

# McCUTCHEON'S

## Volume 1: Emulsifiers & Detergents

### 1997

North American Edition



McCUTCHEON'S DIVISION, MC PUBLISHING CO., 175 Rock Road, Glen Rock, NJ 07452 USA  
Telephone: +1 (201) 652-2655 • Fax: +1 (201) 652-3419 • E-mail: TheMC@gomc.com

**1997**  
**McCutcheon's**  
**VOLUME 1:**  
**Emulsifiers & Detergents**  
**North American Edition**

**CONTENTS**

Company Index .....	v
Food Emulsifier Index .....	xvii
Textile Surfactant Index .....	xix
Surfactants .....	1
Formulated Detergent/Shampoo Concentrated Bases .....	222
Intermediates .....	229
HLB Index of Materials .....	243
CAS Number Index .....	261
Ionic Type Classification .....	280
Chemical Classification .....	291

Printed in U.S.A.  
Copyrighted 1997. McCutcheon's Division  
The Manufacturing Confectioner Publishing Co.  
175 Rock Road, Glen Rock, NJ 07452-1700 USA  
Phone: +1 (201) 652 2655 • Fax: +1 (201) 652 3419  
E-mail: TheMC@gomc.com  
All rights reserved  
ISBN 0-944254-48-9 LC # 82-644577

# McCutcheon's Emulsifiers & Detergents

## 1997 North American Edition

### HLB INDEX

This index contains only those materials for which the manufacturer has provided the HLB (Hydrophilic/Lipophilic Balance) number.

HLB	Trade Name	Chemical Description	HLB	Trade Name	Chemical Description
0.1-10.0	Amiter LGOD	2-Octyldodecyl diester of N-lauroyl-L-glutamic acid	2.0	Syncrowax AW-1C	C <sub>18</sub> -C <sub>36</sub> acid
0.6	Emerest® 2423	Glycerol trioleate	2.1	Calgene STS	Sorbitan tristearate
1.0	Calgene GTO	Glycerol trioleate	2.1	Dur-Lo®	Mono- and diglycerides
1.0	Lipovol GTB	Glyceryl tribehenate	2.1	Glycomul® TS	Sorbitan tristearate
1.0	Plurafac® LF 7000	Alkoxyated fatty alcohol	2.1	Liposorb TS	Sorbitan tristearate
1.0	Pluronic® L101	Block copolymers of propylene oxide and ethylene oxide	2.1	Nonionic 1025-R	EO/PO block copolymers
1.0	Pluronic® L121	Block copolymers of propylene oxide and ethylene oxide	2.1	S-Maz® 65 K	Sorbitan tristearate
1.0	Tetronic® 150R1	Block copolymers of ethylene oxide and propylene oxide	2.1	Span 65	Sorbitan tristearate
1.5	Grindsted Acetem	Acetylated monoglycerides	2.2	Sorbac 65	Sorbitan tristearate
1.5	Lexemul® EGDS	Glycol distearate	2.2	Sorbac 80	Sorbitan monooleate
1.7	Amiter LGOD-2	Dioxyethylene 2-octyldodecyl ether diester of N-lauroyl-L-glutamic acid	2.3-7.7	Grindsted Sorbitan Esters	Sorbitan esters of fatty acids
1.7	Hetoxide C-2	PEG-2 castor oil	2.3	Lexemul® EGMS	Glycol stearate
1.8	Acipol 0118	POE (1) stearic acid	2.4	Durlac® 100 W	Glyceryl lactoesters of fatty acids
1.8	Alkamuls STO	Sorbitan trioleate	2.4	Lexemul® GDL	Glyceryl dilaurate
1.8	Atsurf S-85	Sorbitan fatty ester	2.4	Mazol® GMO-K	Glycerol monooleate, kosher
1.8	Calgene STO	Sorbitan trioleate	2.5	Calgene GMT	Glycerol monotallate
1.8	Emerest 2380	Propylene glycol monostearate	2.5	Calgene GMT-40	Glycerol monotallate
1.8	Glycomul® TO	Sorbitan trioleate	2.5	Caprol ET	Polyglycerol mixed esters
1.8	Grindsted PGME	Propylene glycol esters of fatty acids	2.5	Caprol 10G100	Decaglycerol decaoleate
1.8	Liposorb TO	Sorbitan trioleate	2.5	Nonionic 1017-R	EO/PO block copolymers
1.8	S-Maz® 85	Sorbitan trioleate	2.6	EC-25™	Propylene glycol mono- and diesters of fats and fatty acids, mono- and diglycerides, partially hydrogenated vegetable oil with lecithin, BHT and citric acid
1.8	Sorbac 85	Sorbitan trioleate	2.6	Naturechem™ PGHS	Propylene glycol hydroxystearate
1.8	Span 85	Sorbitan trioleate	2.7	Calgene GMO	Glycerol monooleate
2.0	Actiflo® Series	Lecithin	2.7	Calgene GMS	Glycerol monostearate
2.0	Amiter LGS-2	Dioxyethylene stearyl ether diester of N-lauroyl-L-glutamic acid	2.8	Arlacel 186	Mono and diglycerides of fat forming fatty acids
2.0	Compritol 888	Glycerol mono/di/tribeatenate	2.8	Chemspere GMS	Glyceryl stearate
2.0	Genapol® 26-L-0.5	Laureth-0.5	2.8	Dur-Em® 114	Mono- and diglycerides
2.0	Genapol® 26-L-0.5	Laureth-0.5	2.8	Dur-Em® 117	Mono- and diglycerides
2.0	Lipo EGDS	Glycol stearate	2.8	Gliceol 160	Glycerol stearate
2.0	Lipo EGMS	Ethylene glycol monostearate	2.8	Gliceol 180	Glycerol oleate
2.0	Pegospere® 50-DS	Ethylene glycol distearate	2.9	Emerest 2410	Glycerol monoisostearate
2.0	Pluronic® L81	Block copolymers of propylene oxide and ethylene oxide	3.0-7.0	Pluronic® L61	Block copolymers of propylene oxide and ethylene oxide
2.0	Pluronic® 31R1	Block copolymers of ethylene oxide and propylene oxide	3.0-24.0	Arnox BP-Series	Blocked polymers glycol hydrophobe with various ratios of propylene and ethylene oxide
2.0	Precirol WL 2155	Glycerol mono/di/tristearate	3.0	Aldo MO FG	Glycerol mono/dioleate
2.0	Santone 10-10-0	Polyglycerol esters of fatty acids			

HLB Index

## HLB Index

HLB	Trade Name	Chemical Description	HLB	Trade Name	Chemical Description
3.0	Aldo MS LG FG	Glycerol mono/distearate (low glycerine)	3.5	Alphadim® 90 SBK	Distilled monoglycerides
3.0	Aldo PGHMS	Propylene glycol stearate (hi mono)	3.5	Calgene EGMS	Ethylene glycol monostearate
3.0	Aldo® HMS FG	Glycerol mono- and distearate (hi mono)	3.5	Cedepal CA-210	Octyl phenol ethoxylate
3.0	Antarox L 61	Alkoxyated glycols (block copolymers); poloxymers 181	3.5	Hostacerin DGO	Diglycerine sesquioleate
3.0	Antarox PGP 18-1	Ethoxylated polyoxypropylene glycol; poloxymers 181	3.5	Nonionic 2025-R	EO/PO block copolymers
3.0	Calgene GML	Glycerol monolaurate	3.5	Pegosperse 100-O	PEG (100) oleate
3.0	Cerasynt IP	Glycol stearate (and) other ingredients	3.6	Lipo GMS 450	Glycerol monostearate (40% mono)
3.0	Cerasynt M	Ethylene glycol monostearates	3.6	Surfactol® 318	Ethoxylated castor oil
3.0	Cerasynt PA	Propylene glycol monostearate	3.6	Triton® X-15	Octylphenoxypropoxyethanol
3.0	Crodesta F-10	Sucrose distearate	3.7	Arlacel C	Sorbitan sesquioleate
3.0	Delonic EO-PO-1	Polyoxyethylene-polyoxypropylene block polymer	3.7	Genapol® 26-L-1	Natural linear alcohol ethoxylated with 1 mole of EO
3.0	Drewpol 10-10-0 K	Polyglyceryl ester	3.7	Genapol® 26-L-1	C <sub>12</sub> -C <sub>16</sub> natural linear alcohol ethoxylated with 1 mole of EO
3.0	Generol™ 122 (Cosmetic Grade)	Refined soya sterol	3.7	Imwitor 780 K	Glycerol mono/diester of isostearic & succinic acid
3.0	Generol™ 122 (Cosmetic Grade)	Refined soya sterol	3.7	Lipo GMS 410	Glycerol monostearate (40% mono)
3.0	Labrafil M 2130CS	Hydrogenated palm/palm kernel oil PEG-6	3.7	Liposorb SQO	Sorbitan sesquioleate
3.0	Lipo PGMS	Propylene glycol stearate	3.7	Neodol® 23-1	C <sub>12</sub> -C <sub>13</sub> linear primary alcohol ethoxylate
3.0	Mazol® 300K	Glycerol monooleate, kosher	3.7	Sorbac 83	Sorbitan sesquioleate
3.0	Pegosperse PMS	Propylene glycol stearate	3.8-5.3	Dimodan	Distilled monoglycerides
3.0	Pegosperse® 50-MS	Ethylene glycol monostearate	3.8	Chemax HCO-5	Ethoxylated hydrogenated castor oil
3.0	Plurafac® LF 3140	Alkoxyated fatty alcohol	3.8	Imwitor 900	Glycerol mono/diester of palmitic/ stearic acid
3.0	Plurafac® LF 4030	Alkoxyated fatty alcohol	3.8	Imwitor 945	Glycerol mono/diester of palmitic/ stearic acid
3.0	Polyaldo® DGDO	Decaglycerol decaoleate	3.8	Lexemul® 515	Glycerol stearate
3.0	Protegin	Blended mixture	3.8	Pegosperse 100-S	PEG (100) stearate
3.0	Protegin W	Blended mixture	3.8	Rita GMS	Glycerol monostearate
3.0	Protegin WX	Blended mixture	3.8	Tegin M	Glycerol monostearate
3.0	Protegin X	Blended mixture	3.8	Tegin 4100	Glycerol monostearate, non-SE
3.0	Starplex 90	Distilled monoglyceride	3.9	Alkamuls COH-5	Hydrogenated castor oil + 5 EO
3.0	Surfynol® DF110D Defoamer	Higher molecular weight acetylenic glycol	3.9	Emerest 2400	Glycerol monostearate
3.0	Surfynol® DF110L Defoamer	Higher molecular weight acetylenic glycol	3.9	Mazol® GMS-K	Glycerol monostearate, kosher
3.0	T-Det® EPO-61	Block copolymer of propylene oxide and ethylene oxide	3.9	Norfox 165C	Acid stable glycerol monostearate
3.0	Tetronic® 701	Block copolymers of ethylene oxide and propylene oxide	4.0-5.0	Alkaterge® E	Oxazoline derivative
3.0	Tetronic® 901	Block copolymers of ethylene oxide and propylene oxide	4.0-5.0	Surfynol® SE Surfactant	Self-emulsifiable surfactant blend
3.0	Tomah E-18-2	Amines, ethoxylated	4.0-5.0	Surfynol® SE-F Surfactant	Self-emulsifiable surfactant blend
3.2	BFP 65	Mono- and diglycerides	4.0-6.0	Cremonophor WO 7	Ethoxylated high purity castor oil
3.2	BFP 74	Mono- and diglycerides	4.0	Aldo MS FG	Glycerol mono/distearate
3.2	BFP 75	Mono- and diglycerides	4.0	Aldo® MS	Glycerol mono/distearate
3.2	Capmul GMS	Glycerol monostearate	4.0	Aldospense® TS-20 FG	20% Polysorbate 65, 80% glycerol monostearate
3.2	CIHL 13788	Hexaglycerol ester	4.0	Alkaterge® T	Oxazoline derivative
3.3	Dur-Em® 204	Mono- and diglycerides	4.0	Antarox 31-R-1	Alkoxyated glycols; meroxipol 131
3.3	Dur-Em® 207	Mono- and diglycerides	4.0	Blosoft E-200	Primary alcohol ethoxylate
3.3	Surfonic® DNP-15	Dinonylphenol ethoxylate-1.5 moles EO	4.0	Calgene PGML	Propylene glycol monolaurate
3.3	Tegin O	Glycerol oleate	4.0	Calgene PGS-62	Hexaglycerol distearate, veg.
3.4	Calgene PGMS	Propylene glycol monostearate	4.0	Centrocaps® Series	Lecithin
3.4	Capmul GMO	Glycerol monooleate	4.0	Centrol® Series	Lecithin
3.4	Drewmulse GMO	Glycerol monooleate	4.0	Centrophase® Series	Lecithin
3.4	Emerest 2421	Glycerol monooleate	4.0	Cerasynt GMS	Glycerol stearate
3.4	Emerest® 2400	Glycerol monostearate, pure	4.0	Cholesterol NF	Cholesterol, NF
3.4	Emerest® 2421	Glycerol monooleate	4.0	Dow Corning® 3225C Formulation Aid	Silicone glycol copolymer (volatile silicone dispersion)
3.4	Mazol® PGMS-K	Propylene glycol monostearate, kosher	4.0	Drewpol 6-2-S K	Hexaglycerol distearate
3.4	Surfonic® N-10	Nonylphenol ethoxylate	4.0	Ethospense OA-2	Oleth-2
3.4	Tegin ISO	Glycerol isostearate	4.0	Ethox CO-5	Ethoxylated triglycerides
3.5	Alphadim 90 VCK	Distilled monoglycerides	4.0	Glycomul® SOC	Sorbitan sesquioleate
3.5	Alphadim® 90 LC	Distilled monoglycerides	4.0	Imwitor 191	Distilled monoglycerides
3.5	Alphadim® 90 NLK	Distilled monoglycerides	4.0	Imwitor 742	Glycerol mono/diester of medium chain fatty acids
			4.0	Labrafac Hydro	PEG-4 caprylate/caprinate glycerides
			4.0	Labrafil M 1944CS	Apricot kernel oil PEG-6

HLB	Trade Name	Chemical Description	HLB	Trade Name	Chemical Description
4.0	Labrafil M 1969CS	Peanut oil PEG-6	4.5	Emsorb 2502	Sorbitan sesquioleate
4.0	Labrafil M 1980CS	Olive oil PEG-6	4.5	Ethomeen T/12	Tertiary amines ethylene oxide condensation products of the primary fatty amines
4.0	Labrafil M 2125CS	Corn oil PEG-6 esters	4.5	Surfonic® L24-1.3	Linear alcohol ethoxylate
4.0	Lexemul® P	Propylene glycol stearate, SE	4.6	Alkasurf NP-1	Nonylphenol ethoxylate
4.0	Macol® 33	Block copolymers of ethylene oxide and propylene oxide	4.6	Arosurf 66-E2	Polyoxyalkylated isostearyl alcohol
4.0	Monalube 335	Glycerol monooleate	4.6	Cedepal CO-210	Nonyl phenol ethoxylate
4.0	Monoglycerides Glyceryl Monestearate	Glycerol Esters	4.6	Emsorb 2500	Sorbitan monooleate
4.0	OHlan®	Hydroxylated lanolin	4.6	Genapol® 26-L-1.3	Laureth-1.3
4.0	Plurafac® LF 131	Alkoxylated fatty alcohol, capped	4.6	Genapol® 26-L-1.3	Laureth-1.3
4.0	Plurafac® LF 2240	Alkoxylated fatty alcohol	4.6	Igepal CO-210	Ethoxylated nonylphenol; nonoxynol-2
4.0	Pluronic® 17R2	Block copolymers of ethylene oxide and propylene oxide	4.6	T-Det® N-1.5	Ethoxylated nonylphenol (number indicates moles of ethylene oxide)
4.0	Pluronic® 25R2	Block copolymers of ethylene oxide and propylene oxide	4.6	Trycol 6960	Ethoxylated nonylphenol
4.0	Ritahydrox	Hydroxylated lanolin	4.7	Arlacel 60	Sorbitan monostearate
4.0	Ritawax	Lanolin alcohol	4.7	Calgene DGO	Diethylene glycol monooleate
4.0	Softigen 701	Oxyfatty acid monoglyceride	4.7	Calgene DGS	Diethylene glycol monostearate
4.0	Super Hartolan/Hartolan	Lanolin alcohols	4.7	Calgene SMS	Sorbitan monostearate
4.0	Surfynol® 104A Surfactant	Solution of tetramethyl decylenediol in 2-ethylhexanol	4.7	Crill 3	Sorbitan monostearate NF
4.0	Surfynol® 104BC Surfactant	Tetramethyl decylenediol dissolved in 2-butoxyethanol	4.7	Crill 6	Sorbitan isostearate
4.0	Surfynol® 104DPM	50% tetramethyl decylenediol in dipropylene glycol monomethyl ether	4.7	DeMuls SMS	Sorbitan monostearate ester
4.0	Surfynol® 104E Surfactant	Solution of tetramethyl decylenediol in ethylene glycol	4.7	DeMuls SMS	Sorbitan monostearate ester
4.0	Surfynol® 104H Surfactant	Solution of tetramethyl decylenediol in ethylene glycol	4.7	Durtan 65	Sorbitan derivative
4.0	Surfynol® 104NP	50% tetramethyl decylenediol in n-propanol	4.7	Durtan® 60	Sorbitan monostearate
4.0	Surfynol® 104PA Surfactant	Solution of tetramethyl decylenediol in isopropyl alcohol	4.7	Emerest 2452	Triglycerol diisostearate
4.0	Surfynol® 104PG50 Surfactant	50% tetramethyl decylenediol in propylene glycol	4.7	Liposorb S	Sorbitan monostearate
4.0	Surfynol® 104S Surfactant	Tetramethyl decylenediol on amorphous silica	4.7	S-Maz®-60K	Sorbitan monostearate, kosher
4.0	Surfynol® 420	Ethoxylated tetramethyl decylenediol	4.7	Sorbac 60	Sorbitan monostearate
4.0	Trylon 5900	Ethoxylated castor oil (CO)	4.7	Span 60	Sorbitan monostearate
4.0	Trylox 5902	Ethoxylated castor oil (CO)	4.7	Span 60K	Sorbitan monostearate
4.1	DeSotan™ SMT	Sorbitan monostearate	4.9	Brij 72	Polyoxyethylene (2) stearyl ether
4.1	Ice™ No. 12	Mono- and diglycerides with polysorbate 65	4.9	Brij 93	Polyoxyethylene (2) oleyl ether
4.1	Lexemul® AR	Glyceryl stearate (and) stearamidoethyl diethylamine	4.9	Chemax CO-5	Ethoxylated castor oil
4.1	Nonionic 2017-R	EO/PO block copolymers	4.9	Ethox SAM-2	Ethoxylated fatty amine
4.1	Nopalcol 1-TW	Diethylene glycol monostearate	4.9	Hetoxol OL-2	Oleth-2
4.1	Surfonic® DNP-20	Dinonylphenol ethoxylate-2 moles EO	4.9	Hetoxol STA-2	Steareth-2
4.2	Dur-Em® 207E	Mono- and diglycerides with citric acid	4.9	Ice™ No. 81	Mono- and diglycerides and polyglycerol esters of fatty acids
4.2	Ethox TAM-2	Ethoxylated fatty amines	4.9	Lexemul® AS	Glyceryl stearate (and) sodium lauryl sulfate
4.2	Teginacid	Glycerol monostearate, SE	4.9	Lipocol O-2	POE (2) oleyl ether
4.3	Alkamuls SMO	Sorbitan monooleate	4.9	Lipocol S-2	POE (2) stearyl ether
4.3	Arlacel 80	Sorbitan monooleate	4.9	Macol® SA-2	POE (2) stearyl ether
4.3	Atplus 300F	Formulated product	4.9	Rhodasurf S-2	Polyoxyethylene (2) stearyl alcohol; steareth-2
4.3	Atplus 401	Formulated product	4.9	Ritoleth 2	Oleth-2
4.3	Atsurf S-80	Sorbitan fatty ester	4.9	Teginacid Special	Glycerol monostearate, SE
4.3	Calgene SMO	Sorbitan monooleate	4.9	Volpo S-2	Steareth-2
4.3	Crill 4	Sorbitan oleate	5.0-8.0	Silwet® L-7001	Silicone glycol copolymers
4.3	DeMuls SMO	Sorbitan monooleate ester	5.0-8.0	Silwet® L-7002	Silicone glycol copolymers
4.3	DeMuls SMO	Sorbitan monooleate ester	5.0-8.0	Silwet® L-7087	Silicone glycol copolymer
4.3	DeSotan™ SMO	Sorbitan monooleate	5.0-8.0	Silwet® L-722	Silicone glycol copolymers
4.3	Glycomul® O	Sorbitan monooleate	5.0-8.0	Silwet® L-7220	Silicone glycol copolymer
4.3	Liposorb O	Sorbitan monooleate	5.0-8.0	Silwet® L-7500	Silicone glycol copolymers
4.3	S-Maz® 80	Sorbitan monooleate	5.0-8.0	Silwet® L-7600	Silicone glycol copolymers
4.3	Span 80	Sorbitan monooleate, N F	5.0-8.0	Silwet® L-7602	Silicone glycol copolymers
4.4	Alfonic® 1216-22	Ethoxylated linear alcohols (22% E.O.)	5.0-8.0	Silwet® L-7604	Silicone glycol copolymers
4.4	Arapol 0218	POE (20) stearyl alcohol	5.0-8.0	Silwet® L-7605	Silicone glycol copolymers
			5.0-8.0	Silwet® L-7607	Silicone glycol copolymers
			5.0-8.0	Silwet® L-7608	Silicone glycol copolymer
			5.0-8.0	Silwet® L-77	Silicone glycol copolymers
			5.0	Aldisperse® O-20 FG	20% Polysorbate 80, 80% glycerol monostearate
			5.0	Ameroxol® OE-2	Ethoxylated oleyl alcohol, (number following tradename indicates strength)



# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.