Sigma-Aldrich®
Lab Materials & Supplies

biological detergents

Name	Description	Brand	Cat. No.	CAS	MW (g/mol)	CMC	Aggregation Number	HLB	Cloud Point (°C)	Average Micellar Weight	Diagnostic Applications	Molecular Biology	Cell Culture	Electrophoresis/ Chromatography	Membrane Protein Solubilization	Enzymology	Antigen/Vaccine Preparation	Drug Delivery/ Liposomes	Mass Spectrometry	Microbiology
Anionic Detergents																				
1-Octanesulfonic acid sodium salt	BioXtra	Sigma-Aldrich	O0133	5324-84-5	216.27									•						
	~98%	Sigma-Aldrich	O8380																	
Chenodeoxycholic acid	≥97% (TLC)	Sigma	C9377	474-25-9	392.57	3 mM							•		•					
Cholic acid	from ox or sheep bile, ≥98% (TLC)	Sigma	C1129	81-25-4	408.57						•	•	•	•	•	•	•	•		
Deoxycholic acid	BioXtra, ≥98% (HPLC)	Sigma	D4297	83-44-3	392.57	2-6 mM	3-12	16		1,200-5,000	•	•	•	•	•	•	•	•		•
	≥ 98% (HPLC)	Sigma	D2510																	
	≥99.0% (T)	Sigma	30960																	
Docusate sodium salt	BioUltra, ≥99.0% (TLC)	Sigma	86139	577-11-7	444.56									•	•			•		
	BioXtra, ≥99%	Sigma	D4422														•			
	meets USP testing specifications	Sigma-Aldrich	D1685																	
LDS, Lithium dodecyl sulfate	BioReagent, for molecular biology, suitable for electrophoresis, ≥ 98.5% (GC)	Sigma	L9781	2044-56-6	272.33	8.2 mM	62		>100	17,000	•		•	•	•					
	≥ 98.5% (GC)	Sigma-Aldrich	L4632																	
	BioXtra, ≥ 98.5% (GC)	Sigma-Aldrich	L5901																	
N-Lauroylsarcosine	≥ 95% (titration)	Sigma	L5000	97-78-9	271.4	14.6 mM	2			600		•		•	•					•
	purum p.a., ≥ 98.0% (GC)	Sigma-Aldrich	61739																	
N-Lauroylsarcosine sodium salt	30% aqueous solution, ≥ 97.0% (HPLC)	Sigma	61747	137-16-6	293.38	14.6 mM	2			600		•		•	•					•
	BioUltra, for molecular biology, ≥ 99.0% (HPLC)	Sigma	61743																	
	BioXtra, ≥ 97% (TLC)	Sigma	L5777																	
	≥ 94% (titration)	Sigma	L5125																	
	BioReagent, for molecular biology, ≥94%	Sigma	L9150																	
	20% solution, for molecular biology	Sigma	L7414																	
Sodium 1-decanesulfonate	≥99.0% (T)	Sigma	30633	13419-61-9	244.33									•						
	BioXtra, ~98%	Sigma	D0181																	
	~98%	Sigma	D3412																	
Sodium cholate hydrate	Bioreagent, suitable for cell culture, ≥99% (HPLC)	Sigma	C9282	206986-87-0	430.55	9-15 mM	2-3	18		900-1,300	•	•	•	•	•	•	•	•		
	≥97.0% (dried material, NT)	Sigma	270229																	
	BioXtra, ≥99% (HPLC)	Sigma	C6445																	
	from ox and/or sheep bile, ≥99% (HPLC)	Sigma	C1254																	
Sodium deoxycholate	BioXtra, ≥98.0% (dry matter, NT)	Sigma	30970	302-95-4	414.55	2-6 mM	3-12	16		1,200-5,000	•	•	•	•	•	•	•	•		•
	≥97% (titration)	Sigma-Aldrich	D6750																	
	Suitable for manufacturing of diagnostic kits and reagents	Sigma	SRE0046																	
Sodium deoxycholate monohydrate	BioUltra, ≥99.0% (NT)	Sigma	30968	145224-92-6	432.57	2-6 mM	3-12	16		1,200-5,000	•	•	•	•	•	•	•	•		•
	BioXtra, ≥99.0% (titration)	Sigma	D5670																	
SDS, Sodium dodecyl sulfate	≥ 98.0% (GC), dust-free pellets	Sigma	75746	151-21-3	288.38	7-10 mM	62	40	>100	18,000	•	•	•	•	•	•	•	•		•
	BioUltra, for molecular biology, 10% in H_2O	Sigma	71736																	
	≥ 98.0% (GC)	Sigma	71729																	
	BioUltra, for molecular biology, ≥ 99.0% (GC)	Sigma	71725																	
	BioUltra, for molecular biology, 20% in H_2O	Sigma	05030																	
	BioReagent, for molecular biology, suitable for electrophoresis, ≥ 98.5% (GC)	Sigma	L3771																	
	≥ 90%	Sigma-Aldrich	62862																	
	ACS reagent, ≥ 99.0% (titration)	Sigma-Aldrich	436143																	
	92.5-100.5% based on total alkyl sulfate content	Sigma-Aldrich	L5750																	
	ReagentPlus®, ≥ 98.5% (GC)	Sigma-Aldrich	L4509																	
	BioXtra, ≥ 99.0% (GC)	Sigma-Aldrich	L6026																	
	≥99.0% (GC), dust-free pellets	Sigma	74255																	
	testing conforms to Pharmacopeia	Sigma	71717																	
	anhydrous, free-flowing, Redi-Dri™, ACS reagent, ≥99.0%	Sigma	RDD021																	
Sodium glycochenodeoxycholate	≥97% (HPLC)	Sigma	G0759	16564-43-5	471.61								•							
Sodium glycocholate hydrate	≥ 97% (TLC)	Sigma	G7132	338950-81-5	487.6	13 mM	1.9			900			•				•			
Sodium glycodeoxycholate	BioXtra, ≥97% (TLC)	Sigma	G9910	16409-34-0	471.61	2.1 mM	2			900			•			•	•			
Sodium hexanesulfonate	≥98% (elementaal analysis)	Sigma-Aldrich	H5269	2832-45-3	188.22															
	BioXtra	Sigma-Aldrich	H9026																	
Sodium pentanesulfonate	≥95% (elemental analysis)	Sigma-Aldrich	P0299	22767-49-3	174.19										•					
	BioXtra	Sigma-Aldrich	P8199																	
Sodium taurocholate hydrate	BioXtra, ≥95% (TLC)	Sigma	T9034	345909-26-4	537.68	3-11 mM	4			2,100			•	•	•					
	≥ 97.0% (TLC)	Sigma	86339																	
	≥ 95% (TLC)	Sigma	T4009																	
Sodium taurodeoxycholate hydrate	BioXtra, ≥ 97% (TLC)	Sigma	T0557	207737-97-1	521.69	1-4 mM	6			3,100	•		•	•	•					
	≥ 95% (TLC)	Sigma	T0875																	
Sodium taurursodeoxycholate	≥ 95% (TLC)	Sigma	T0266	14605-22-2	521.69	4 mM		20.1										•		
Cationic Detergents																				
Alkyltrimethylammonium bromide	≥95% (TLC)	Sigma	M7635	8044-71-1																•
Benzalkonium chloride	BioXtra	Sigma	B6295	63449-41-2									•							•
Benzyldimethylhexadecylammonium chloride	cationic detergent	Sigma	B4136	122-18-9	396.09															•
Dimethyldioctadecylammonium bromide	≥98% (TLC)	Sigma	D2779	3700-67-2	630.95							•						•		
	≥98.0% (AT)	Sigma	40165																	
	Selectophore™, ≥99.0% (T)	Sigma-Aldrich	40163																	
Dodecyltrimethylammonium bromide	≥98%	Sigma	D8638	1119-94-4	308.34															•
	BioXtra, ~99%	Sigma	D6047																	
Hexadecylpyridinium chloride monohydrate	meets USP testing specifications	Sigma-Aldrich	C0732	6004-24-6	358.00											•	•			•
	99.0-102.0% (titration)	Sigma	C9002																	
	BioXtra, 99.0-102.0% (titration)	Sigma	C5460																	
	tested according to Ph.Eur.	Sigma-Aldrich	52350																	
Hexadecyltrimethylammonium bromide, CTAB	for molecular biology, ≥ 99% (titration)	Sigma	H6269	57-09-0	364.45	0.92 mM	170	10		62,000	•	•	•	•				•		•
	BioXtra, ≥ 99% (titration)	Sigma	H9151																	
	≥ 98% (titration)	Sigma	H5882																	
	BioUltra, for molecular biology, ≥99.0% (AT)	Sigma	52365																	
	≥96.0% (AT)	Sigma-Aldrich	52370																	
	puriss. p.a., matrix substance for MALDI-MS	Sigma-Aldrich	07883																	
Tetradecyltrimethylammonium bromide, TTAB	for ion pair chromatography, ≥99.0% (AT)	Sigma-Aldrich	B7208	1119-97-7	336.39	4-5 mM	80			27,000	•	•				•				•
	98% (AT)	Sigma-Aldrich	B7210																	
	≥ 99% (TLC)	Sigma	T4762																	
Non-Ionic Detergents																				
1-Oleoyl-rac-glycerol	≥99.0% (TLC)	Sigma	M7765	111-03-5	356.54															
Brij® L23	Solution, 30 % (w/v) in H_2O	Sigma-Aldrich	B4184	9002-92-0	1198.0 (avg.)	0.091 Mm	40	16.9	>100	48,000	•		•	•	•	•	•			•
	suitable for Stein-Moore chromatography	Sigma-Aldrich	P1254																	
	main component: tricosaethylene glycol dodecyl ether	Sigma	16005																	
Brij® O10	non-ionic surfactant	Sigma	P6136	9004-98-2	709.00			12.4												
Decaethylene glycol monododecyl ether	nonionic surfactant	Sigma	P9769	9002-92-0	626.86									•	•					
Digitonin	free of water-insoluble constituents	Sigma	D141	11024-24-1	1229.31	<0.5 mM	60			70,000	•	•	•	•	•	•				
	~ 50% (TLC)	Sigma	D5628																	
ECOSURF™ EH-9	APEO-free , readily biodegradable	Sigma-Aldrich	STS0006	64366-70-7		1066 ppm		12.5	64											
ECOSURF™ SA-9	APEO-free , readily biodegradable	Sigma-Aldrich	STS0007			22 ppm		11.1	57											
Genapol® x-080	Isotridecyl alcohol polyglycol ether with 8 EO	Sigma	48750	9043-30-5	552.78	0.06-0.15 mM		13	>45							•				
Igepal® CA-630	nonionic, non-denaturing detergent	Sigma	56741	9002-93-1	603.0 (avg.)	0.083 mM	100-155	13.4	63-67	60,300 - 93,500	•	•	•	•	•	•	•	•		
	for molecular biology	Sigma	I8896																	
	viscous liquid	Sigma-Aldrich	I3021																	
Kolliphor® P 188	oxyethylene, 79.9-83.7%	Sigma	15759	9003-11-6	7680-9510 (avg.)	17.9 mM		>24	>100											•
	solid, suitable for cell culture, insect cell culture, plant cell culture	Sigma	K4894	9003-11-6																
	micro, oxyethylene content, 79.9-83.7%	Sigma	78973	9003-11-6																
Kolliphor® EL	pH-range 6.0 - 8.0	Sigma	C5135	61791-12-6	~ 2500			12-14												•
Methoxypolyethylene glycol 350	average mol wt 350	Sigma	M6768	9004-74-4	350 (avg)															
N,N-Dimethyldodecylamine N-oxide	BioXtra, ≥99.0% (NT)	Sigma	40234	1643-20-5	229.40	1-2 mM	76			17,400						•				
	solution, ~30% in H_2O	Sigma	40236																	
n-Dodecyl β-D-maltoside	BioXtra, ≥ 98% (GC)	Sigma	D5172	69227-93-6	510.62	0.17 mM	78-149			40,000-76,000	•		•	•	•	•	•	•		
	≥ 98% (GC)	Sigma	D4641																	
n-Nonyl-β-D-Glucopyranoside	≥97.0% (GC)	Sigma	N7507	69984-73-2	306.40	6.5 Mm	133			40,800				•	•					
n-Octyl-β-D-thioglucopyranoside	≥ 98.0% (GC)	Sigma	O6004	85618-21-9	308.43	9 mM	189			58,300			•			•	•			
Nonaethylene glycol monododecyl ether	nonionic surfactant	Sigma	P9641	3055-99-0	582.81	0.05 mM	110			64,000		•				•				
Nonidet™ P 40 Substitute	BioXtra, mixture of 15 homologues	Sigma	74385	9016-45-9	680 (avg.)	0.059 mM	132	13.5	45-50	90,000	•	•	•	•	•	•	•	•		•
	BioXtra, ampule, ~10% solution in H_2O	Sigma	98379																	
Pluronic® F-127	powder, BioReagent, suitable for cell culture	Sigma	P2443	9003-11-6	12600 (avg.)	3.97 mM		18-23	>100				•							•
Pluronic® F-68	10%, sterile-filtered solution, BioReagent, suitable for insect cell culture	Sigma	P5556	9003-11-6	8400 (avg.)	17.9 mM		>24	>100		•		•			•				•
Poly(ethylene glycol)	average mol wt 200	Sigma-Aldrich	P3015	25322-68-3	200 (avg.)															
Polyoxyethylene (10) tridecyl ether	mixture of C11 to C14 iso-alkyl ethers with C13 iso-alkyl predominating	Sigma	P2393	78330-21-9												•	•			
Polysorbate 20	tested according to Ph.Eur.	Sigma-Aldrich	44112	9005-64-5	1228 (avg.)	0.059		16.7	76		•		•	•	•	•	•	•		
	ampule, ~10% in H_2O	Sigma	93774																	
Polysorbate 80	tested according to Ph.Eur.	Sigma-Aldrich	59924	9005-65-6	1310 (avg.)	0.012 mM	58	15	65	79,000	•		•	•	•	•	•	•		
Saponin	for molecular biology, used as non-ionic surfactant, adjuvant	Sigma	47036	8047-15-2	1000-2000	0.001-0.01%					•	•	•							
	used as non-ionic surfactant, adjuvant	Sigma	84510																	

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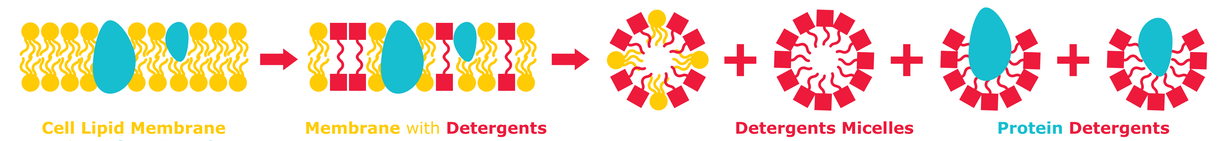
Non-Ionic Detergents (continued)																				
Span® 80	nonionic surfactant	Sigma	S6760	1338-43-8	428.62			4.3										•		
Span® 85	nonionic surfactant	Sigma	S7135	26266-58-0	957.52			1.8						•						
TERGITOL™	MIN FOAM 1x	Sigma	T1135	68551-14-4	640	34 ppm		12.6	40											•
TERGITOL™ 15-S	Type 15-S-7	Sigma	1557	68131-40-8	508	38 ppm		12.1	37		•									
	Type 15-S-9	Sigma	1559	68131-40-8	596	52 ppm		13.3	60						•	•				
	Type 15-S-30	Sigma-Aldrich	STS0001	84133-50-6	1520	558 ppm		17.4	>100											
	Type 15-S-40	Sigma-Aldrich	STS0002	84133-50-6	1960	783 ppm		18	>100											
	Type 15-S-40, 70% in H_2O	Sigma-Aldrich	STS0003	84133-50-6	1960	1314 ppm		18	>100											
TERGITOL™ NP	Type NP-7	Sigma	NP7	127087-87-0	528	39 ppm		12.0	20											•
	Type NP-9	Sigma	NP9	127087-87-0	616	60 ppm		12.9	54				•	•						•
	Type NP-10	Sigma	NP10	127087-87-0	682	55 ppm		13.2	63											•
	Type NP-40, 70% in H_2O	Sigma	NP40S	127087-87-0	1980	232 ppm		17.8	>100											
TERGITOL™ TMN	TMN-6, 90% in H_2O	Sigma	86453	60828-78-6	538	800 ppm		13.1	36											
	TMN-10, 90% in H_2O	Sigma	86454	60828-78-6	683 (avg.)	1313 ppm		14.4	76						•	•				
	TMN-100X, 90% in H_2O	Sigma-Aldrich	STS0004	60828-78-6	570	930 ppm		14.0	65						•	•				
Tetramethylammonium hydroxide pentahydrate	≥97% (titration)	Sigma	T7505	10424-65-4	181.23									•					•	
Thesit®	for membrane research	Sigma	88315	9002-92-0	583 (avg.)	0.09 mM														
TRITON™ CG-110	Alkyl Polyglucosides	Sigma-Aldrich	STS0005	68515-73-1	1748 ppm				>100					•	•					
TRITON™ x-100	BioUltra, for molecular biology, ~10% in H_2O	Sigma	93443	9002-93-1	647.0 (avg.)	0.23 mM	75-165	13.5	66	80,000	•	•	•	•	•	•	•			
	for molecular biology	Sigma	T8787	9002-93-1																
	laboratory grade	Sigma-Aldrich	X100	9002-93-1																
	peroxide- and carbonyl-free	Sigma-Aldrich	X100PC	9002-93-1																
	BioXtra	Sigma-Aldrich	T9284	9002-93-1																
TRITON™ x-100 reduced	Hydrogenated to reduce UV absorbance	Sigma	X100RS	92046-34-9	564.8	0.2-0.9 mM	100-155	13.5	65	80,000	•	•	•	•	•	•	•			
	used to solubilize membrane-bound proteins	Aldrich	282103	92046-34-9																
TRITON™ x-102	non-ionic detergent	Sigma-Aldrich	X102	9002-93-1	757	0.33 mM		14.4	88					•						
TRITON™ x-114	≤0.001% peroxides (as H_2O_2), ≤1% water	Sigma	93422	9036-19-5	536.0 (avg.)	0.2 mM		12.4	25					•	•	•				
	laboratory grade	Sigma-Aldrich	X114	9036-19-5																
TRITON™ x-114, reduced	reduced, ≥ 99%	Aldrich	531812	92046-34-9	564.79				34					•	•					
	reduced	Aldrich	300411	92046-34-9																
TRITON™ x-165 solution	69.0 - 71.0 % wt solids content	Sigma-Aldrich	X165	9036-19-5	911	0.43 mM		15.5	>100											
TRITON™ x-305 solution	70% in H_2O	Sigma-Aldrich	X305	9002-93-1	1526.0 (avg.)	0.65 mM		17.3	>100											
TRITON™ x-405 solution	70% in H_2O	Sigma-Aldrich	X405	9036-19-5	1967.0 (avg.)	0.81 mM		17.6	>100											
TRITON™ x-405, reduced	reduced	Aldrich	303127	92046-34-9	564.8															
TRITON™ x-705 solution	70% in H_2O	Sigma-Aldrich	X70570	9036-19-5				18.4	>100											
Tween® 20	meets EP testing specifications	Sigma-Aldrich	T2700	9005-64-5	1228 (avg.)	0.059 mM		16.7	76	*	•		•	•	•	•	•	•		
	viscous liquid, cell culture tested	Sigma	P2287	9005-64-5																
	for molecular biology, viscous liquid	Sigma	P9416	9005-64-5																
	viscosity 250-450 mPa.s (25 °C)	Sigma	93773	9005-64-5																
	Low-peroxide; Low-carbonyls, BHT as antioxidant	Sigma-Aldrich	P6585	9005-64-5																
	Low-peroxide; Low-carbonyls	Sigma-Aldrich	P8341	9005-64-5																
	BioXtra, viscous liquid	Sigma-Aldrich	P7949	9005-64-5																
	viscous liquid	Sigma-Aldrich	P1379	9005-64-5																
Tween® 60	nonionic detergent	Sigma	P1629	9005-67-8				14.9												•
Tween® 80	for molecular biology, syrup	Sigma	P5188	9005-65-6	1310 (avg.)	0.012 mM - 0.022 mM	58	15	65	79,000	•		•	•	•	•	•	•		•
	viscous liquid, suitable for cell culture, suitable for insect cell culture	Sigma	P4780	9005-65-6																
	BioXtra, viscous liquid	Sigma-Aldrich	P8074	9005-65-6																
	10%, Low peroxide	Sigma-Aldrich	P8192	9005-65-6																
	viscous liquid	Sigma-Aldrich	P1754	9005-65-6																
	viscous liquid, Low Peroxide	Sigma-Aldrich	P6349	9005-65-6																
	viscous liquid, Preservative Free, Low-peroxide; Low-carbonyls	Sigma-Aldrich	P6474	9005-65-6																
	from non-animal source	Sigma-Aldrich	P6224	9005-65-6																
	Oleic acid, ~70% (balance primarily linoleic, palmitic, and stearic acids)	Sigma	63161	9005-65-6																
Tyloxapol	BioXtra	Sigma	T0307	25301-02-4		0.018 mM			94.3				•	•					•	
	nonionic surfactant	Sigma	T8761																	
Zwitterionic Detergents																				
CHAPS	100 mM solution	Sigma	19899	75621-03-3	614.88	8 mM	10		>100	6,150	•		•	•	•	•	•			
CHAPS hydrate	≥ 98% (TLC)	Sigma-Aldrich	C3023	331717-45-4	614.88	8 mM	10		>100	6,150	•		•	•	•	•	•			
	BioReagent, suitable for electrophoresis, ≥ 98% (TLC)	Sigma	C9426	331717-45-4																
	BioXtra, ≥ 98% (TLC)	Sigma-Aldrich	C5070	331717-45-4																
CHAPSO	BioXtra, ≥ 98% (TLC)	Sigma	C4695	82473-24-3	630.88	8 mM	11		90	7,000			•	•	•					
	≥ 98% (TLC)	Sigma	C3649	82473-24-3																
SB3-10, Caprylyl sulfobetaine	≥ 98%	Sigma	D4266	15163-36-7	307.49	39 mM	41			12,600			•		•					
SB3-12, Lauryl sulfobetaine	used for protein solubilization	Sigma	D0431	14933-08-5	335.55	2.8 mM (20 mM Tris-HCl, pH 8.0, 0.1 M NaCl)	55 - 87			18,500 - 29,100										
	≥ 97.0% (dried material, CHN)	Sigma	40232	14933-08-5																
SB3-14, Myristyl sulfobetaine	≥ 99% (TLC), BioXtra	Sigma	T0807	14933-09-6	363.6	0.16 mM	83 - 130			30200 - 47,300	•		•	•	•	•				
	≥99% (TLC)	Sigma	T7763	14933-09-6																
	≥98.0% (T)	Sigma-Aldrich	40772	14933-09-6																
SB3-16, Palmityl sulfobetaine	≥ 98% (TLC)	Sigma	H6883	2281-11-0	391.65	10 - 60 mM	155			60,700			•	•	•				•	
Non-Detergents Sulfobetaines (NDSBs)																				
NDSB 195, Dimethylethylammoniumpropane sulfonate	≥ 97% (TLC)	Sigma	D0195	160255-06-1	195.28	These products do not form micelles								•	•					
NDSB 211, 3-[Dimethyl-(2-hydroxyethyl) ammonio]-1-propanesulfonate	≥ 98% (TLC)	Sigma	N0665	38880-58-9	211.28									•	•					
NDSB 221, 3-(1-Methylpiperidinio)-1-propanesulfonate	≥97% (TLC)	Sigma	N0790	160788-56-7	221.32									•	•					
NDSB 256, 3-(Benzyldimethylammonio) propanesulfonate	BioXtra, ≥99.0% (HPCE)	Sigma	17236	81239-45-4	257.35									•	•					
NDSB 256-4T, 3-(4-tert-Butyl-1-pyridinio)-1-propanesulfonate	≥ 98.0% (HPLC)	Sigma	53487	570412-84-9	257.35									•	•					

CMC in water at at 20-25 °C, unless otherwise specified



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