



STARCHEM







StarChem is a leading manufacturer of Specialty Chemicals, the key ingredients in oilfield, textiles, nonwovens, composites, consumer care and cleaning products. Our product portfolio incorporates 50 years of manufacturing experience of many chemistries and chemical technologies.

StarChem's sales professionals and technical service representatives have a thorough knowledge of our markets and customer needs. They are supported by a team of chemists and application experts that help make recommendations on formulations and new applications in the industries that we serve. We excel at creating custom solutions and innovative products for all our customers

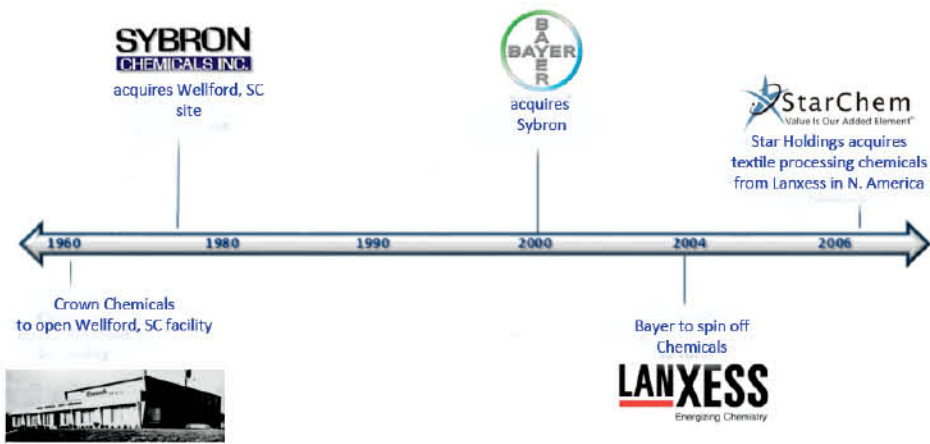
For more information about StarChem products and services please visit our website at www.StarChemGlobal.com

Our passion is innovation
Our focus in customer service
We strive for quality

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BRIEF HISTORY



GLOBAL REACH



OIL & GAS

StarChem has been manufacturing specialty chemicals for over 50 years. With this experience we strive to bring innovative solutions to our customers around the world. We offer a broad range of chemistries and technologies to many industrial and consumer markets. Our specialty chemicals are used in upstream oil and gas applications by oilfield formulators and service companies. These applications include drilling, production, stimulation, unconventional oil and gas recovery and transportation. StarChem focuses on innovation, environmentally responsible solutions and high performance chemicals for challenging technical environments. StarChem has a flexible organization and substantial chemical reaction capabilities as well as in-house blending. Our technologies provide solutions to reduce failure risk, increase operability and extend the equipment life of oil and gas production facilities. Please review our list of chemistries and contact us to discuss how we can partner to find solutions to fit your chemical needs.



CHEMICAL

StarChem™ StarCare™ StarLube™ StarPel™ StarQuat™ StarSurf™ StarDefoam™ StarSil™ StarTex™

Processes	Chemical Functions	StarChem Chemistries & Capabilities
Drilling	Foaming, corrosion inhibition, rheology modification, scale control, clay and shale stabilization, dispersants, lubricants, emulsifiers and foam control	Betaines, hydroxysultaines, alkyl ether sulfates, quaternary ammonium salts (quats), fatty esters, imidazolines, phosphate esters, dioctyl sulfosuccinate (DOSS), fatty amides, silicones, polysorbate esters and PEG esters.
Cementing	Foaming, corrosion control and wetters	DOSS, alkyl ether sulfates, quats, betaines, ethoxylates, hydroxysultaines and amine oxides
Completion	Corrosion inhibition, emulsifiers and wetters	Quats, imidazolines, fatty esters, and formulated surfactants
Stimulation	Foaming, corrosion inhibition, rheology modification, wetters, friction reducers, gellants, dispersants, emulsion breakers and foam control	Quats, alkyl ether sulfates, amine oxides, phosphate esters, formulated surfactants, fatty esters, imidazolines, betaines, hydroxysultaines, silicones polysorbate esters and PEG esters.
Production	Foaming, corrosion inhibition, hydrogen sulfide control (H2S), gellants, emulsifiers, demulsifiers, wetters and scale control	Quats, betaines, dioctyl sulfosuccinate (DOSS), amine oxides, triazines, phosphate esters, ethoxylates, formulated surfactants, and silicones
Transportation	Corrosion inhibition, cleaners, and foam control	Quats, fatty esters, formulated surfactants, PEG esters, and silicones
Remediation	Cleaners, wetters, scale control, biocide, foam control	DOSS, phosphonates, phosphate esters, quats, ethoxylates, silicones, and specialties
Blending	Broad in-house blending and customized chemical reactions	Various: rail access, blending, high shear vessels with heating and cooling, solid dispersion capabilities, high pressure, high temperature distillation, esterification, quaternization, compounding, polymerization, emulsification & homogenization, in-house flaking and more
Custom & Contract Manufacturing	Various reaction and compounding capabilities for customers requiring specific needs	StarChem provides customized chemistries and formulations for various customers. Please let us know your specific chemical requirements and we can build a partnership to meet your process and technical needs.

PRODUCT OFFERINGS

Chemistries	StarChem Product	Chemical Name	Physical State	Activity %	pH	Special Properties
AMPHOTERIC SURFACTANTS						
Betaines	StarSurf CAPB	Cocamidopropyl betaine	Liquid	30	6 -8	Foaming agent, viscosity builder & wetter.
	StarSurf CAPB 50	Cocamidopropyl betaine	Liquid	37	6 -8	Foaming agent, viscosity builder & wetter.
	StarSurf H-CAPB	Cocamidopropyl betaine	Liquid	30	6 -8	Foaming agent, viscosity builder & wetter.
	StarSurf LAPB	Laurylamidopropyl betaine	Liquid	30	6 -8	Foaming agent, viscosity builder & wetter.
Amine Oxides	StarSurf CAPOx	Cocamidopropylamine oxide	Liquid	30	6 -8	Excellent foam booster and detergent and viscosity builder
	StarSurf LAPOx	Lauryl amidopropylamine oxide	Liquid	30	6 -8	Offers excellent bleach stability and viscosity builder
	StarSurf LMAPOX	Lauryl-myristyl amidopropylamine oxide	Liquid	30	6 -8	Offers excellent bleach stability and viscosity builder
	StarSurf LOx	Laurylamine oxide	Liquid	30	6 -8	Excellent bleach stable foamer and viscosity builder
	StarSurf MOx	Myristylamine oxide	Liquid	30	6 -8	Excellent bleach stable foamer and viscosity builder
Hydroxysultaines	StarSurf CAPHs	Cocamidopropyl hydroxysultaine	Liquid	30	6 -8	Alkaline stable foaming agent and is a viscosity builder. Thermal stable
	StarSurf CAPHs 50	Cocamidopropyl hydroxysultaine	Liquid	44	6 -8	Alkaline stable foaming agent and is a viscosity builder. Thermal stable
	StarSurf LAPHS	Lauramidopropyl hydroxysultaine	Liquid	30	6 -8	Alkaline stable foaming agent and is a viscosity builder. Thermal stable
ANIONIC SURFACTANTS						
Sulfonates	StarSurf DOSS	Dioctylsulfosuccinate (DOSS)	Liquid	70	6.5 -7.5	Excellent foamer and re-wetter (variety of diluents available)
	StarSurf DDBSA	Sulfonated alkyl benzene	Liquid	100	5.5 -7	Excellent all-purpose foaming agent, demulsifier properties
	StarSurf ES 814	Ammonium alkyl-ether sulfates	Liquid	60	5.5 -7	Excellent all purpose foaming agent
	StarSurf ES 814 HG	Ammonium alkyl-ether sulfates	Liquid	60	5.5 -7	Excellent all purpose foaming agent. Non-flammable
	StarTex AC Conc.	Alkyldiphenyloxide disulfonate	Liquid	45	8 -10	Excellent solubility and stability in acidic, alkaline, bleach & other oxidizing systems
Phosphates	StarSurf P-90	Phosphated alcohol ethoxylate	Liquid	90	8 -10	Efficient hydrotrope and coupling agent for organics and salts
	StarSurf Phos 2672	Triethylamine phosphate	Liquid	60	3 -5	Effective scale inhibitor for calcium and other alkaline compounds
	StarSurf Phos 361	Phosphated alcohol	Liquid	100	3 -5	Cleaner, efficient hydrotrope and coupling agent for organics and salts

STARCHEM OIL & GAS PRODUCT OFFERINGS CONT'D

Chemistries	StarChem Product	Chemical Name	Physical State	Activity %	pH	Special Properties
ANIONIC SURFACTANTS (CONT'D)						
Phosphates	StarSurf Phos 801	Phosphated alcohol	Liquid	100	3 - 5	Cleaner, efficient hydrotrope and coupling agent for organics and salts
	StarSurfWFF	Surfactant blend	Liquid	46	4 - 6	Excellent detergent stable with peroxides
SURFACTANTS (SPECIALTIES)						
Amides	StarSurfCDEA 11	Cocamide DEA (diethanolamide)	Liquid	100	9 - 10	Efficient foamer and rheology modifier
	StarSurfCMEA 11	Cocamide MEA (monoethanolamide)	Liquid	100	9 - 10	Efficient foamer and rheology modifier
Formulated Alcohol Ethoxylates	StarSurfDA	Surfactant blend	Liquid	99	6 - 7	Low foaming wetter
	StarSurfCMS	Surfactant blend	Liquid	50	6.5 – 7.5	Good resistance to alkali, acids, and salts
Formulated Cationics	StarSurf2745	Surfactant blend	Liquid	82	6.5 – 8.5	Very good degreaser and effective in alkaline conditions
Formulated Anionics	StarSurf2914	Surfactant blend	Liquid	50	6.5 – 8.5	Good resistance to alkali and salts. Very stable foamer over a broad pH range
	StarSurf2754	Surfactant blend	Liquid	40	6.5 – 8.5	Excellent degreaser stable over a wide pH range.
NONIONICS						
StarChem offers a wide range of alkoxylated alcohols, please contact your StarChem representative for more information on products that we have available for Oilfield.						
CATIONICS						
Quaternary Amines (Quats)	StarQuat 300	Dicocodimethyl ammonium chloride	liquid	75	6-8	Cationic emulsifier for mineral seal oils. Promotes beading and rapid drying of rinse water
	StarQuat 300 HF	Dicocodimethyl ammonium chloride	liquid	75	6-8	Cationic emulsifier for mineral seal oils. Promotes beading and rapid drying of rinse water. High flash point version
	StarQuat BAP 75	Benzyl Alkyl-Pyridine Quat	Liquid	70	7 - 9	Oil soluble corrosion inhibitor used in formulated products.
	StarChem BTMAC 60	Benzyltrimethylammonium Chloride	Liquid	60	6 - 8	Clay and shale stabilization
	StarQuat CETAC 30	cetyl trimethyl ammonium chloride	Liquid	30	6 - 8	Cationic emulsifier used as a conditioner in, hair styling aids, creams and lotions to provide conditioning and softening
ADBAC Quats	StarQuat DCE 1214	Bisquat of dichloroethyl ether and C12-C14 dimethylamine	Liquid	70	6 - 8	Efficient water soluble corrosion inhibitor
	StarQuat CS-90	Polyquaternary Chloride	Liquid	60	6 - 8	Excellent corrosion inhibitor for HCl environments
	StarQuat ESL Conc	Benzyltriethylammonium Chloride	Liquid	60	6 - 8	Cationic surface active compound that improves degreasing efficiency
	StarQuat LBAC 80	C12-14 alkyl-benzylammonium Chloride	Liquid	85	6 - 8	Efficient water soluble cationic emulsifier and corrosion inhibitor. Solvent is isopropanol and water
	StarQuat LBAC 80 ETOH	C12-14 alkyl-benzylammonium Chloride	Liquid	85	6 - 8	Efficient water soluble cationic surfactant and corrosion inhibitor. Solvent is ethanol and Water
	StarQuat T-85	C12-14 alkyl-benzylammonium Chloride	Liquid	81	6 - 8	Efficient water soluble cationic surfactant and corrosion inhibitor
	StarQuat T-80	C12-14 alkyl-benzylammonium Chloride	Liquid	81	6 - 8	Water free cationic surfactant and corrosion inhibitor
	StarQuat T-50	C12-14 alkyl-benzylammonium Chloride	Liquid	50	6 - 8	Efficient water soluble cationic surfactant and corrosion inhibitor
SILICONES FLUIDS						
StarChem offers a wide range of polydimethylsiloxanes (5 cSt to 60000 cSt). Please contact your StarChem Sales representative for more information.						
FOAM CONTROL						
Silicone	StarSil AC 1083	Silicone Compound	Liquid	100	7 - 9	Versatile silicone formulation base for most industrial applications
	StarSil AF 2577	Silicone Emulsion	Liquid	10	6 - 8	Very high performing low concentration silicone defoamer
	StarSil PD 250	Silicone Emulsion	Liquid	40	7 - 9	High performing defoamer for the alkaline conditions

Chemistries	StarChem Product	Chemical Name	Physical State	Activity %	pH	Special Properties
FOAM CONTROL (CONT'D)						
	StarSil PD 30	Silicone Emulsion	Liquid	25	7 - 9	Versatile industrial defoamer
Non-Silicone	StarDefoam 354	Mineral Oil	Liquid	100	6 - 8	Versatile mineral oil defoamer for most industrial applications
	StarDefoam PMD 100	Polymeric	Liquid	100	6-8	Concentrated defoamer for extreme industrial foaming conditions
IMIDAZOLINES /AMIDES						
	StarSoft 2669	Fatty Imidazoline Ethyl-Sulfate Quat	Liquid	100	5 - 7	Formulation additive, corrosion inhibitor, scale control, and wetter
	StarChem TOA 80 DQ	Fatty Imidazoline Ethyl-Sulfate Quat	Liquid	80	7 - 10	Formulation additive, corrosion inhibitor, scale control, and wetter
	StarChem TOD 60	TOFA Imidazoline	Liquid	100	10-11	Formulation additive, corrosion inhibitor, scale control, and wetter
TRIAZINES						
	StarChem Triazine	Hexahydrotriazine	Liquid	78	6 - 8	Excellent H2S scavenger
StarChem makes customized triazine blends using various solvents and manufactured to any level of activity						
OTHER CHEMISTRIES						
	StarTex PL Extra Conc	EDTA	Liquid	40	11	Scale control
	StarChem Metyl Soyate	Methyl ester	Liquid	100	NA	Eco-friendly solvent. Good for cutting oil and grease



TEXTILES & NONWOVENS

StarChem is leading chemical manufacture for the global textile market. Our main manufacturing site has been producing textile auxiliaries in Wellford, SC for over 50 years. With facilities in Choloma Honduras and Quebec Canada, we can provide local technical service, sales, and marketing support in North and Central America. We continue to develop products and technologies for nearly all textile applications; preparation, dying , finishing, printing, and nonwovens. Our textile applications laboratory can provide the best solution for your textile chemical needs. Contact us today!

CHEMICAL

StarChem™ StarCare™ StarLube™ StarPel™ StarQuat™ StarSurf™ StarDefoam™ StarSil™ StarTex™

Application in Textiles	StarChem Chemistries
Pretreatment Auxiliaries	Buffers, alkali, scours, wetters, and cleaners
Softeners and Lotions	Organosiloxanes, fatty quaternary ammonium compounds (quats), and fatty esters
Wetters and Foamers	Dioctylsulfosuccinates, amine oxides, nonionic surfactant blends
Hydrophilics /Wicking Agents	Organosiloxanes, fatty quats, and polyesters
Repellents	Fluorocarbons, waxes, and siloxanes
Composite Additives and Lubricants	Polypropylene emulsions, polyethylene emulsions, wax dispersions, siloxanes, and ethylene urea
Durable Press Resins / Crosslinkers for Binders	Dimethyloldi hydroxyethylene urea, melamine formaldehyde, and urea formaldehyde resins
Antistats	Phosphate esters and quats
Foam Control	Siloxane, mineral oil, and polymeric
Flame Retardants	Durable flame retardants for all synthetic and natural fibers
Binders and Hand Builders	Acrylics and polyurethane dispersions
Anti-Slip	Waxes, polyethylenes, and siloxanes
Soil Release	Fluorocarbons and siloxanes
Specialty Products	Ethylene urea and odor control additives

PRODUCT OFFERINGS

StarChem Products	Physical Appearance	%Activity	Viscosity	Ionicity	pH	Application Description
PREPARATION						
StarTex MGP	Clear pale, yellow liquid	31-33%	< 100 cps	anionic	3-4 (5%)	Peroxide Bleach Stabilizer
StarTex GEO	Clay dispersion	28-29%	2500-4000	nonionic	7-10	Clay Based Bleaching Agent
StarTex WM	Clear liquid	56-57%	150-300 cps	nonionic	5.0-5.5 (10%)	Low Temp Scouring Agent
StarSurf WFF-01	Clear liquid	45.6-46.3%	250 cps max	nonionic/anionic	6.2-7.7 (5%)	Peroxide Bleaching Detergent
StarSurf DA Conc	Clear liquid	99-100%	250-500 cps	nonionic	6.0-7.0 (10%)	Low Foaming Wetting Agent
StarTex RCN	Clear amber liquid	49.0 - 51%	< 200 cps	anionic	6.0- 8.0 (5%)	Scouring and Wetting Agent
FINISHING						
StarSurf 680	Clear light, yellow liquid	21-22%	< 100 cps	nonionic	6.25 - 7.25	Non-rewetting finishing aid
StarTex PH	Clear liquid	18-20%	< 100 cps	anionic	4.4 - 4.9	Antistat for synthetic fibers
StarTex Resin BLF-C	Clear liquid	37-38%	< 50 cps	cationic	3.9 - 4.3	Precatalyzed buffered finishing resin
StarPel L-44	White liquid	28.5 -29.5%	< 100 cps	cationic	3.0 - 5.0	Acrylic based water repellent
StarPel RBR-6	Off-white liquid	24.0-25.0%	< 250 cps	cationic	2.5 - 4.0	Extended fluorocarbon repellent
StarPel FC 2566	Off-white emulsion	23.0-25.0%	<100 cps	weakly cationic	3.0 - 7.0	C6 based fluorochemical soil release product that improves the resistance of fabrics to everyday soils

STARCHEM TEXTILE & NONWOVENS PRODUCT OFFERINGS CONT'D

StarChem Products	Physical Appearance	%Activity	Viscosity	Ionidity	pH	Application Description
FINISHING (CONT'D)						
StarPel FC 2655	Off-white emulsion	29.0-31.0%	<250 cos	weakly cationic	2.0 - 5.0	C6 fluoroalkyl copolymer the STARPEL™ FC 2655 is an eco-friendly, durable oil and water repellent for polyester, cotton, nylon fabrics and nonwovens.
StarPel 366-01	Off white liquid	25.75-28.75%	<250 cps	nonionic	3.5 - 4.5	Durable silicone water repellent having a high silicone oil content. It provides durable water repellency to all fibers and
StarTex Binder P		29.0-31.0%	<500 cps	NA	5.5 - 6.5	Dispersion of a high molecular weight linear polyester resin for use as a sizing agent or hand builder in fiber and textile processing
StarTex Binder VA	Milky-white liquid	54.0-56.0%	500 - 1500 cps	nonionic	4.0 - 6.0	Vinyl acetate finishing agent
StarPel 330R	Off-white emulsion	24.5-25.5%	< 200 cps	nonionic	2.5 - 3.5	Non-fluorocarbon water repellent & fluorocarbon extender
StarPel 391	Off-white emulsion	24.5-25.5%	< 200 cps	cationic	5.7 - 6.7	Reactive wax based fluorocarbon extender
StarTex FR PE Conc	Clear to hazy liquid	32.5-34.5%	< 100 cps	anionic	5.75 - 7.75	Flame retardant for polyester fabrics
StarTex FR 908	Clear to hazy liquid	33.0-37.0%	<300 cps	anionic	6.5 - 8.5	Stable flame retardant polymer that is specifically designed for use on all polyamide-containing fabrics
StarTex FR STS	Clear liquid	39.0-43.0%	< 100 cps	NA	5.0 - 7.0	Non-durable flame retardant for blended fabrics
StarTex FR WRB	Clear to hazy liquid	47.7- 48.7%	< 100 cps	NA	5.5 - 6.5	Flame retardant for water repellent cellulosics
StarLube HD 35	Translucent tan liquid	35.0 - 36.5%	< 300 cps	nonionic	8.0 - 10.0	High density polyethylene softener & lubricant
StarLube 5442	Opalescent tan liquid	31.0 - 33.0%	< 500 cps	cationic	9.0 - 10.0	Polypropylene emulsion lubricant
StarSoft HCA	Off-white emulsion	19.0-21.0%	500 -1500 cps	cationic	3.5 - 4.5 (5%)	Cationic softening agent
StarSoft UKS	Off-white to yellow flakes	98.5 - 99.5%	solid	cationic	3.0 - 5.0 (1%)	Concentrated cationic softening agent
StarChem USV	Clear pale yellow liquid	26.5 - 30.5%	< 150 cps	nonionic	4.0 - 5.5	Hydrophilic polyurethane finishing agent
StarSoft SPU	Clear liquid w/blue cast	19.0 - 21.0%	<100 cps	Nonionic	4.0 - 6.0	Film forming reactive silicone softener
StarSoft TS-T3	Clear to pale yellow	29.0% - 31.0%	<300 cps	nonionic	3.5 - 5.5	Hydrophilic silicone softer with excellent hand
StarSoft WAM Conc.	Clear to pale yellow	65.0 - 70.0%	<500 cps	slightly cationic	4.0 - 6.0	Low yellowing amino silicone softener
StarSoft 2550	White with blue cast	48.0 - 51.0%	<200 cps	slightly cationic	4.0 - 7.0	Elastomeric silicone softener for fabric and tissue
StarTex Resin 6036	Clear to yellow liquid	36.0 % - 37.0%	<100 cps	nonionic	5.0 - 7.0	Non-formaldehyde resin
StarTex Fresh PF	White liquid	26.5% - 32.5 %	<500 cps	anionic	7.8 - 8.5	Fabric treatment for odor control
DYEING						
StarChem AC Conc.	Yellow to brown liquid	45.0 - 47.0%	< 1500 cps	anionic	8.0 - 10.0 (10%)	Concentrated Nylon leveling agent for barre' control
StarTex Fix NOZ	Light amber liquid	10.0 - 12.0%	< 100 cps	cationic	4.0 - 6.0	Reactive and direct dye fixative for cellulosic fibers
StarTex Fix NBS	Dark brown powder	99.0 - 99.5%	solid	anionic	7.5-8.5 (1%)	Workhorse concentrated Nylon fixative
StarTex Fix 100 Conc	Slightly yellow liquid	45.0 - 46.0%	< 1500 cps	nonionic	8.0 - 9.0	Concentrated cationic dyeing fixative
StarTex ACF	Off-white dispersion	14.5 - 15.5%	< 300 cps	nonionic	3.5 - 6.5	Hydrophillic soil release agent for polyester
StarTex DS-12	Dark brown liquid	32.0 - 33.0 %	< 200 cps	anionic	5.5 - 6.5	Anionic dispersant/leveling agent for disperse dyes
StarTex Lev WWB	Light amber liquid	40.0 - 41.0%	< 200 cps	cationic	5.0 - 7.5	Versatile levelling agent for acid and direct dyes
StarTex Lev LP	Yellow to amber liquid	52.0 - 56.0%	< 500 cps	anionic	3.0 - 5.0 (10%)	Leveling and dispersing agent for polyester dyeing
StarTex Lev NYL-01	Amber dear to hazy liquid	48.0 - 52.0%	< 500 cps	nonionic	8.0 - 9.5 (5%)	Leveling and compatibilizer for acid dyes
StarTex NC-01	Clear liquid	74.6 - 76.2 RI	< 500 cps	nonionic	7.0 - 9.0 (5%)	Leveling and dyeing assistant for polyester and Nylon
StarTex RFH-01	Clear liquid	28.4 - 30.4%	<100 cps	anionic	11.0 - 13.0	Polyester after clearing agent

StarChem Products	Physical Appearance	%Activity	Viscosity	Ionidity	pH	Application Description
DYEING (CONT'D)						
StarTex OB BA Liq	Clear yellow liquid	15 - 16%	< 100 cps	anionic	10.0 - 11.0	Cotton Optical Brightener (OBA)
StarTex OB BSU	Off-white dispersion	N/A	<300 cps	nonionic	7.5 - 8.5	Fluorescent whitening agent solution developed with low affinity for cellulosic fibers and blends with synthetics fibers
StarTex OB EBL Conc	Off-white dispersion	N/A	<300 cps	nonionic	4.0 - 8.0	Polyester Optical Brightening Agent (OBA)
StarTex OB CLE Liq	Clear yellow liquid	N/A	< 100 cps	anionic	4.0 – 6.0	Nylon Chlorine Fast OBA
StarLube 64	Off-white emulsion	21.5 - 22.5%	250 cps	nonionic	6.5 - 7.5 (5%)	Dyeing Lubricant
PRINTING						
StarTex FN	Opaque white liquid	N/A	12,000 cps	anionic	8.0 -9.0 (2.75%)	Synthetic pigment print thickener
StarSoft GA	White emulsion	35.85 - 37.85%	< 300 cps	nonionic	6.75 - 7.75	Silicone based pigment print softener
StarTex Binder KB-8-01	Milky white liquid	39.5 - 40.5%	< 1500 cps	nonionic	5.0 - 7.0	Self-crosslinking pigment print binder



HOME, INDUSTRIAL AND INSTITUTIONAL CLEANING (HI&I)

StarChem has been manufacturing specialty chemicals for over 50 years. With this experience we strive to bring innovative solutions to our customers. StarChem offers a broad range of chemistries and technologies to many industrial and consumer markets. StarChem's HI&I products bring value to many applications including laundry and dishwashing detergents, all-purpose cleaners, degreasers, disinfectants, vehicle-cleaning compounds, heavy-duty commercial and industrial cleaners and sanitizers. Please review our products and technologies and let us provide a solution for your specialty chemical needs.

PRODUCT OFFERINGS

StarChem™ StarCare™ StarLube™ StarPel™ StarQuat™ StarSurf™ StarDefoam™ StarSil™ StarTex™

Chemistries	StarChem Product	Chemical Name	Physical State	Activity %	pH	Special Properties
AMPHOTERIC SURFACTANTS						
Betaines	StarSurf CAPB	Cocamidopropyl betaine	Liquid	30	6 – 8	Efficient viscosity builder & wetter. Offers lower sensitivity. Suitable for sulfate free formulations.
	StarSurf CAPB 50	Cocamidopropyl betaine	Liquid	37	6 – 8	Efficient viscosity builder & wetter. Offers lower sensitivity. Suitable for sulfate free formulations.
	StarSurf H-CAPB	Cocamidopropyl betaine	Liquid	37	6 – 8	Hydrogenated Cocamidopropyl betaine. Suitable for sulfate free formulations.
	StarSurf LAPB	Laurylamidopropyl betaine	Liquid	30	6 – 8	Effective viscosity builder & wetter. Suitable for sulfate free formulations.
Amine Oxides	StarSurf CAPOx	Cocamidopropylamine oxide	Liquid	30	6 – 8	Excellent foam booster and detergent
	StarSurf LAPOx	Lauryl amidopropylamine oxide	Liquid	30	6 – 8	Offers excellent bleach stability and is a viscosity builder
	StarSurf LMAPOX	Lauryl-myristyl amidopropylamine oxide	Liquid	30	6 – 8	Offers excellent bleach stability and is a viscosity builder
	StarSurf LOx	Laurylamine oxide	Liquid	30	6 – 8	Excellent bleach stable foamer
Hydroxysultaines	StarSurf MOx	Myristylamine oxide	Liquid	30	6 – 8	Excellent bleach stable foamer
	StarSurf CAPHS	Cocamidopropyl hydroxysultaine	Liquid	44	6 – 8	Alkaline stable foaming agent. Suitable for sulfate free formulations.
	StarSurf CAPHS 50	Lauramidopropyl hydroxysultaine	Liquid	30	6 – 8	Alkaline stable foaming agent. Suitable for sulfate free formulations.
	StarSurf LAPHS	Cocamidopropyl hydroxysultaine	Liquid	30	6 – 8	Alkaline stable foaming agent. Suitable for sulfate free formulations.
ANIONIC SURFACTANTS						
Sulfonates	StarSurf DOSS 70	Diocylsulfosuccinate (DOSS)	Liquid	70	6.5 – 7.5	Excellent foamer and re-wetter (variety of diluents available)
	StarSurf DDBSA	Sulfonated alkyl benzene	Liquid	100	5.5 – 7	Excellent all-purpose foaming agent, demulsifier properties
	StarSurf ES 814	Ammonium alkyl-ether sulfates	Liquid	60	5.5 – 7	Excellent all purpose foaming agent
	StarSurf ES 814 HG	Ammonium alkyl-ether sulfates	Liquid	60	5.5 – 7	Excellent all purpose foaming agent. Non-flammable
	StarTex AC Conc.	Alkyl diphenyloxide disulfonate	Liquid	45	8 – 10	Excellent solubility and stability in acidic, alkaline, bleach & other oxidizing systems
Phosphates	StarSurf P-90	Phosphated alcohol ethoxylate	Liquid	90	8 – 10	Efficient hydrotrope and coupling agent for organics and salts
	StarSurf Phos 2672	Triethylamine phosphate	Liquid	60	3 – 5	Effective scale inhibitor for calcium and other alkaline compounds
	StarSurf Phos 361	Phosphated alcohol	Liquid	100	3 – 5	Cleaner, efficient hydrotrope and coupling agent for organics and salts
	StarSurf Phos 801	Phosphated alcohol	Liquid	100	3 – 5	Cleaner, efficient hydrotrope and coupling agent for organics and salts
	StarSurf WFF	Surfactant blend	Liquid	46	4 – 6	Excellent detergent stable with peroxides
SURFACTANTS (SPECIALTIES)						
Amides	StarSurf CDEA 11	Cocamide DEA (diethanolamide)	Liquid	100	9 – 10	Efficient foamer and rheology modifier
	StarSurf GMEA 11	Cocamide MEA (monoethanolamide)	Liquid	100	9 – 10	Efficient foamer and rheology modifier
Formulated Alcohol Ethoxylates	StarSurf DA	Surfactant blend	Liquid	99	6 – 7	Low foaming wetter
	StarSurf CMS	Surfactant blend	Liquid	50	6.5 – 7.5	Good resistance to alkali, acids, and salts
Formulated Cationics	StarSurf 2745	Surfactant blend	Liquid	82	6.5 – 8.5	Very good degreaser and effective in alkaline conditions
Formulated Anionics	StarSurf 2914	Surfactant blend	Liquid	50	6.5 – 8.5	Good resistance to alkali and salts. Very stable foamer over a broad pH range
	StarSurf 2754	Surfactant blend	Liquid	40	6.5 – 8.5	Excellent degreaser stable over a wide pH range.
NONIONICS						
StarChem offers a wide range of alkoxylated alcohols, please contact your StarChem representative for more information on products that we have available for HI&I.						
CATIONICS						
Quaternary Amines (Quats)	StarQuat 300	Dicocodimethyl ammonium chloride	liquid	80	6-8	Cationic emulsifier for mineral seal oils. Promotes beading and rapid drying of rinse water
	StarQuat 300 HF	Dicocodimethyl ammonium chloride	liquid	80	6-8	Cationic emulsifier for mineral seal oils. Promotes beading and rapid drying of rinse water. High flash point version
	StarQuat 400	Formulated cationic surface active compound	liquid	80	6-8	Cationic emulsifier for mineral seal oils. Promotes beading and rapid drying of rinse water.
	StarQuat BAP 75	Benzyl Alkyl-Pyridine Quat	Liquid	70	7 – 9	Oil soluble corrosion inhibitor used in formulated products.
	StarChem BTMAC 60	Benzyltrimethylammonium Chloride	Liquid	60	6 – 8	Clay and shale stabilization
	StarQuat CETAC 30	cetyl trimethyl ammonium chloride	Liquid	30	6 – 8	Cationic emulsifier used as a conditioner in, hair styling aids, creams and lotions to provide conditioning and softening

STARCHEM HI&I PRODUCT OFFERINGS CONT”D

Chemistries	StarChem Product	Chemical Name (INCI)	Physical State	Activity %	pH	Special Properties
CATIONICS (CONT'D)						
ADBAC Quats	StarQuat DCE 1214	Bisquat of dichloroethyl ether and C12-C14 dimethylamine	Liquid	70	6 - 8	Efficient water soluble corrosion inhibitor
	StarQuat CS-90	Polyquaternary Chloride	Liquid	60	6 - 8	Excellent corrosion inhibitor for HCl environments
	StarQuat ESL Conc	Benzyltriethylammonium Chloride	Liquid	60	6 - 8	Cationic surface active compound that improves degreasing efficiency
	StarQuat LBAC 80	C12-14 alkyl-benzylammonium Chloride	Liquid	85	6 - 8	Efficient water soluble cationic. Solvent is isopropanol and water
	StarQuat LBAC 80 ETOH	C12-14 alkyl-benzylammonium Chloride	Liquid	85	6 - 8	Efficient water soluble cationic surfactant. Solvent is ethanol and Water
	StarQuat T-85	C12-14 alkyl-benzylammonium Chloride	Liquid	81	6 - 8	Efficient water soluble cationic surfactant
	StarQuat T-80	C12-14 alkyl-benzylammonium Chloride	Liquid	81	6 - 8	Water free cationic surfactant
SILICONES FLUIDS	StarQuat T-50	C12-14 alkyl-benzylammonium Chloride	Liquid	50	6 - 8	Efficient water soluble cationic surfactant
	StarChem offers a wide range of polydimethylsiloxanes (5 cSt to 60000 cSt). Please contact your StarChem Sales representative for more information.					
	FOAM CONTROL					
Silicone	StarSil AF 2577	Silicone Emulsion	Liquid	10	6 - 8	Very high performing low concentration silicone defoamer
	StarSil AF 30	Silicone Emulsion	Liquid	30	4 - 6	Versatile FDA compliant control agent
	StarSil PD 30	Silicone Emulsion	Liquid	25	7 - 9	Versatile industrial defoamer
	StarSil PD 250	Silicone Emulsion	Liquid	40	7 - 9	High performing defoamer for the alkaline conditions
	StarSil AC 1083	Silicone Compound	Liquid	100	7 - 9	Versatile silicone formulation base for most industrial applications
Non-Silicone	StarDefoam 354	Mineral Oil	Liquid	100	6 - 8	Versatile mineral oil defoamer for most industrial applications
	StarDefoam PMD 100	Polymeric	Liquid	100	6 - 8	Concentrated defoamer for extreme industrial foaming conditions
OTHER CHEMISTRIES						
	StarTex PL Extra Conc	EDTA	Liquid	40	11	Scale control
	StarChem Metyl Soyate	Methyl ester	Liquid	100	N/A	Eco-friendly solvent. Good for cutting oil and grease



PERSONAL CARE

StarChem LLC has been producing specialty chemical for over 50 years. In that time we have developed production technologies for a variety of chemistries and formulated products. These products can be used in a variety of markets and applications. Please see our list of unique products and technologies for your chemical solutions.



CHEMICAL

StarChem™ StarCare™ StarLube™ StarPel™ StarQuat™ StarSurf™ StarDefoam™ StarSil™ StarTex™

Personal Care Applications	StarChem Chemistries
StarChem Chemistries	Buffers, alkali, scours, wetters, and cleaners
Softeners and Lotions	Organosiloxanes, fatty quaternary ammonium compounds (quats), and fatty esters
Wetters and Foamers	Dioctylsulfosuccinates, amine oxides, nonionic surfactant blends

PRODUCT OFFERINGS

Chemistries	StarChem Product	Chemical Name (INCI)	Physical State	Activity %	pH	Special Properties
AMPHOTERIC SURFACTANTS						
Betaines	StarSurfCAPB	Cocamidopropyl betaine	Liquid	30	6 – 8	Efficient viscosity builder & wetter. Offers lower sensitivity. Suitable for sulfate free formulations.
	StarSurfCAPB 50	Cocamidopropyl betaine	Liquid	37	6 – 8	Efficient viscosity builder & wetter. Offers lower sensitivity. Suitable for sulfate free formulations.
	StarSurfH-CAPB	Cocamidopropyl betaine	Liquid	37	6 – 8	Hydrogenated Cocamidopropyl betaine. Suitable for sulfate free formulations.
	StarSurfLAPB	Laurylamidopropyl betaine	Liquid	30	6 – 8	Effective viscosity builder & wetter. Suitable for sulfate free formulations.
Amine Oxides	StarSurfCAPOx	Cocamidopropylamine oxide	Liquid	30	6 – 8	Excellent foam booster and detergent
	StarSurfLAPOx	Lauryl amidopropylamine oxide	Liquid	30	6 – 8	Offers excellent bleach stability and is a viscosity builder
	StarSurfLMAPOX	Lauryl-myristyl amidopropylamine oxide	Liquid	30	6 – 8	Offers excellent bleach stability and is a viscosity builder
	StarSurfLOx	Laurylamine oxide	Liquid	30	6 – 8	Excellent bleach stable foamer
	StarSurfMOx	Myristylamine oxide	Liquid	30	6 – 8	Excellent bleach stable foamer
	StarSurfCAPHS	Cocamidopropyl hydroxysultaine	Liquid	44	6 – 8	Alkaline stable foaming agent. Suitable for sulfate free formulations.
	StarSurfCAPHS 50	Lauramidopropyl hydroxysultaine	Liquid	30	6 – 8	Alkaline stable foaming agent. Suitable for sulfate free formulations.
	StarSurfLAPHS	Cocamidopropyl hydroxysultaine	Liquid	30	6 – 8	Alkaline stable foaming agent. Suitable for sulfate free formulations.
SURFACTANTS (SPECIALTIES)						
Amides	StarSurfCDEA 11	Cocamide DEA (diethanolamide)	Liquid	100	9 - 10	Efficient foamer and rheology modifier
	StarSurfCMEA 11	Cocamide MEA (monoethanolamide)	Liquid	100	9 - 10	Efficient foamer and rheology modifier
CATIONICS						
Quaternary Amines (Quats)	StarQuat 300	Dicocodimethyl ammonium chloride	liquid	80	6-8	Cationic emulsifier for mineral seal oils. Promotes beading and rapid drying of rinse water
ADBAC Quats	StarQuat CETAC 30	cetyl trimethyl ammonium chloride	Liquid	30	6 - 8	Cationic emulsifier used as a conditioner in, hair styling aids, creams and lotions to provide conditioning and softening
	StarQuat LBAC 80 ETOH	C12-14 alkyl-benzylammonium Chloride	Liquid	80	6 - 8	Efficient water soluble cationic surfactant. Solvent is ethanol and Water
	StarQuat T-80	C12-14 alkyl-benzylammonium Chloride	Liquid	80	6 - 8	Water free cationic surfactant
	StarQuatT-50	C12-14 alkyl-benzylammonium Chloride	Liquid	50	6 - 8	Efficient water soluble cationic surfactant
OTHER CHEMISTRIES						
	StarChem EU-40	2-Imidazolidone	Liquid	40	5 - 7	scavenging agent to reduce the free formaldehyde in phenolic, melamine, glyoxal and urea formaldehyde resin systems for personal care applications
	StarTex 1696	Sodium EDTA	Liquid	60	10 - 12.5	General purpose sequestering agent for calcium, copper, iron and magnesium hard water conditions
SILICONES						
Emulsions	StarCare E 39	amodimethicone and trideceth-10 and cetrimonium Chloride	milky white, 35% solids	Hair Care	6 - 8	StarCare E 39
	StarCare E 39-12	amodimethicone and trideceth-12 and cetrimonium Chloride	milky white, 35% solids	Hair Care	6 - 8	StarCare E 39-12



CHEMICAL INTERMEDIATES

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Application in Chemical Intermediates		Application in Chemical Intermediates	
Formaldehyde Scavenger		Formaldehyde Scavenger	
Phase Transfer Catalyst		Phase Transfer Catalyst	
Polymer Additive		Polymer Additive	
Odor Control		Quats and zeolite dispersions	

PRODUCT OFFERINGS

	Name	Product Description	Physical State	Activity %	pH	Application Description
QUATS						
Quaternary Amines (Quats)	StarQuat 300	Dicocodimethyl ammonium chloride	Liquid	80	6-8	Cationic emulsifier for mineral seal oils. Promotes beading and rapid drying of rinse water
	StarQuat BAP 75	Benzyl Alkyl-Pyridine Quat	Liquid	70	7 - 9	Oil soluble corrosion inhibitor used in formulated products.
	StarChem BTMAC 60	Benzyltrimethylammonium Chloride	Liquid	60	6 - 8	Clay and shale stabilization
	StarQuat CETAC 30	cetyl trimethyl ammonium chloride	Liquid	30	6 - 8	Cationic emulsifier used as a conditioner in, hair styling aids, creams and lotions to provide conditioning and softening
	StarQuat ESL Conc	Benzyltriethylammonium Chloride	Liquid	60	6 - 8	Cationic surface active compound that improves degreasing efficiency
ADBAC Quats	StarQuat LBAC 80	C12-14 alkyl-benzylammonium Chloride	Liquid	85	6 - 8	Efficient water soluble cationic. Solvent is isopropanol and water
	StarQuat LBAC 80 ETOH	C12-14 alkyl-benzylammonium Chloride	Liquid	85	6 - 8	Efficient water soluble cationic surfactant. Solvent is ethanol and Water
	StarQuat T-85	C12-14 alkyl-benzylammonium Chloride	Liquid	81	6 - 8	Efficient water soluble cationic surfactant
	StarQuat T-80	C12-14 alkyl-benzylammonium Chloride	Liquid	81	6 - 8	Water free cationic surfactant
	StarQuat T-50	C12-14 alkyl-benzylammonium Chloride	Liquid	50	6 - 8	Efficient water soluble cationic surfactant
OTHER CHEMISTRIES						
	StarChem EU 40	Ethylene Urea	Liquid	40	5 - 8	Formaldehyde scavenger and polymer additive
	StarChem EU 50	Ethylene Urea	Liquid	47	5 - 8	Formaldehyde scavenger. Purified for specialty applications; Pharma, coatings, and polymers
	StarTex Fresh PF	Zeolite dispersion	Liquid	30	8	Treatment for odor control

COMPOSITES

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Application in Chemical Composites	StarChem Chemistries
Composite Additives	Polyethylene, polypropylene, and paraffinic wax emulsions
Compatibilizers &Coupling Agents	Quaternary ammonium compounds, silanes & silane quats
Phase Transfer Catalysts	Quats and zeolite dispersions

PRODUCT OFFERINGS

Name		Product Description	Physical State	Activity %	pH	Application Description
WAX EMULSIONS						
Stearylated Melamine	StarPel 391	Stearylated Melamine (cationic)	Liquid	25	9.0	Organic water repellent and fluorocarbon extender
	StarPel 330R	Stearylated Melamine (nonionic)	Liquid	25	5.0	Organic water repellent and fluorocarbon extender
Modified Polypropylene	StarLube 5442	Maleated propylene emulsion	Liquid	35	9.5	Lubricant for FRP (fiberglass re-enforced plastics), process aid / compatibilizer for FRP composites.
	StarLube 5440	Maleated propylene emulsion	Liquid	35	9.5	Lubricant for FRP (fiberglass re-enforced plastics), process aid / compatibilizer for FRP composites.
Polyethylene	StarLube HD 35	Polyethylene emulsion	Liquid	35	9.5	Lubricant for fiberglass composites, and chopped fiberglass.
	StarSoft HCA	Tallow imidazoline DES quat	Liquid	20	4.0	Lubricant for fiberglass composites, Repellent for nonwovens used in composites
	StarLube 243	Low density polyethylene emulsion	Liquid	40	9.0	Lubricant for fiberglass composites, Repellent for nonwovens used in composites. Good heat stability
	StarLube MPW II	Polyethylene / paraffin wax emulsion	Liquid	35	7.5	Lubricant for fiberglass composites, Repellent for nonwovens used in composites. Good heat stability
QUATS						
Quaternary Amines (Quats)	StarQuat 300	Dicocodimethyl ammonium chloride	Liquid	80	6-8	Cationic emulsifier for mineral seal oils. Promotes beading and rapid drying of rinse water
	StarQuat BAP 75	Benzyl Alkyl-Pyridine Quat	Liquid	70	7 - 9	Oil soluble corrosion inhibitor used in formulated products.
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	StarQuat CETAC 30	cetyl trimethyl ammonium chloride	Liquid	30	6 - 8	Cationic emulsifier used as a conditioner in, hair styling aids, creams and lotions to provide conditioning and softening
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	StarQuat T-80	C12-14 alkyl-benzylammonium Chloride	Liquid	81	6 - 8	Water free cationic surfactant
	StarQuat T-50	C12-14 alkyl-benzylammonium Chloride	Liquid	50	6 - 8	Efficient water soluble cationic surfactant



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