PERSONAL CARE INGREDIENTS

A collection of high-performing esters, ethoxylates, metallic stearates and oleochemicals for use in beauty and personal care applications

HALLSTAR
BEAUTY

Hallstar has decades of experience with esterification, a chemistry process that is vital to successful beauty and personal care applications. Combined with expertise in other chemistries through acquisition and partnership, we provide a wide range of proven ingredients. Our strong formulation and production capabilities across product lines enable us to create compelling solutions to customers' diverse product and technical needs.

An ongoing process of invention and innovation with associated testing continually adds to our base of personal care chemistry knowledge and our growing library of ingredient performance data. Our strong manufacturing capabilities enable flexible production of both large and small custom volume batches.

Hallstar's broad spectrum of ingredients is ideal for use in a wide array of toiletries products such as antiperspirants, bath oils, deodorants, depilatories, hand washes, perfumes, shower gels, soaps and shaving preparations. Our ingredients are also utilized in a diverse array of other leave-on and rinse-off skin care and hair care products.

Sometimes you may seek something more novel than our patented products. Unrivaled ester competency and expertise in polymer modification and optimization, combined with regulatory knowledge and market insights, enable us to craft new functionalities and custom solutions to meet your requirements.

Hallstar is a longstanding member of the **Roundtable on Sustainable Palm Oil (RSPO)** and diligently supports its principles, goals and efforts to promote sustainable sourcing of palm and palm kernel oil in its supply chain. As consumer demand for ethical, transparent supply chains increases, we are committed to supply only RSPO mass balance palm-derived products. Hallstar's RSPO efforts, in collaboration with our global suppliers, aim to help maximize the positive impact of palm oil cultivation on the communities and environment in palm oil-producing regions.

ISO 16128 provides guidelines specific to the cosmetics sector on definitions and criteria for natural and organic ingredients and products. Many of our personal care ingredients are ISO 16128 derived natural ingredient-compliant, with up to 100% Natural Origin and a Natural Origin Index of 1.

Further, many of our products have been clinically tested to verify benefits.

Hallstar's personal care esters, metallic stearates and alcohols are 100% RSPO mass balance-certified

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CERTIFIED SUSTAINABLE PALM OIL ™
RSPO
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ESTERS

Hallstar has a broad array of mono-, di-, and triesters, monomeric and polymeric, that are used primarily to customize emolliency and feel, or to disperse and emulsify components in skin care products.

Cetyl Palmitate
(HallStar® 653)

HallStar® 653 is a solid waxy ester made from the reaction of cetyl alcohol with palmitic acid. It is an emollient and oil phase thickener in emulsions, a base or stiffener for stick products, and a substitute for spermaceti wax.

Diisopropyl Adipate
(HallStar® DIPA)

A multifunctional (solvent for aromatic oils, coupler, emollient, lubricant, plasticizer) synthetically produced diester of isopropyl alcohol and adipic acid. It is a non-occlusive, non-oily, light emollient with excellent spreading properties. Used in bath oils, it delivers a soft feel to skin. In sunscreens, it solubilizes solid organic UV filters and its relatively high polarity may assist with avobenzone photostabilization. Recommended use level: 0.1%-25%, depending upon application (lower end as a plasticizer, higher as an emollient, sunscreen solvent or hydro-alcoholic coupler, high end as a bath oil additive).

Ethylhexyl Isononanoate
(HallStar® Octyl Isononanoate)

HallStar® Octyl Isononanoate is the reaction product of isononanoic acid and 2-ethylhexanol. It is used as an emollient in skin care and may be used as a resin plasticizer for hair styling resins. Its branched nature imparts a low viscosity and low freeze point, making it useful for reducing the tackiness of heavier oils, thus enhancing finished product feel (making it softer, drier, and/or less oily).

Glycol Distearate
(HallStar® EGDS)

HallStar® EGDS is the product of the reaction of triple pressed-grade stearic acid with ethylene glycol. It is primarily the diester, as reflected in its saponification value. Its effectiveness as an opacifier and pearlizing agent is due to its near insolubility in aqueous systems. It is used at 0.5 – 2% in shampoos, liquid soaps and body washes to impart pearlescence

Glycol Stearate
(HallStar® EGMS)

HallStar® EGMS is the esterification product of triple pressed-grade stearic acid and ethylene glycol. It is a mixture of about equal proportions of mono- and di-ester. Its effectiveness as an opacifier and pearlizer is due to its near insolubility in aqueous systems.

Glyceryl Stearate
(HallStar® GMS Pure)

HallStar® GMS Pure is the esterification product of vegetable-derived, high-purity triple-pressed stearic acid with glycerin. It is one of the most broadly utilized ingredients for personal care products. HallStar® GMS Pure is typically used as the primary emulsifier, in conjunction with a variety of auxiliary emulsifiers. The typical use level is 2 – 5% in creams and lotions.

Glyceryl Stearate SE
(HallStar® GMS SE)

HallStar® GMS SE is the reaction product of glycerin and triple-pressed grade stearic acid combined with a defined amount of potassium stearate to enhance self-emulsification in aqueous systems. It is used as the primary emulsifier in oil-in-water (O/W) emulsions at pHs in the range of 5 – 9.

Glyceryl Stearate (and) PEG-100 Stearate
(HallStar® GMS SE/AS)

HallStar® GMS SE/AS is a self-emulsifying blend of glyceryl stearate and PEG-100 stearate. It provides good electrolyte stability for hair and skin conditioning emulsions, antiperspirants and make-up bases. The typical use level is 3 – 6%.

Glycol Stearate (and) Stearamide AMP
(HallStar® EGAS)

HallStar® EGAS is blend of glycol stearate with stearamide AMP. It is an emollient, bodying agent, emulsion stabilizer, and pearlizing agent in various cosmetic applications. Typical use levels are 1 – 2%.

Isopropyl Myristate
(HallStar® IPM-NF)

HallStar® IPM-NF is a multifunctional (emollient, solvent, spreading agent, penetrant) synthetically produced ester of vegetal myristic acid and petrochemical isopropyl alcohol that conforms to the requirements of the National Formulary monograph for isopropyl myristate.

Isopropyl Palmitate
(HallStar® IPP-NF)

HallStar® IPP-NF is an economical liquid ester made from the reaction of vegetal palmitic acid and petrochemical isopropyl alcohol. It conforms to the requirements of the National Formulary monograph for isopropyl palmitate. HallStar® IPP-NF is a light non-occlusive emollient with a soft, dry, non-oily feel. It is used as pigment binder, diluent, and solubilizing agent for mineral oil, silicones, lanolin, and fragrances in many personal care product applications.

PEG-100 Stearate
(HallStar® PEG 4400 MS)

HallStar® PEG 4400 MS is a high HLB (18.8) nonionic emulsifier from petrochemical and vegetal sources. It is supplied as an off-white to light tan flake with characteristic slightly fatty odor. It is frequently used in conjunction with a low HLB emulsifier (e.g., glyceryl stearate, HLB 3.8) to produce stable oil-in-water (O/W) emulsions that form the basis for many lotion- and cream-type personal care products.

PEG-150 Distearate
(HallStar® PEG 6000 DS)

HallStar® PEG 6000 DS is an ester made from the reaction of vegetable-derived triple-pressed grade stearic acid and a defined high molecular weight polyethylene glycol. It is commonly used to thicken mild, amphoteric-containing surfactant systems, such as baby shampoos, baby baths, facial scrubs, facial cleansers, body washes, body scrubs and shaving foams. It also finds application in color cosmetics as an auxiliary emulsifier (HLB ~18.4). Several versions of this product are available to meet your specific formulation needs. The typically employed use level is 1 – 4%.

PEG-8 Distearate
(HallStar® PEG 400 DS)

A vegetable-derived ester made from the reaction of triple-pressed grade stearic acid and polyethylene glycol for defined composition. It is used as an emulsifier (HLB 8.5), emollient, opacifying agent and/or conditioning agent in various products, with typical use level between 2 and 6%. It is commonly used in underarm antiperspirant-deodorant stick products to aid product removal from skin when showering or bathing and from clothes when laundered.

CASTOR AND ETHOXYLATES

Performance ingredients from Hallstar include botanical isolates and fatty ethoxylates. Individual products provide structuring or solubilizing benefits in a diverse array of personal care products.

Hydrogenated Castor Oil
(HallStar® HCO)

HallStar® HCO is almost fully hydrogenated castor oil and consists primarily of trihydroxystearin (glyceryl tris (12-hydroxystearate)). It is a hard, brittle, high melting point wax highly compatible with most resins and waxes, often used as a co-structurant in lipsticks, lip balms and antiperspirant sticks.

Isosteareth-20
(RTD IS-20)

RTD IS-20 is a high HLB (~14) nonionic surfactant produced through the ethoxylation of isostearyl alcohol. A soft whitish paste, it is used to solubilize fragrances, essential oils, and other hydrophobic compounds in aqueous systems. It may also be used in aerosol products to generate foam in conjunction with the propellant. Used with other surfactants, RTD IS-20 also functions as a co-emulsifier.

PEG-40 Hydrogenated Castor Oil
(RTD HC-40)

RTD HC-40 is a high HLB surfactant (~13) produced through the ethoxylation of hydrogenated *Ricinus communis* (castor) seed oil. It is a nonionic oil-in-water (O/W) emulsifier and solubilizer that is compatible with nonionic, cationic and anionic surfactants and is effective even in systems that are relatively highly salty, acidic or alkaline.

PEG-60 Hydrogenated Castor Oil
(RTD HCO-60)

RTD HCO-60 is a high HLB (~16) surfactant produced through the ethoxylation of hydrogenated *Ricinus communis* (castor) seed oil. It is a nonionic oil-in-water (O/W) emulsifier that is compatible with nonionic, cationic and anionic surfactants and is effective even in systems that are relatively highly salty, acidic or alkaline.

PEG-60 Hydrogenated Castor Oil
(HallStar® HCO-60 100%)

HallStar® HCO-60 100% is an essentially anhydrous high HLB (~16) surfactant produced through the ethoxylation of hydrogenated *Ricinus communis* (castor) seed oil. It is a nonionic oil-in-water (O/W) emulsifier that is compatible with nonionic, cationic and anionic surfactants and is effective even in systems that are relatively highly salty, acidic or alkaline.

Steareth-100
(HallStar® S-100)

HallStar® S-100 is a white to pale yellow waxy solid of high HLB (18.8). As a high melting point (50 – 60°C) solid, it finds application as a fragrance solubilizer in antiperspirant-deodorant sticks. As a stearyl alcohol ethoxylate, it is both oxidation and high and low pH stable, allowing for use in depilatories, relaxers, crème lotion developers and AHA-based skin renewal products, where esters may be problematic for extended finished product shelf life.

METALLIC STEARATES

Hallstar's broad spectrum of sodium, zinc and other salts of stearic acid includes products ideal for both cosmetic and industrial applications, providing customized feedstocks, chain length distributions, particle sizes and grades. All are soaps and lubricants and may also function as cleansers, gellants, co-emulsifiers or binders.

Sodium Stearate
(Sodium Stearate OP-100 V)

A vegetable-derived sodium stearate consisting primarily of the sodium salts of saturated C16 and C18 fatty acids. This fine white powder is used as a gelling agent in deodorant sticks (4 – 8%), as a component of bar soaps (5 – 20%) and as a co-emulsifier (<1%). Originally designed for alcohol-based deodorant sticks, it remains the preferred grade of sodium stearate for maximum stick clarity. Hasten its dissolution by adding it to hot water (>80°C). Several variants of this product of larger particle size (less dusting) and/or technical grades are available to meet your specific formulation needs.

Sodium Stearate
(Sodium Stearate OP-200V)

A vegetable-based sodium stearate, consisting primarily of the sodium salts of saturated C16 and C18 fatty acids, but also including a defined proportion of C20 and C22 fatty acids to increase the melt point and decrease the payout of hydroglycolic sticks made with it. Sodium Stearate OP-200V may find application as a gelling agent for deodorant and fragrance sticks, as a component of vegetable-based bar soaps, and as a viscosifier or emulsion stabilizer for other aqueous-based personal care products. Originally designed for propylene glycol-based deodorant sticks, it remains the preferred grade of sodium stearate for nonalcoholic sticks. Typical use levels: underarm deodorants: 4 – 8%; bar soaps: 5 – 20%; emulsion stabilization: 0.5 – 1.5%. Several variants of this product of larger particle size (less dusting), and/or with more tightly defined fatty acid distributions are available to meet your specific formulation needs.

Zinc Stearate
(HallStar® Zinc Stearate)

HallStar® Zinc Stearate is a fine textured powder (99.00% minimum through a 325 mesh) that may find application as a binder and lubricant in pressed powders such as blushers, eyeliners, eye shadows, eyebrow pencils, face powders, foundations and other makeup preparations.

OLEOCHEMICALS

Hallstar also has an impressive portfolio of oleochemicals including fatty alcohols and sulfates. They may be used as feedstocks in the manufacture of other personal care ingredients, or as is to contribute foaming, opacity and/or thickening.

Cetyl Alcohol
(HallStar® CO-1695 Cetyl Alcohol NF)

A biodegradable, high C16 content, NF grade cetyl alcohol. Derived entirely from vegetable (coconut and/or palm kernel, supplemented with palm oil stearine) feedstock. Refined oil is converted to methyl esters which are then fractionated, hydrogenated to form alcohols, and then further distilled to achieve the high C16 content of this product. It finds widespread application as an opacifier, emulsion thickener/bodifier and viscosity stabilizer at typical levels of 0.5 – 4%

Cetearyl Alcohol
(HallStar® TA-1618 Cetearyl Alcohol)

A fatty alcohol derived entirely from vegetable (coconut and/or palm kernel, supplemented with palm oil stearine) feedstocks. It is a waxy white solid with a mild soapy odor at room temperature, and finds widespread application as an opacifier, emulsion thickener/bodifier and stabilizer, viscosity stabilizer, and rinse-out hair conditioning component.

Cetearyl Alcohol (and) Ceteareth-20
(HallStar® NCD-20)

A high quality, readily emulsifiable product. It consists of a defined proportion of cetearyl alcohol (common name cetostearyl alcohol or cetyl stearyl alcohol) and ceteareth-20.

HallStar® NCD-20 has broad pH stability and finds application as an oil-in-water (O/W) emulsion base. It may be used as the primary or secondary emulsifier in a wide variety of lotions, creams and pastes. Because it is not an ester and is nonionic, it can be used in systems far from neutral pH, such as hair relaxers, depilatories, creme lotion developers, and AHA skin care creams.

Sodium Coco-Sulfate
(HallStar® SCS)

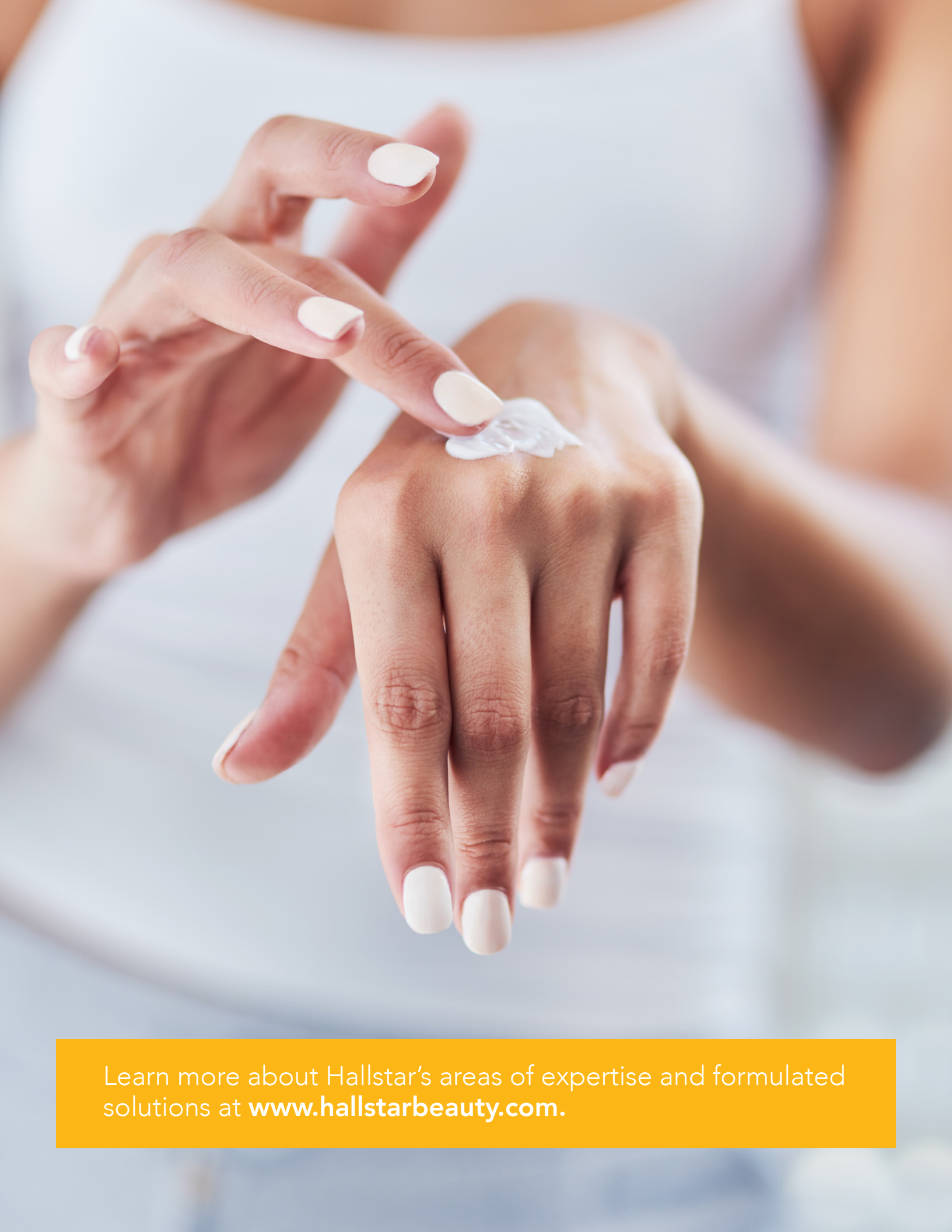
HallStar® SCS is a solid high active anionic surfactant in fine noodle form. Its intended application is as the primary foamer in topically applied personal cleansing products. By virtue of its appreciable C16 and C18 content, cleansers made with HallStar® SCS rather than sodium lauryl sulfate will have a denser, creamier foam and may be translucent rather than clear.

Stearyl Alcohol
(FA 18/96-U Stearyl Alcohol Deo Grade)

A white waxy solid of low to moderate comedogenicity, useful as an emulsion stabilizer, thickener and opacifier at use levels of 0.3 – 4%. It is specially designed, however, for use in antiperspirant-deodorant sticks as a co-structurant at use levels of 15 – 20%. Its controlled composition reduces the likelihood of crystallization of the stick matrix during extended finished product storage, prolonging product shelf life.

Stearyl Alcohol
(HallStar® CO-1895 Stearyl Alcohol NF)

An NF grade, biodegradable, high C18 content stearyl alcohol derived entirely from vegetable feedstock. It is a waxy white solid with a mild soapy odor at room temperature, and finds widespread application as an opacifier, emulsion thickener/bodifier and stabilizer, viscosity stabilizer, and rinse-out hair conditioning component.



Learn more about Hallstar's areas of expertise and formulated solutions at **www.hallstarbeauty.com.**

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