it does cause irritation.

2. Detergent Solution

A solution of detergent is prepared in D.I. water at a concentration that is 5 to 10 times the expected CMC.

CMC MEASUREMENT:

1. Instrument Setup

Set the fluorescent spectrophotometer for excitation at 410 nm and emission at 490 nm.

2. The Measurement:

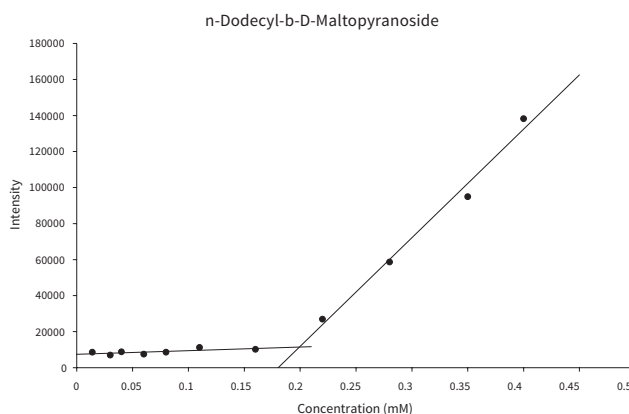
a. Balance the spectrophotometer—The cuvette is filled with 3 ml of D.I. water, placed in the cuvette holder, and inserted into the instrument. Obtain baseline measurement.

b. Addition of Dye—Remove cuvette from instrument and add 50 μ l of 1 mM dye solution. Cover the cuvette and invert it three times to ensure mixing of the contents while taking care not to touch the sides of the cuvette. Place the cuvette in the sample compartment of

the spectrophotometer. After closing the compartment door, record the emission value.

c. Addition of Detergent Solution—Add detergent solution (20 to 25 μ l) to the cuvette in a stepwise fashion. Mix and record the fluorescence (emission intensity) of the solution after each addition. Aliquots of the detergent solution should be added until there are at least 4 measurements below and 4 above the expected CMC value.

d. Determination of CMC—Plot the fluorescence (emission intensity) data versus the millimolar concentration of the detergent. The CMC is defined as the breakpoint in the fluorescence. An example of such a plot for the detergent n-Dodecyl- β -D-Maltopyranoside is below:



CMC Determination By Surface Tension

PURPOSE: To determine the critical micelle concentration (CMC) of nonionic detergents using the surface tension method.

EQUIPMENT: This assay uses no special instruments, but does require the following:

- 25 μ l disposable pipettes
- 6 x 50 mm culture tubes

REAGENTS: The following reagents must be prepared just prior to performing this analytical test:

1. Detergent Solution

A solution of the detergent should be prepared in D.I. water at a concentration that is 5 to 10 times the expected CMC.

CMC MEASUREMENT:

1. Height of water in micropipette

Into a disposable culture tube (6 x 50 mm) pipette 500 μ l of D.I. water, then insert a 25 μ l micropipette. Measure the height of the water in the micropipette when the water stops rising in the pipette. Record the height of the water in centimeters and repeat this measurement two more times. It is important to use the same pipette each time and to dry it out between measurements. Simply blowing air into the micropipette will dry it sufficiently.

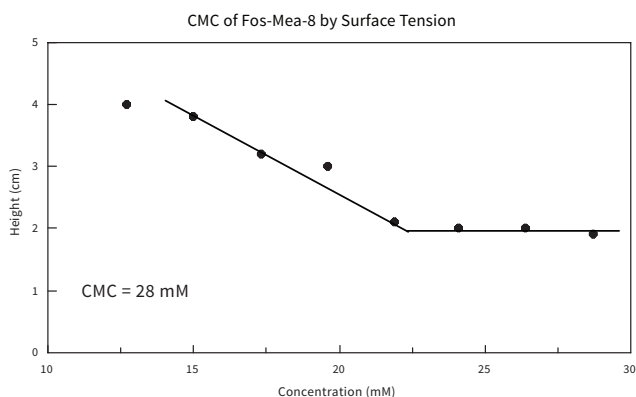
2. Addition of detergent solution

Add aliquots of detergent solution to the culture tube containing 500 μ l D.I. water such that at least 4 are below and 4 are above the

expected CMC. For each concentration of detergent the height of the solution in the micropipette is measured three times. The micropipette must be dried between measurements to ensure consistent and reproducible results. Blowing the micropipette out several times is sufficient to dry the micropipette.

3. Determination of CMC

Plot the mean peak heights (cm) versus the millimolar concentration of the detergent. The CMC is read off from the intersection of two straight lines, one in the descending part of the curve, the other through the plateau. An example of such a plot is shown below.



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