



## CosmoSurf® DDG-20

**derived from natural raw materials (coconut oil, glucose and fatty acids), DDG-20 is a complex ester system that leaves unique breathable film on skin.**

This material has the ability to leave a hydrophobic breathable film capable of holding actives on the skin. This film is also very flexible and have the ability to deposit on a wet or hydrophobic surface. DDG-20 can be used as natural replacements to plastic Acrylate Copolymers in SPF products.

CosmoSurf® DDG 20, is a complex ester, designed specifically for personal care formulations that require a balance of solubility, film formation and pigment dispersion functionality. This Complex ester system utilizes a branched ester to disperse pigments in a uniform manner to enhance the dispersion stability. In addition, other components of this complex ester system create a highly functional, hydrophobic barrier on the skin with superior esthetics. This unique hydrophobic barrier provides the ability to hold hydrophobic active ingredients on the skin and successfully pass 80 min water immersion in vivo SPF testing. The CosmoSurf® DDG-20 is ideal for developing stable iron oxide dispersions with enhanced dispersion stability, substantive film forming properties with an exceptional sensory profile.

DDG-20 also has the ability to biodegrade over time. In a study it was shown that the DDG-20 was 30% biodegraded in just 28 days.

## Naturally derived breathable film former with dispersion capabilities

### FILM FORMING POLYMER

INCI:

**bis-octyldodecyl dimer dilinoleate/  
propanediol copolymer**

Key properties:

- **natural replacements to acrylate polymers in SPF products**
- **develop uniform, low viscosity dispersion of un-treated iron oxides with exceptional skin feel**
- **quickly biodegrade (30% in 28 days)**

Suggested use:

**Natural water resistant sun care products,  
transfer resistant pigmented facial care products**

For more information,  
**contact us at [ctarletsky@surfatech.com](mailto:ctarletsky@surfatech.com)**  
**for ingredient supply and customized consulting**

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## CosmoSurf® DDG-20

Sample formulation:  
high SPF waterproof sunscreen

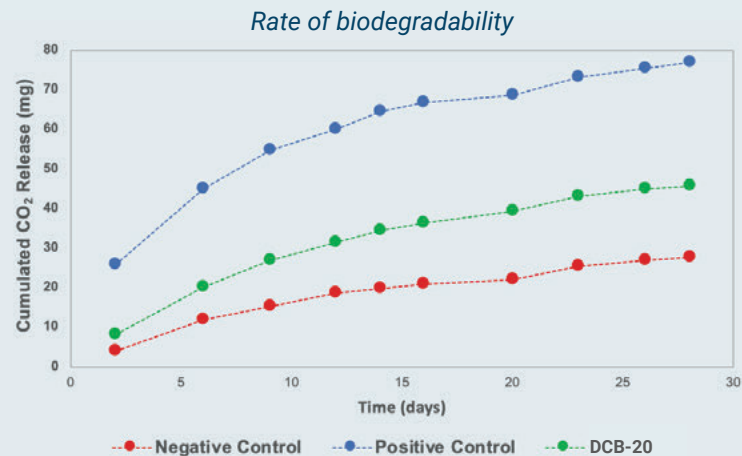
	A	B
Avobenzene	3.00	3.00
Octocrylene	5.00	5.00
Octyl Salicylate	5.00	5.00
Oxybenzone	4.00	4.00
Homosalate	10.00	10.00
Spider Ester ESO	5.00	5.0
<b>CosmoSurf® DDG-20</b>	2.00	-
Acrylates/Octylacrylamide Copolymer	-	2.00
Ethanol	66.00	66.00

	A	B
SPF	34.60	34.73
Label SPF	34	34

3 Subject in vivo SPF 80 min water immersion Test  
All 3 were found to be Very Water Resistant (VWR)

## Natural film forming polymeric dispersant for microplastic free formulations

SurfaTech is committed to creating **microplastic free, coral reef safe, biodegradable ingredients** using patented molecular technology.



It is our belief that it is our responsibility to protect the environment for future generations. We accomplish this by producing green materials. We believe the path to a greener tomorrow moves away from non-green plastics (polyacrylates, polyethylene, PEG, ect.) to high-functioning polymers that are naturally derived and made from renewable resources without catalyst or solvents.

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