PILOT® CHEMICAL COMPANY

Leadership. Service. Flexibility. Success. **We're going further®.**

Emulsion Polymerization Product Catalog

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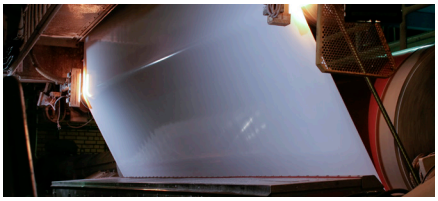
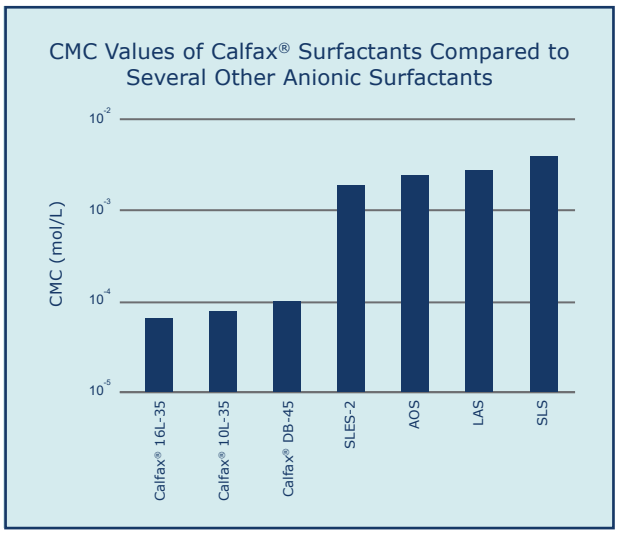
Charting Your Course with Innovative Chemical Solutions

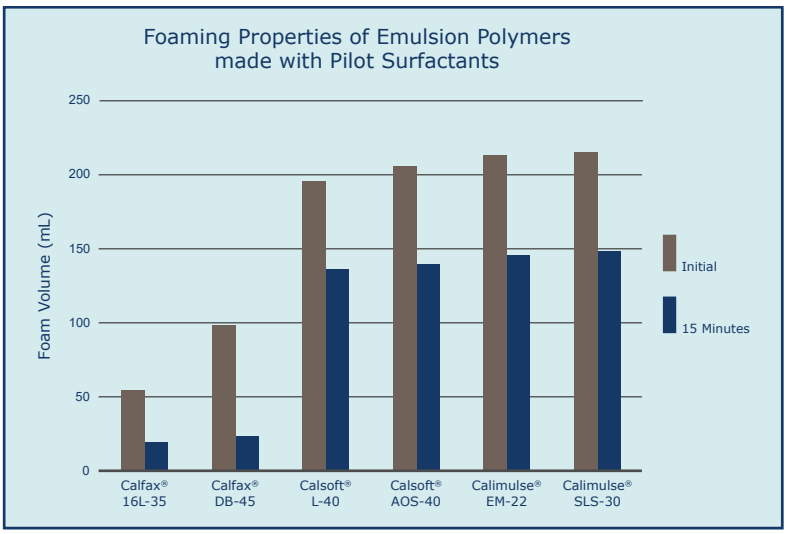
Pilot Chemical's customized manufacturing solutions have spanned the globe for more than 50 years. Commitment to unique chemical processes and efficient manufacturing are our hallmarks, lending to a storied history of creating the best surfactants in the industry that maximize your new product development opportunities.

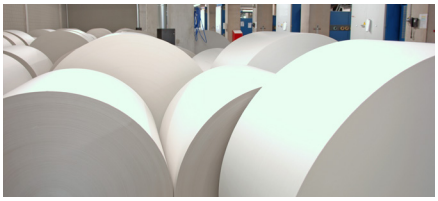
We are a dynamic, market-focused, and environmentally conscious company that sets the standard of comprehensive chemical dexterity. Between easy access to knowledgeable and reliable assistance from our industry experts through all stages of production, and our well-established distributor network with a record of consistent, efficient delivery, you can depend on Pilot to help lead you to success.



Diphenyl Oxide Disulfonates and Disulfonic Acids	Calfax® disulfonates and disulfonic acids are efficient anionic emulsifying and wetting agents with great electrolyte, temperature and hard water stability. Provides unsurpassed low critical micelle concentrations which aide in consistent particle size and distribution. Can be used as a sole surfactant or with other surfactants. Extremely stable in harsh environments; acidic and alkalinic, peroxide, bleach, high electrolytes and high temperatures. Low foaming, excellent substrate and low migration, wetting paints, coatings, adhesives and printing inks. Good compatibility with phosphate ester and nonionic surfactants. High hardness and alkaline tolerance; suitable for use in concrete, cement and masonry applications. Disulfonic acids offer higher activity levels and neutralization compared to disulfonates of choice. Many bases can neutralize these acids to produce a surfactant for emulsion polymerization which feature unique and desirable characteristics. All Calfax® products are VOC alternative, CFR 21 approved and do not contain any halogenated solvents. Perfect choice for APEO alternative formulations.			
Product	**Chemical Name**	**Physical Form/Activity**	**Features/Benefits**	**Application**
Calfax® 6LA-70	C6 Linear Diphenyl Oxide Disulfonic Acid	Liquid/72%	Calfax® 6LA-70 utilizes a low carbon chain which presents excellent hydrotroping, coupling and rinsability properties. Can be neutralized with many different bases.	Easy-to-handle for emulsion polymerizations: • all acrylics • styrene-acrylics • styrene-butadiene • vinyl • choloprene • nitrile General adhesives, hot melt, pressure sensitive adhesives, films, paints, printing inks and aerosol
Calfax® 10L-45	Sodium C10 Linear Diphenyl Oxide Disulfonate	Liquid/45%	Calfax® 10L-45 produces very stable emulsion polymerizations with low foam. Provides excellent stabilization of rubber latex. Great synergy with polychloroprene. It is a perfect chemistry for synthetic rubbers.	
Calfax® 16L-35	Sodium C16 Linear Diphenyl Oxide Disulfonate	Liquid/35%	Calfax® 16L-35 is a highly efficient surfactant which produces extremely low critical micelle concentrations. It provides good emulsification with great stability, and is efficient in producing small particle size latex.	
Calfax® DB-45	Sodium C12 Branched Diphenyl Oxide Disulfonate	Liquid/45%	Calfax® DB-45 produces consistent polymerizations with excellent mechanical, thermal and electrolytic stability. Has great interface absorption features and great particle size control. Calfax® DB-45 also offers excellent wetting properties which assist in prevention defects in coatings and paints.	
Calfax® DBA-40	C12 Branched Diphenyl Oxide Disulfonic Acid	Liquid/40%	Calfax® DBA-40 and Calfax® DBA-70 offer consistent emulsifications with outstanding mechanical and thermal stability, and can be neutralized with many different bases to produce low-foaming emulsifiers with unique characteristics.	
Calfax® DBA-70	C12 Branched Diphenyl Oxide Disulfonic Acid	Liquid/71%		







Sulfonates	Calimulse® and Calsoft® sulfonates are anionic surfactants that are VOC and halogenated solvent alternatives. They offer great consistency and predictable performance in a variety of emulsion polymerization applications. Perfect choice for APEO-alternative formulations.			
Product	**Chemical Name**	**Physical Form/Activity**	**Features/Benefits**	**Application**
Calimulse® AOS	Sodium C14-16 Alpha Olefin Sulfonate	Liquid/40%	Calimulse® AOS is a clear anionic surfactant with good economical emulsification and wetting properties. Readily biodegradable.	Styrene-Butadiene, vinyl acetate, nitrile and acrylic latex manufacture General adhesives, hot melt, pressure sensitive adhesives films, paints, coatings, printing inks and aerosols
Calimulse® EM-22	Sodium Branched Alkyl Benzene Sulfonate	Liquid/22%	Calimulse® EM-22 is an effective emulsifier which produces stable emulsions. It also has great wetting and handling properties.	
Calimulse® EM-96F	Sodium Branched Alkyl Benzene Sulfonate	Flake/96%	Calimulse® EM-96F is a high active and very pure branched anionic sulfonate non-caking flake with great wetting and emulsifying properties.	
Calimulse® L-22	Sodium Linear Alkyl Benzene Sulfonate	Liquid/22%	Calimulse® L-22 offers great emulsifying and wetting properties. Perfect as a primary or co-emulsifier. Readily biodegradable.	
Calimulse® L-50	Sodium Linear Alkyl Benzene Sulfonate	Liquid/71%	Calimulse® L-50 is a high active and viscous linear anionic surfactant. The higher viscosity of L-50 often requires special storage and handling. It does not contain a hydrotrope. Readily biodegradable.	
Calimulse® PR	Isopropylamine Branched Alkyl Benzene Sulfonate	Liquid/90%	Calimulse® PR is a high active branched anionic surfactant with great stabilization characteristics. Great compatibility with other surfactants.	Styrene, vinyl acetate, nitrile and acrylic latex manufacture General adhesives, hot melt, pressure sensitive adhesives films, paints, coatings, printing inks and aerosols
Calimulse® PRS	Isopropylamine Linear Alkyl Benzene Sulfonate	Liquid/93%	Calimulse® PRS is a high active linear anionic surfactant with great stabilization and wetting characteristics. Great compatibility with other surfactants. Readily biodegradable.	
Calsoft® F-90	Sodium Linear Alkyl Benzene Sulfonate	Flake/90%	Calsoft® F-90 is a high active and very pure linear anionic sulfonate flake product with great wetting and emulsifying properties. Readily biodegradable.	
Calsoft® OS-45S	Sodium Oleic Sulfonate	Liquid/45%	Calsoft® OS-45S is an emulsifier with low foam and excellent wetting characteristics. Biodegradable and derived from natural and renewable resources.	Styrene-butadiene carboxylated latex emulsion polymerization

Sulfonic Acids	Calimulse® and Calsoft® sulfonic acids offer higher activity levels compared to sulfonates of choice. Many bases can neutralize these acids to produce a surfactant for emulsion polymerization that presents unique and desirable characteristics. VOC alternative that does not contain any halogenated solvents. Perfect choice for APEO-alternative formulations.			
Product	**Chemical Name**	**Physical Form/Activity**	**Features/Benefits**	**Application**
Calimulse® EM-99	Branched Dodecyl Benzene Sulfonic Acid	Liquid/97%	Calimulse® EM-99 is a high active branched anionic sulfonic acid with great stability and emulsifying properties.	Styrene, vinyl, acrylic and butadiene carboxylated latex emulsion polymerization
Calsoft® LAS-99	Linear Alkyl Benzene Sulfonic Acid	Liquid/97%	Calsoft® LAS-99 is a high active linear anionic sulfonic acid with good emulsifying properties. Readily biodegradable.	

Emulsion Polymerization

Pilot offers an extensive variety of diphenyl oxide disulfonates, sulfonic acids, sodium sulfonates, and alcohol sulfates. Pilot's products are available in liquid, dry flake, and paste form, and are used in paint, coating, rubber, latex, agriculture, adhesives, and other polymer manufacturing applications.

Pilot owns the most state-of-the-art continuous sulfation process in North America, is a leader in quaternary ammonium compounds, and is the world's largest manufacturer of disulfonates.

Alcohol Sulfates	Alkyl sulfates are anionic surfactants that are VOC and halogenated solvent alternatives. They offer great consistency and predictable performance in a variety of emulsion polymerization applications. Perfect choice for APEO-alternative formulations.			
Product	**Chemical Name**	**Physical Form/Activity**	**Features/Benefits**	**Application**
Calimulse® SLS	Sodium Lauryl Sulfate	Liquid/30%	Calimulse® SLS is a naturally derived, vegetable based biodegradable linear anionic surfactant with good economical emulsification and wetting properties. Has excellent compatibility with nonionic surfactants and excellent performance in low and high pH applications.	Styrene, vinyl, and acrylic emulsions

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