

SUN CARE SOLUTIONS

Performance-driven technology for effective sun
care without compromise

HALLSTAR 

Hallstar offers decades of sun care expertise and unique formulation solutions. We work collaboratively with companies around the world to enhance next generation products.

Sun care products present some of the most daunting challenges for beauty and personal care formulators. Adding to this complexity, nearly every global region has its own consumer preferences and SPF/PFA rules. A UV filter or active ingredient approved in one country may not be acceptable in another.

Hallstar pioneered photostability science, and today we offer the most powerful and unique sun protection technology on the market. By working closely with our customers, we can help meet the tough challenges of sun degradation and aesthetic needs—as well as regulatory and market preferences—so you can innovate with confidence.

Custom formulations based on changing customer needs

Hallstar is well known for its deep competency in photostability science, ester chemistry, emulsifiers and functional naturals. Our broad portfolio includes thousands of ready-made formulations, but we also offer the option to create entirely unique, customer-specific formulated solutions. Our state-of-the-art global laboratories offer onsite *in vitro* testing with solar simulation and unsurpassed technical support.

LET'S WORK WONDERS[®]

PHOTOSTABILIZATION

Hallstar photostabilizers provide safe, efficient and persistent stabilization for a wide variety of personal care ingredients. Unlike UV filters that strongly absorb solar radiation, the quenching mechanisms in these products eliminate UV filter instability and the creation of harmful reactive oxygen species upon exposure to sunlight.

SolaStay® S1 (Ethylhexyl Methoxycrylene)

The most powerful photostabilizer on the market today. SolaStay® S1 preserves the effectiveness of UV filters by interacting with both the singlet and triplet states. It returns UV filters to their ground states —without absorbing sunlight. An outstanding solvent for crystalline UV filters, SolaStay® S1 is easily emulsified and suitable for use in lotions, creams, sprays, sticks and gels.

SolaFresh™ (Diethylhexyl 2,6-Napthalate)

SolaFresh™ enhances UV protection performance, allowing high SPF formulations while still complying with expanding sunscreen regulations. It has good solvency and skin emollience, as well as high compatibility with UV filters. Its combination effect with other photostabilizers allows high sun protection performance without the use of regionally restricted UV filters like octocrylene, oxybenzone and octinoxate.

Polycrylene® (Polyester-8)

This is a triplet state-quenching photostabilizer ideal for customers seeking to photostabilize avobenzone to improve sun protection.

AvoBrite® (Acrylates Copolymer)

AvoBrite® is the first cost effective, globally approved and China-compliant solution for stabilizing butyl methoxydibenzoylmethane (avobenzone) and avobenzone combinations. AvoBrite® has been clinically proven to protect avobenzone from degrading upon sun exposure and releasing damaging free radicals. With AvoBrite®, sun care products can safely maximize the strong UV absorption powers of avobenzone and enter lucrative new markets.

Synoxyl® HSS (Trimethoxybenzylidene Pentanedione)

Synoxyl® HSS is a proprietary photostabilizer that can work synergistically with UV filter actives (both organic and mineral) to enhance the SPF/PFA of sunscreen formulations. Synoxyl® HSS can also inhibit the formation of photo-induced ROS, delivering enhanced skin health benefits.

ANTI-PHOTOAGING ACTIVES

We live in extraordinary times. The entire concept of aging is being challenged and transformed. And now, breakthrough active technologies in anti-photoaging science deliver new ways to stop skin aging in its tracks and reverse the visible signs of photoaging.

Micah®

Not a UV filter, not an antioxidant, Micah® deters skin aging by blocking the formation of light-induced oxidative stress. Proactive, not reactive, it prevents damage to the extracellular matrix, maintains skin elasticity and halts the creation of fine lines and wrinkles.

Micah® is the pioneering technology for proactive products that stop sun damage before it begins. Using a revolutionary discovery in fused-ring cyanoacrylates, Micah® returns photosensitizers to the ground state, stopping the formation of damaging reactive oxygen species (ROS) and free radicals. Independent testing has proven that Micah® successfully prevents ROS and markers associated with inflammation, photoaging, redness and irritation. Safe and effective, Micah® can give a range of products a commanding lead in the highly competitive beauty market.

- Stops formation of free radicals
- Broader protection UVA-1 region (340-400 nm)
- Photostable
- Colorless
- No metabolic interference

Synoxyl® AZ

Synoxyl® AZ—a multi-functional active ingredient derived from ginger and modeled after curcumin's molecular structure—is designed to both counteract aging before it happens and reverse visible signs of photo-damaged skin.

- Proactively quenches excited state moieties to suppress the generation of ROS.
- Acts as a conventional antioxidant to scavenge damaging ROS that have already formed.
- Preferentially sequesters harmful iron and copper metal ions over beneficial zinc and calcium ions.
- Can reduce erythema, DNA damage (immediate and delayed), wrinkles, and uneven skin pigmentation.
- Reverses the signs of cellular senescence, all while maintaining the integrity of the skin's microbiome and extracellular matrix.

Although ideally suited for sun protection applications, Synoxyl® AZ can deliver significant consumer-desired benefits across a range of skin care treatments.

MINERAL DISPERSIONS

ZINC OXIDE MINERAL UV FILTERS

Combining the benefits of a readily flowable zinc oxide dispersion with Hallstar's patented photostabilization expertise, Hallstar's line of mineral dispersions line includes HallBrite® EZ-FLO ZDX, HallBrite® EZ-FLO ZDX Plus, and HallBrite® ZDX Clear. These products combine the benefits of industry-leading ZnO performance with built-in photostabilization technology.

HallBrite® EZ-FLO ZDX

(Zinc Oxide 60%, Butyloctyl Salicylate, Triceteareth-4 Phosphate, Trimethoxycaprylsilane)

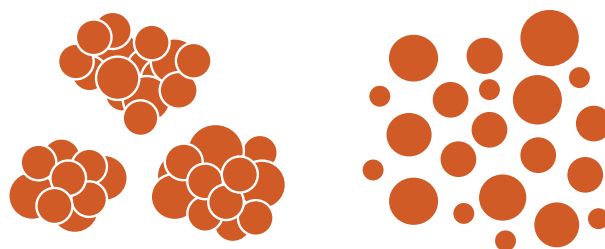
HallBrite® EZ-FLO ZDX Plus

(Zinc Oxide 58%, Butyloctyl Salicylate, Ethylhexyl Methoxycrylene, Triceteareth-4 Phosphate, Trimethoxycaprylsilane)

HallBrite® ZDX Clear

(Zinc Oxide (68%), Butyloctyl Salicylate, Ethylhexyl Isononanoate, Ethylhexyl Methoxycrylene, Polyhydroxystearic Acid)

HALLBRITE® BHB ELIMINATES AGGLOMERATION



Before

After

SOLUBILIZERS

Hallstar solubilizers are multifunctional ingredients that provide superior solvency for solid sun care actives, while offering excellent spreadability and resistance against wash off. Hallstar offers moderately polar to highly polar solubilizer options to suit specific formulation needs.

HallBrite® BHB

(Butyloctyl Salicylate)

As a highly effective solubilizer for sunscreen actives with moderate polarity and low viscosity, HallBrite® BHB serves as an excellent carrier and dispersant for micronized titanium dioxide, zinc oxide and cosmetic colorants. This product also improves formulation aesthetics while imparting an elegant moisturizing feel to the skin in an odorless, colorless and tasteless liquid with low potential for irritation.

Spectrasolv® DMDA

(Dimethyl Capramide)

A highly polar solubilizer for sunscreen actives particularly suited to high SPF formulations, Spectrasolv® DMDA has superior solvency compared to traditional esters and improves the freeze-thaw stability of emulsions.

EMOLLIENTS

Hallstar emollients can add a variety of sensory-enhancing characteristics and textures to formulations. From elegant slip, light skin feel and quick-spreading behavior to thick conditioning needs with slower spread and heavier skin feel, Hallstar emollients are highly functional ingredients proven to enhance skin's hydration, elasticity and barrier function.

HallSens™ DIAS (Diisoamyl Succinate)

HallSens™ DIAS is demonstrably sustainable while also delivering unique and impactful sensory aesthetics. It is comprised of upcycled waste and prepared via esterification using renewable succinic acid (a green alternative to synthetically derived feedstocks) and isoamyl alcohol. The patent-pending ingredient can serve as a sensory alternative to cyclomethicone, and its light aesthetic properties exceed those of other low viscosity, highly spreadable oils and emollients. Its breathable and silky, smooth feeling generates a luxurious and memorable consumer experience across categories in personal care. In addition to its sensory benefits, this unique ingredient can also serve as an effective solvent, wetting agent/dispersant, and detackifying agent.

SolaPure Glo™ (Vegetable Oil, Simmondsia Chinensis (Jojoba) Seed Oil, Curcuma Longa (Turmeric) Root Extract)

All-natural, multifunctional emollient SolaPure™ Glo is a holistic sun care solution that leverages turmeric's benefits to improve sun protection's SPF and PFA performance, control hyperpigmentation and promote overall skin wellbeing. It can be used in any beauty formulation to provide youthful radiance and glow.

Sensolene® (Ethylhexyl Olivatate)

This highly functional ingredient is endowed with emollient properties that provide high levels of skin compatibility with a smooth formulation appearance and texture. Thanks to its polarity, Sensolene® can help solubilize crystalline UV filters while providing a lighter touch to your higher SPF sunscreen.

Sensolene® Light ET (Ethyl Olivatate, Olea Europaea (Olive) Leaf Extract)

Introducing for the first time the concept of an active emollient combining superior emolliency with anti-oxidant benefits, thanks to unique, natural Oléo-éco extraction patented process. It is a multifunctional biomimetic active emollient derived from olive oil and olive leaves that gives an extremely light touch to every beauty formulation. COSMOS-certified.

Sensolene® Care DD (Lauryl Olivatate)

This dynamic emollient offers protective effects and excellent spreading properties. The low temperature melting point, near to the skin temperature, gives the product unique sensorial features. The clinically tested calming properties of Sensolene® Care DD make it a perfect ingredient for after sun products. COSMOS-approved.

Olivem® 300 (Olive Oil PEG-7 Esters)

A water-soluble functional lipid with sebum recovering activities. Its strong emolliency and lubricant properties offer a distinctive skin smoothness and long-term moisturizing effects, and make it a very good choice for after sun products.

Learn more about Hallstar's areas of expertise and formulated solutions, or use our unique online tool to create your own custom formula at www.hallstar.com.

EMULSIFIERS

Hallstar emulsifiers use complex combinations of fatty acids that optimize the uniformity and stability of formulations. Mimicking the surface lipid composition of skin, these naturally derived ingredients are also proven to reduce skin irritation and enhance SPF while lending exquisite skin feel to emulsions.

Olivem® 2090 **(Polyglyceryl-4 Olivatate/Polyricinoleate)**

Olivem® 2090 G **(Polyglyceryl-4 Olivatate (and) Polyglyceryl-3 Polyricinoleate)**

Olivem® 2090/Olivem® 2090 G is a 100% natural-derived cold process water-in-oil emulsifier, offering exceptional emulsifying performance combined with excellent sensorial benefits for multiple applications. Its innovative chemical structure creates a homogeneous layer that surrounds water droplets, providing the perfect solution for obtaining light and stable W/O emulsions. COSMOS-certified.

Olivem® 2020 **(Ethylhexyl Olivatate (and) Sodium Acrylates Copolymer (and) Polyglyceryl-4 Olivatate)**

Olivem® 2020 G **(Ethylhexyl Olivatate (and) Sodium Acrylates Copolymer (and) Polyglyceryl-4 Oleate)**

Olivem® 2020/Olivem® 2020 G is a next-generation, naturally derived cold process emulsifier offering excellent performance, natural dermollient functionality and superior sensoriality and hydration. Drawing from olive oil chemistry, Olivem® 2020's biomimetic properties have been clinically proven to soothe and restore human skin. Combined with energy efficient ingredients, Olivem® 2020 allows preparation of formulations without the added heat or high shear mixing required when blending oil and water. Ideal for a range of applications including face, eye and body care, sun care, baby care, make up, shaving, wet wipes, hand/nail care and hair care.

Olivem® 1000 **(Cetearyl Olivatate, Sorbitan Olivatate)**

The industry's first PEG-free self-emulsifying biomimetic ingredient that supports a wide range of functions, including anti-photoaging, anti-redness, luminescence, hydration and maximizing the sun protection factor (SPF). This botanically derived, functional natural product is a complex combination of fatty acids, chemically similar to the lipidic composition of the skin. As a biomimetic restructuring agent, Olivem® 1000 restores and maintains the integrity of the skin while providing an emulsifying base. COSMOS-approved.

Olivem® 900 **(Sorbitan Olivatate)**

A PEG-free co-emulsifier for W/O and W/S systems, Olivem® 900 is designed to improve the dispersion of the mineral UV filters in sun care and powders in decorative formulations. The film-forming benefits also provide water-resistance properties. COSMOS-approved.

Olivem® VS Feel **(Cetearyl Alcohol, Cetyl Palmitate, Sorbitan Palmitate, Sorbitan Oleate)**

This O/W emulsifier is engineered to increase viscosity and stability while imparting pleasant sensorial benefits to formulations. Olivem® VS Feel greatly reduces the "soaping effect" of emulsions, providing a soft, non-sticky after feel, high spreadability and excellent absorption. COSMOS-approved.

