Sustainability meets performance **Glucopon[®] surfactants**

Hand Dishwash Detergents

Glucopon[®] series combines the performance properties of modern surfactants with the increasing demands for environmentally friendly and safe raw materials. All Glucopon[®] types are made from renewable resources, i.e., starch and fatty alcohol, and show excellent performance in various Home Care and I&I applications.



Renewable

Glucopon[®] presents 100% renewable carbon, with bio-based raw materials from plant derivatives

Performance

Glucopon[®] delivers excellent performance against oily soils on multiple surface types



Mildness

Glucopon[®] is not only mild to the surface to be cleaned, but also gives exceptional skin protection



Compatibility

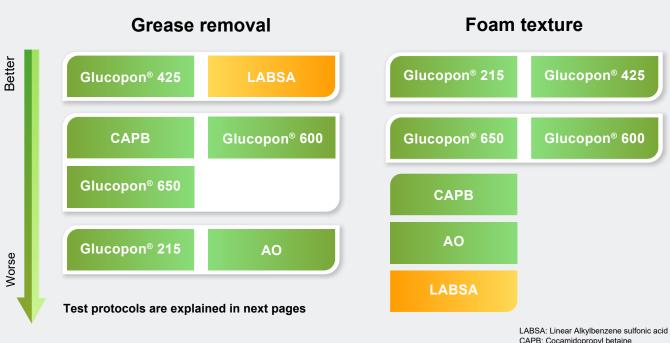
Glucopon[®] shows synergistic performance with other surfactants

BASF We create chemistry

Glucopon[®] for Home Care Detergents

Properties	215 UP	425 N/HH	600 CSUP	650 EC
Chemical description	Caprylyl / Decyl Glucoside	Caprylyl / Myristyl Glucoside	Lauryl / Myristyl Glucoside	Caprylyl / Myristyl Glucoside
Appearance	Yellowish, slightly cloudy liquid	Yellowish liquid	Yellowish, slightly cloudy paste	Yellowish, slightly cloudy liquid
Active substance [%]	62 – 65	48 – 52	50 – 53	50 – 53
Viscosity [mPas]	3.000 – 4.000 (20°C)	300 – 600 (20°C)	1.000 – 3.000 (40°C)	1.500 – 3.000 (20°C)
pH value	11.5 – 12.5 (10%)	7.0 – 9.5 (20%)	11.5 – 12.5 (20%)	11.5 – 12.5 (20%)
Storage temperature [°C]	< 40°C	< 40°C	< 50°C	< 40°C
Biodegradation (OECD 301 A-F)	Readily	Readily	Readily	Readily
Main application	Automatic dishwash detergents, hard surface cleaners	Hand dishwashing, hard surface cleaners	Laundry detergents, Hand dishwashing	Laundry detergents, Hand dishwashing

BASF offers wide range of Glucopon® types to optimize home care detergent formulations, in the performance of grease removal and foam texture, which are the major concerns when considering a more sustainable alternative to traditional surfactants.



CAPB: Cocamidopropyl betaine AO: Alkyl amine oxide

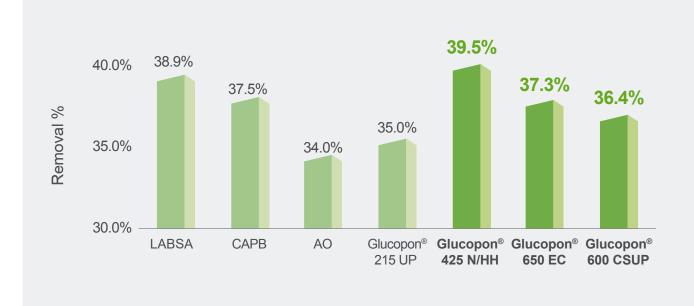
Glucopon[®] series shows exceptional grease removal property as single surfactant, as well as when incorporated into the traditional LABSA dominating formulation which is commonly used as hand dishwashing detergents. The strong performance of Glucopon[®] enables a 100% bio-based alternative to the general components in hand dishwashing, such as LABSA, CAPB and amine oxide.

Degreasing characteristics

26.6% 30.0% 25.3% 23.6% Removal % 20.0% 12.8% 10.0% 1.3% 0.0% LABSA Glucopon[®] **Glucopon**[®] **Glucopon[®]** Glucopon® 215 UP 425 N/HH 650 EC 600 CSUP

GB method (30°C), single surfactant

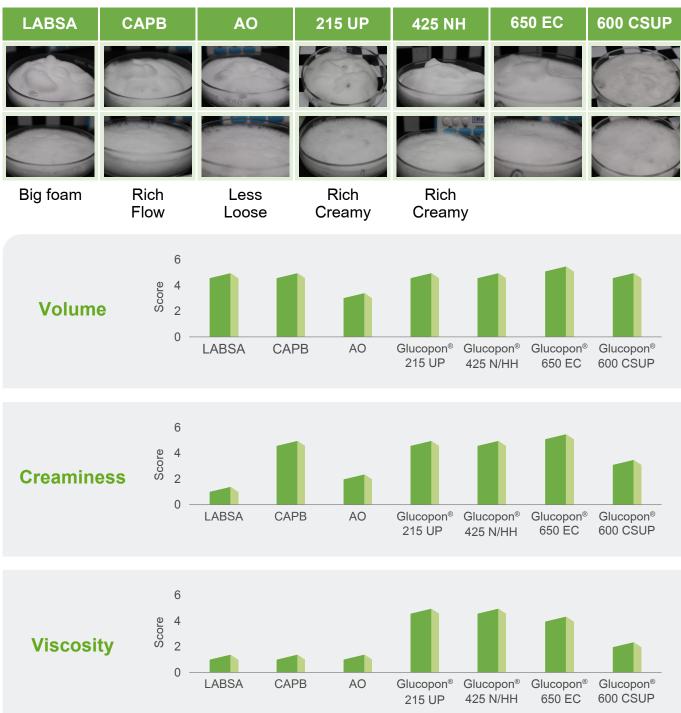
GB method (30°C), test formulation 10% LABSA, 3.5% AES, 1.5% X



AES: Alkyl ether sulfate

Foam texture is an important factor when designing formulations for hand dishwashing detergents. Rich and creamy foam could give comfort experience for the consumers and make dishwashing a pleasant housework. Depending on the desired foam features, different Glucopon[®] types can be selected for foam enhancement.

Foaming behavior in test formulation 10% LABSA, 3.5% AES, 1.5% X



Safety We know of no ill effects that could have resulted from using our products for the purpose for which they are intended and from processing them in accordance with current practice. According to the experience we have gained up to now and other information at our disposal, our products do not exert any harmful effects on health, provided that they are used properly, due attention is given to the precautions necessary for handling chemicals, and the information and advice given in our safety data sheet are observed. Details about the classification and labeling of our products and further advice on safe handling are contained in the current safety data sheets. Note: This document, or any answers or information provided herein by BASF, does not constitute a legally binding obligation of BASF. While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. It does not relieve our customers from the obligation to perform a full inspection of the products upon delivery or any other obligation. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE.

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