



HIGH QUALITY SILICONES FOR PERSONAL CARE

WACKER-BELSIL® CM

Use of Cyclopentasiloxane and its blends with Dimethiconols in Cosmetic Applications

Wacker-Belsil® CM 1000 and CM 3092 are blends of Wacker-Belsil® CM 040 (100% D5 cyclics) and highly viscous dimethiconols. The dimethiconol is dissolved in Wacker-Belsil® CM 040. Following application, the Wacker-Belsil® CM 040 evaporates and the dimethiconol forms a water-repellent but breathable film. The silicone mixtures and Wacker-Belsil® CM 040 permit uniform distribution of active agents and pigments. After the D5 cyclics have evaporated, the pigments remain immobilized in the correct place.

The silicone blends are highly compatible with other raw materials used in cosmetics, and they are readily incorporated.

WACKER-BELSIL® DM

Use of Dimethicones, Dimethiconols and their Emulsions in Cosmetic Applications

Dimethicones and dimethiconols, or polydimethylsiloxane polymers, are widely used in all aspects of personal care formulations. In haircare products, dimethylsiloxane polymers provide a reduction in both wet and dry combing forces, impart humidity resistance and enhance shine. In skincare products, they provide a protective, breathable barrier to the skin and are recognized as skin-protective drugs under the FDA monograph. Unmodified silicones provide lubricity, anti-whitening effects and emolliency properties while improving application characteristics.

High molecular weight compounds provided as blends or emulsions impart water-resistant properties to suncare and color-cosmetic formulations and provide more durable conditioning benefits to haircare compositions. Low molecular weight dimethiconol compounds are also available from Wacker.

Applications: Haircare, skincare, AP/DO, color cosmetics.

WACKER-BELSIL® PDM

Use of Trimethylsiloxyphenyl Dimethicones in Cosmetic Applications

Phenyl-modified silicones are most widely used as shine enhancing additives. Additionally, they provide an anti-tack benefit to formulations containing acrylic-acid polymers and are excellent emollients in skincare products. In antiperspirant formulations, phenyl-modified silicones are employed as refractive-index matches to promote formation of clear products. WACKER

SILICONES supplies a wide variety of phenyl-modified silicones ranging in refractive index from 1.437 to 1.46. These products span a viscosity range of 20 - 1,000 mm²/s.

Applications: Haircare, skincare, AP/DO, color cosmetics.

WACKER-BELSIL® CDM 3526 VP **C26-28 Alkyl Dimethicone (proposed)**

Wacker-Belsil® CDM 3526 VP is a white to cream coloured, pasty polymethylsiloxane that is resistant to hydrolysis and has a very high affinity to all kinds of substrates.

Applications: The main applications of this silicone paste is in skin protection, skin care, sunscreens and decorative cosmetics. In skin care products, it improves the formulation efficiency and provides a soft, non-sticky skin feel. The Wacker-Belsil® CDM 3526 VP forms an occlusive film, which reduces trans-epidermal water loss (TEWL). It's high substantivity, improved water resistance and moisturizing properties make this alkyl-functional silicone paste an indispensable component of sunscreen products and decorative cosmetics, such as lipsticks, mascara and make-up.

WACKER-BELSIL® CM 7026 VP **C26-28 Alkyl Methicone**

Wacker-Belsil® CM 7026 VP is a high melting, white to cream coloured, waxy polymethylsiloxane that is resistant to hydrolysis and has a very high affinity to all kinds of substrates.

Applications: The main applications of this silicone wax is in skin protection, skin care, sunscreens and decorative cosmetics. In skin care products, it improves the formulation efficiency and provides a soft, non-sticky skin feel. The Wacker-Belsil® CM 7026 VP forms an occlusive film, which reduces trans-epidermal water loss (TEWL). It's high substantivity, improved water resistance and moisturizing properties make this alkyl-functional silicone wax an indispensable component of sunscreen products and decorative cosmetics, such as lipsticks, mascara and make-up.

WACKER-BELSIL® MM 8030 VP **C30-45 Alkyl Methicone (proposed)**

Wacker-Belsil® MM 8030 VP is a high melting, white to cream coloured, waxy polymethylsiloxane that is resistant to hydrolysis and has a very high affinity to all kinds of substrates.

Applications: The main applications of this silicone wax is in skin protection, skin care, sunscreens and decorative cosmetics. In skin care products, it improves the formulation efficiency and provides a soft, non-sticky skin feel. The Wacker-Belsil® MM 8030 VP forms an occlusive film, which reduces trans-epidermal water loss (TEWL). It's high substantivity, improved water resistance and moisturizing properties make this alkyl-functional silicone wax an indispensable component of sunscreen products and decorative cosmetics, such as lipsticks, mascara and make-up.

WACKER-BELSIL® SDM **Stearoxy Dimethicones, Stearyl Dimethicones**

Stearoxy dimethicones, stearyl dimethicones combine excellently with many cosmetic raw materials, including oils, waxes, fatty alcohols, fatty acids and some sunscreens. These silicones increase the stability of emulsions based on "silicone-water-organic compounds". They are often employed as rheology modifiers in creams and lotions. In skincare compositions, stearoxy dimethicones, stearyl dimethicones form an occlusive barrier and have a moisturizing effect comparable to that of paraffin oils. However, they do not leave the skin feeling sticky or greasy.

WACKER-BELSIL® DMC **Polyether-Functional Silicones - Copolymers and Terpolymers**

Polyether-functional silicone copolymers are surface-active agents which provide a myriad of benefits in personal care formulations. In haircare products, polyether-functional silicones act as resin plasticizers and oil-in-water emulsifiers. They are known to be much less irritating to mucous membranes than primary surfactants in shampoo systems, and to provide a profoaming effect. In conditioning compositions, polyether-functional silicones may provide light conditioning benefits depending on the formulation and usage conditions.

In skincare compositions, these materials are employed for their emulsification properties and their ability to promote triple-phase emulsion formation.

Applications: Haircare, skincare, AP/DO, color cosmetics.

WACKER-BELSIL® ADM **Use of Wacker-Belsil® Amodimethicone, Trimethylsiloxyamodimethicone and their Emulsions in Haircare Applications**

Due to patented, linear processing technology, WACKER SILICONES is able to offer both amodimethicone and trimethylsiloxyamodimethicone fluids, as well as emulsions of these fluids. Amino-functional silicone polymers are available in a variety of amine contents and fluid viscosities, allowing formulation of haircare compositions ranging from very light conditioning compositions to heavy, durable conditioning products designed for chemically treated, badly damaged and ethnic hair types. Amino-functional silicones provide a reduction in both wet and dry combing forces, lower triboelectric charging effects, enhance luster and impart a soft, silky-smooth feeling to dry hair.

Applications: Haircare.

WACKER-BELSIL® SPR 45 VP **Polyphenylsilsesquioxane**

Wacker-Belsil® SPR 45 VP is a solvent-free, silanolfunctional phenyl propyl silicone resin. This product is produced for use as a filmformer in cosmetic applications. Wacker-Belsil® SPR 45 VP is soluble in alcohols, esters, glycols and ketones.

Special Characteristics: Wacker-Belsil® SPR 45 VP shows good film forming properties that enables the product for use in long lasting cosmetics like e.g. lipsticks. Because of the phenyl groups Wacker-Belsil® SPR 45 VP provides up to 50% more gloss than standard silicone resins, this is also proved by a clearly higher refractive index.

Applications: These properties predestine Wacker-Belsil® SPR 45 VP as a raw material for color cosmetics, skin care and sun care products.

WACKER-BELSIL® TMS

Use of Trimethylsiloxysilicate and its Blends in Cosmetic Applications

This highly crosslinked silicone resin is used primarily on account of its filmforming attributes. In sunscreens, skincare products and decorative cosmetics, the trimethylsiloxysilicates are excellent water-resistant additives which serve to anchor pigments. They prevent agglomeration and maintain the free-flowing properties in loose-powder products. In haircare compositions, the silicone resin imparts volume and body to the hair, acts as a fixative and protects the hair against moisture.

Properties: Chemically stable, nontoxic, nonirritating, forms a water-resistant film, improves flow properties, promotes deposition and substantivity of dimethicone polymers, modifies rheology, prevents agglomeration.

Applications: Skincare, sunscreens, decorative cosmetics, haircare.

WACKER-BELSIL® PMS MK POWDER

Polymethylsilsesquioxane

This highly crosslinked silicone resin is used primarily on account of its filmforming attributes. Wacker-Belsil® PMS MK Powder enhances water repellency and serves as a processing aid in pigment grinding and pressed-powder applications. It prevents agglomeration and maintains free-flowing properties in loose-powder products, which is beneficial in powder-filling devices.

Applications: Skincare, sunscreens, decorative cosmetics, haircare.

WACKER-BELSIL® RG 100

Cyclopentasiloxane, Dimethicone/vinyltrimethylsiloxysilicate crosspolymer

Wacker-Belsil® RG 100 is a colorless, clear silicone elastomer gel based on organomodified silicone polymer and cyclopentasiloxane. This non-emulsifying silicone elastomer gel offers special advantages with respect to hydrophobic filmforming, water repellency and transfer resistance. It also imparts a silky feel to the skin and enhances the SPF of sunscreens. These properties make Wacker-Belsil® RG 100 ideal for use in sunscreens, skincare products and decorative cosmetics. In haircare products, it lengthens the time that permanent hair dyes take to wash out.

Applications: Skincare, sunscreens, decorative cosmetics, haircare

Properties: Nontoxic, nonirritating, forms a water-resistant and transfer-resistant film, improves flow properties, rheology modifier, clear, colorless gel.

WACKER-BELSIL® RPG 33

Cyclopentasiloxane, stearyl dimethicone silicate crosspolymer (proposed)

Wacker-Belsil® RPG 33 is based on the patented WACKER resin gel technology. It contains a Silicone MQ resin and an alkylmodified dimethicone reacted to form a three-dimensional network in the presence of Cyclopentasiloxane. This results in a soft, pleasant-feeling cosmetic powder in contrast to the abrasive nature of pure silicone resin (in dry form). Wacker-Belsil® RPG 33 shows beside the water- and transfer resistance properties like Wacker-Belsil® RG 100 additionally absorption of many different fluids.

With these properties it is ideal for use in cosmetic formulations like sunscreen, powder and decorative cosmetics.

Applications: Skincare, sunscreens, decorative cosmetics, haircare.

Properties: Nontoxic, nonirritating, forms a water-resistant and transfer-resistant film, improves flow properties, rheology modifier, clear, colorless gel.

WACKER-BELSIL® SPG 128 VP

Caprylyl Dimethicone Ethoxy Glucoside

WACKER has patented a unique polymer: **Caprylyl Dimethicone Ethoxy Glucoside** (SPG 128 VP). This material is an excellent emulsifier for water-in-silicone systems. It is readily compatible with other silicones and various organic raw materials typically used in personal care formulations.

Applications: Skincare, color cosmetics and suncare products.