

CAB-O-SIL[®] FUMED SILICA IN PERSONAL CARE

Available Oil-in-Water Emulsifiers

COMMON O/W EMULSIFIERS:

- Ionic stabilizers (charge)
- Nonionic stabilizers (steric)
- Polymeric stabilizers (zero-shear viscosity)
- Liquid crystalline stabilizers (lamellar phase, gel network)

INNOVATIVE O/W EMULSIFIERS:

- Pickering emulsion stabilizers (particle stabilized):
 - CAB-O-SIL M-5 fumed silica

Why Oil-in-Water Pickering Emulsions with CAB-O-SIL M-5 Fumed Silica

- It's free* fumed silica enables the formulator to produce a cream that is free* of petrochemicals, PEGs, dioxane, ethylene oxide, formaldehyde, animal products, GMOs and parabens.
- It's new fumed silica as a Pickering emulsion stabilizer is not new to the world of colloid science, especially in food applications, but a relatively new concept for cosmetic applications
- It's different fumed silica as a Pickering emulsion stabilizer is not different just for the sake of being different, but enables a very different aesthetic, one that dries very quickly on the skin
- **It's versatile** fumed silica can be used to formulate daily facial sunscreens, high performance moisturizers, beach sunscreens, protective hand lotions, liquid foundations



Benefits of CAB-O-SIL M-5 fumed silica in oil-in-water emulsions

Stability

- Can enable stability with water-soluble actives
- Can enable stability at low pH: at 46° C, 40° C, room temperature, and through freeze/thaw cycles
- Can enable stability at high pH: at 40° C, room temperature, and through freeze/thaw cycles (Slight instability at 46° C)

Enables products that are

- Petrochemical-free*
- Dioxane-free*
- PEG-free*
- Not animal derived
- Surfactant-free* (including soap-free*)

Enables process improvements

- Cold processing
- Limited homogenization required (less mixing)
- Can enable low emulsifier use level (e.g. 2%)

Enables aesthetic improvements

Emulsions with fast absorption into skin

Makes O/W emulsions a more viable platform for

- Daily facial sunscreens
- High performance moisturizers
- Beach sunscreens
- Protective hand lotions
- Liquid foundations

*Not intentionally added and not expected to be present above trace concentrations (low ppm or less)



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Technical Support

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