

Broad Spectrum of Solutions for Sun Protection

DOW





Consumers understand that protecting their skin from the damaging effects of the sun is crucial in order to stay healthy, prevent premature aging, and keep their skin looking flawless. They recognize the importance of a higher SPF and they want it delivered with other performance and aesthetic benefits they enjoy, like ease of spreading, non-whitening, and a non-greasy feel.

At Dow, we have a range of products to help you meet your sun care formulation needs, from SPF boosters to film formers to dispersant aids. We go above and beyond as an ingredient supplier; we are a sustainability-driven and trend-savvy formulation partner for all of our customers to support their needs and the needs of the consumer.

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MARKET TRENDS

Full Spectrum Protection

Consumers and regulatory agencies are demanding products with high SPF ratings, as well as protection from both UVB and UVA rays. While UVB is responsible for sunburn, there is an increased focus on UVA as well, which penetrates deeper into the skin. UVA can cause long-term cumulative damage – called photo-aging. Consumers want products with full spectrum protection to ensure their skin is safe from the effects of all UV rays.

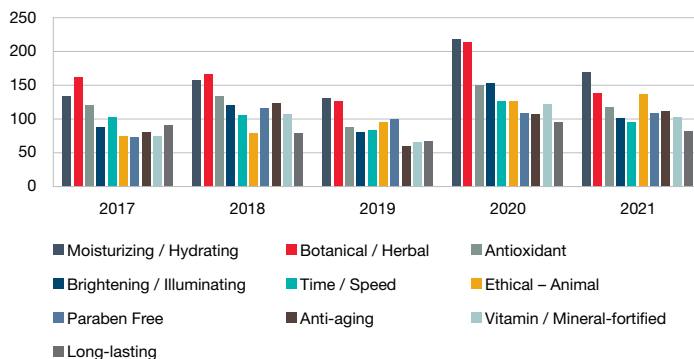
Zinc Oxide (ZnO) Becoming the Most Popular UV Filter

Sunscreen launches with ZnO as the primary UV filter had a compound annual growth rate of 11% between 2017-2021. This growth is driven by consumer perception that ZnO is more effective and safer for both them and the planet. ZnO formulations also enable inclusive sunscreens by limiting the white cast left on the skin, especially for those with darker skin tones.

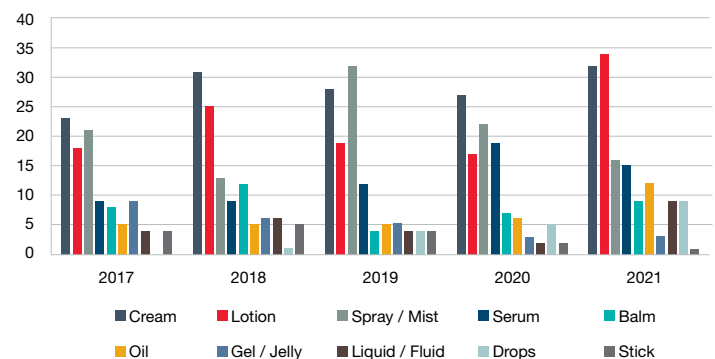
New Types of SPF Products with Multifunctional Claims

As a result of the increased emphasis on the use of sunscreen, we are seeing an evolution of daily wear SPF products. Consumers want products that offer multiple benefits in addition to sun protection, blending the line between skin care and sun care. These products attract customers with claims like moisturization, anti-aging and ‘includes antioxidants.’ Formulated products with unique textures and formats in addition to beach wear are being incorporated in daily routines as gels, serums, powder sticks, foams and tinted creams.

New Sunscreen Launches by Claim



New Sunscreen Launches by Formats & Textures



Source: Mintel

FDA REGULATION CHANGES

History of FDA and Sunscreens

FDA has spent past 20+ years reviewing requirements for sunscreens



In 2020, the CARES Act modernized the way FDA regulates certain OTC monograph drugs, such as sunscreens

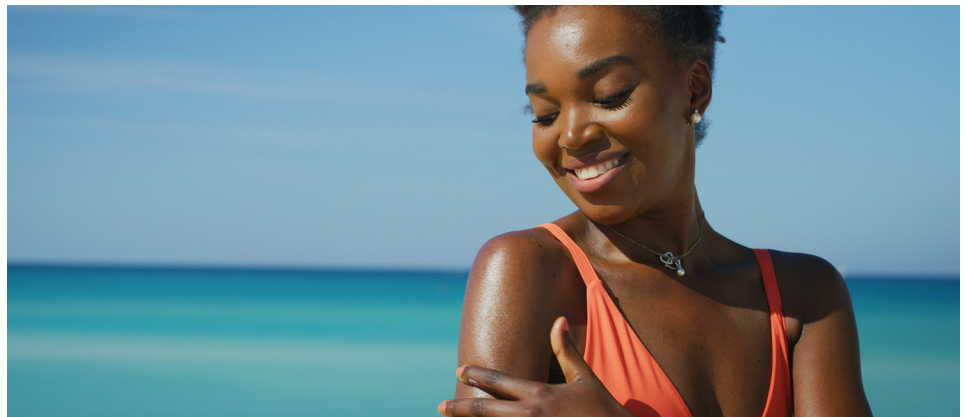


In 2021 the FDA posts deemed final order for sunscreens and issues ***proposed order***

The regulatory climate for sun protection products is changing. Recent changes in global regulatory environment have set higher standards for efficacy, safety and quality. Dow can help you create products that meet your objectives for stable, broad-spectrum protection and an aesthetically pleasing touch and feel.

Changes Under the Proposed Order

- Maximum label SPF of 60+ and proposes the maximum on the formulated SPF value of a sunscreen
- GRASE status for sunscreens containing zinc oxide and titanium dioxide; not GRASE status for sun-screens containing aminobenzoic acid and trolamine salicylate due to safety issues; not GRASE status for sunscreens containing cinoxate, dioxybenzone, ensulizole, homosalate, meradimate, octinoxate, octisalate, octocrylene, padimate O, sulisobenzene, oxybenzone and avobenzone because of inadequate data to support a safety finding
- Requirement that all sunscreens with SPF values of 15 and above satisfy broad spectrum requirements



TECHNICAL SUPPORT

We're going beyond what you would traditionally expect from a "materials supplier" to help you transform your sun protection into first-to-market opportunities. Dow can provide you with a tailored offering to meet all of your needs, whether its technical and regulatory expertise, knowledge of the global consumer market, laboratory testing, concept and formulation development, or custom blends – we are here to support you.

We have 9 technical service and development sites across the world. Our team of experts are up to date on regulatory requirements, the trendiest formats and textures, and preferred ingredients to offer you the support you need.



SUSTAINABLE SOLUTIONS

Consumers want products that are safe for them and the planet. Claims like reef-friendly, vegan, eco-friendly, organic, and zero waste are all growing when it comes to sunscreens and will continue to grow in popularity in the years to come.

To make it easier to find our sustainable ingredients, we have created a [sustainable products landing page](#) which can be found on dow.com. We have also created a [sustainability certifications page](#) that describes some of the most popular certifications and labels companies are striving for, including COSMOS by Ecocert, Non-GMO, and ISO 16128.



SUSTAINABLE SOLUTIONS



SunSpheres™ BIO SPF Booster

A new biodegradable and bio-derived SPF booster that can be used in a wide range of sun care and daily wear SPF products.



DOWSIL™ EL-TIPS Silicone Elastomer Blend

A sensory enhancer in a renewable carrier enabling brands to create products with a unique sensory experience and a higher naturality content.



PRODUCT OVERVIEW

To assist you in creating formulations that meet consumers' sun care needs, Dow offers a wide array of performance-enhancing ingredients engineered specifically to help your sun care formulations deliver superior performance.

Our portfolio of products can help achieve the following benefits:

- SPF boosting
- Water and sebum resistance
- Wear resistance
- Moisturization
- Faster absorption



Function	Benefits	Products
SPF Boosters	Increased SPF efficacy when used with UV active	SunSpheres™ Bio SPF Booster SunSpheres™ PGL Polymer SunSpheres™ Powder SunSpheres™ LCG Polymer
Film Formers	Water and sebum resistance	Epitex™ 66 Polymer DOWSIL™ FA PEPS Silicone Acrylate DOWSIL™ FA 4103 Silicone Acrylate Emulsion DOWSIL™ FA 4004 ID Silicone Acrylate
Rheology Modifiers	Thickening	ACULYN™ 28 Rheology Modifier ACULYN™ 33A Rheology Modifier ACULYN™ 44 Polymer ACULYN™ 88 Rheology Modifier ACULYN™ Siltouch Rheology Modifier
Silicone Fluids	Emolliency and delivery of UV actives	XIAMETER™ PMX-0245 Cyclopentasiloxane XIAMETER™ PMX-200 Silicone Fluid 2 cSt DOWSIL™ FZ-3196 Fluid DOWSIL™ 5562 Carbinol Fluid DOWSIL™ 556 Cosmetic Grade Fluid
Dispersants and Emulsifiers	Disperse mineral UV filters	DOWSIL™ ES-5300 Formulation Aid DOWSIL™ ES-5700 Formulation Aid DOWSIL™ ES-5612 Formulation Aid DOWSIL™ ES-5600 Silicone Glycerol Emulsifier
Silicone Gum Blends	Long lasting and silky feel	XIAMETER™ PMX-1501 Fluid XIAMETER™ PMX-1503 Fluid DOWSIL™ PMX-1504 Fluid DOWSIL™ PMX-1505 Fluid DOWSIL™ PMX-1507 Fluid DOWSIL™ PMX-1508 Fluid
Emulsions	Cold processing	DOWSIL™ HMW 2220 Non-Ionic Emulsion
Silicone Elastomers	Silky feel and enhanced texture	DOWSIL™ 9045 Silicone Elastomer Blend DOWSIL™ EL-9240 Silicone Elastomer Blend DOWSIL™ EL-9241 DM Silicone Elastomer Blend DOWSIL™ EL-8050 ID Silicone Organic Elastomer Blend DOWSIL™ EL-8048 ID Silicone Organic Blend DOWSIL™ EL-7040 Hydro Elastomer Blend DOWSIL™ EL-TIPS Silicone Elastomer Blend
Alkylmethylsiloxane Waxes	Moisturization and increased SPF	DOWSIL™ 2511 Cosmetic Wax* DOWSIL™ 2502 Cosmetic Fluid DOWSIL™ 2503 Cosmetic Wax

*DOWSIL™ 2511 Cosmetic Wax is a silicone polyether wax and is a water soluble wax that does not provide increased SPF





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