

Sugar surfactants for
maximum performance
GLUCOPURE®



Discover GlucoPure
**SUGAR SURFACTANTS FOR
MAXIMUM PERFORMANCE**



Sustainability is a key driver for new product developments in the Home Care industry. The consumer however is not willing to sacrifice cleaning efficiency since performance is still the single most important feature in any Home Care product.

And that is why Clariant has developed GlucoPure, the new generation of sugar surfactants, allying the known green profile of this class of raw materials with a top cleaning performance.

RENEWABLE



Glucopure is the next generation of sugar surfactants. Based on sugar and natural oils such as RSPO certified palm or sunflower oil, Glucopure presents a Renewable Carbon Index of up to 96%.

ECOSAFE



Glucopure allows no chronic aquatic toxicity label or no irritant label formulations according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). This makes it safer to use than current amine oxides and betaines.

PERFORMANCE



Glucopure doesn't compromise on performance. You can finally have a surfactant with a truly green profile and a top cleaning effect. Our application tests show a much superior cleaning performance when compared to alkyl polyglycosides.

MILD

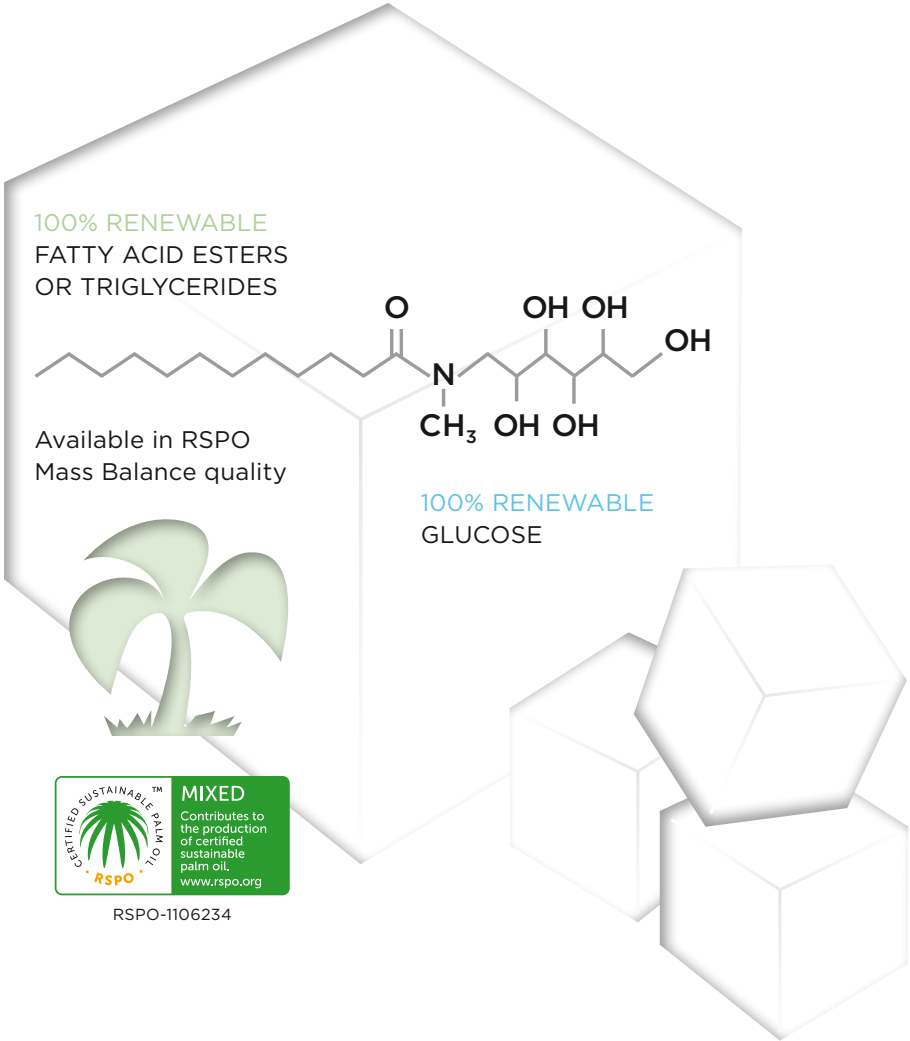


Glucopure is one of the mildest surfactants in the market. Internal Zein tests proved this surfactant to be milder than traditional surfactants such as alkyl ether sulfates, alkyl sulfates and even betaines.

GlucPure is RENEWABLE

GLUCAMIDES

Glucamides are the next generation of sugar surfactants. Built from glucose and natural oils, those co-surfactants have a Renewable Carbon Index (RCI) from 94% to 96% and present a top cleaning performance that matches current non-green alternatives in the market.



Glucopure Sense

THE NEW BLEND IN THE GLUCOPURE LINE

Glucopure Sense is based
on sunflower oil

Oleyl Glucamide, the main component of the
blend, has more than 96% of Renewable Carbon
Index



GLUCOPURE SENSE

Glucopure Sense is a blend based on sunflower oil
grew and harvested in Europe. It delivers unparalleled
mildness to hand dishwashing liquid detergents, with
the additional benefits of allowing non-irritant label.

- High foam mileages in hard and soft water
- Very mild to human skin
- Allow no irritant/corrosive label keeping the performance
- Excellent eco-toxicological profile
- Mostly based on sunflower oil, a nontropical source which is not under scrutiny
- Easy to thicken
- Sunflower oil regionally sourced in Europe
- Allows no irritant/corrosive label
- Excellent mildness sensorial

Glucopure RANGE

GLUCOPURE SENSE

Glucopure Sun is a blend based on sunflower oil grown and harvested in Europe. It delivers unparalleled mildness to hand dishwashing liquid detergents, with the additional benefits of allowing non-irritant label if formulated properly.

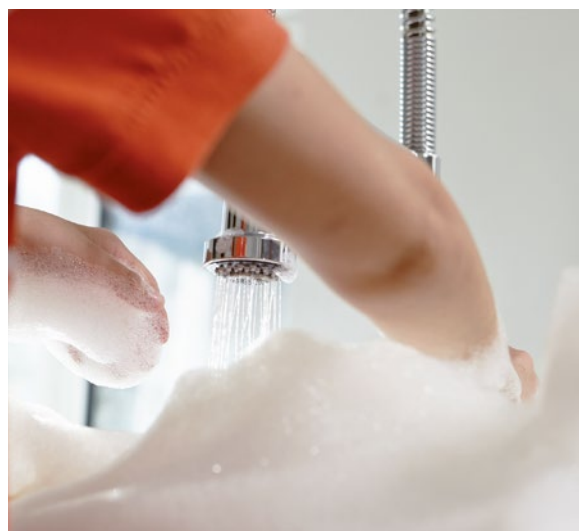
BASIS = R	Sunflower Oil (for Oleyl Glucamide)
APPLICATION	Hand dishwashing liquid detergents
CONSISTENCE AT 25 °C	Liquid
TRANSPARENCY AT 25 °C	Clear
ACTIVE CONTENT CALCULATED	52%
SOLVENT	Propylene glycol/Glycerine = approx. 35%



GLUCOPURE FOAM

Glucopure Foam is the perfect combination of sustainability and performance for hand dishwashing liquid detergents, with the additional benefits of no aqua toxicity labelling and skin mildness.

BASIS = R	RBD coco oil
APPLICATION	Hand dishwashing liquid detergents
CONSISTENCE AT 40 °C	Liquid
TRANSPARENCY AT 40 °C	Clear
ACTIVE CONTENT CALCULATED	37-44%



GLUCOPURE DEG

Glucopure Deg presents the same performance profile of the GlucoPure Foam, but is commercialized with more than 60% active content and approximately 10% of ethanol.

BASIS = R	C12/14 methylester
APPLICATION	Hand dishwashing liquid detergents
CONSISTENCE AT 40 °C	Liquid
TRANSPARENCY AT 40 °C	Clear
ACTIVE CONTENT CALCULATED	60-65%
ETHANOL	9-11%



GLUCOPURE WET

Glucopure Wet combines fast soap scum removal and mildness to plastic materials to give you the most suitable co-surfactant for bathroom cleaners and hard surface cleaners in general.

BASIS = R	C8/10 Methylene
APPLICATION	Hard surface cleaners, bath cleaners
CONSISTENCE AT 25 °C	Liquid
TRANSPARENCY AT 25 °C	Clear
ACTIVE CONTENT CALCULATED	47-53%



Glucopure is ECOSAFE

NO AQUATOX LABELLING FOR GLUCOPURE FOAM, DEG AND WET

Most Glucopure products allow formulations with lower aquatic toxicity consistent with current EU regulations.



PROPERTIES	COCAMIDOPROPYL BETAINE	COCO BETAINE	LAURAMINE OXIDE	GLUCOPURE FOAM
Readily biodegradable	Yes	Yes	Yes	Yes
RCI (%)	63	75	86	>95
GHS labelling (Globally harmonized system of classification and labelling of chemicals)	H 412 Harmful for aquatic organisms, long term effect	H 412 Harmful for aquatic organisms, long term effect	H 400 Very toxic for aquatic organisms H 411 Toxic for aquatic organisms, long term effect	No aquatox label

NO IRRITANT LABEL FOR GLUCOPURE SUN

Glucopure Sun allows formulations with no irritant label according to the GHS labelling system.



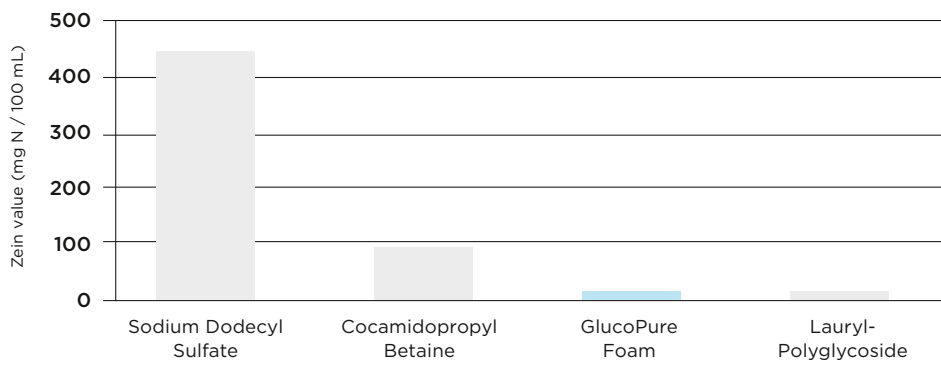
Glucopure is **MILD**

ZEIN TEST

The Zein test shows that GlucoPure is among the mildest surfactants towards skin, milder than alkylsulfates and betaines, and on the same level as APGs.



The lower the value, the milder.



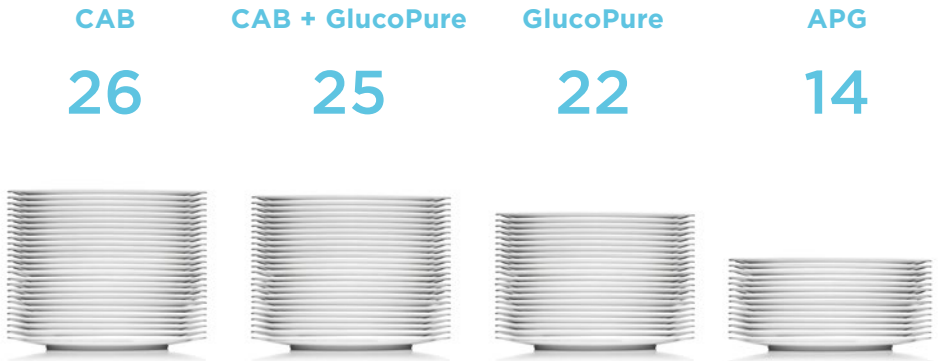
Glucopure enables HIGH PERFORMANCE



**PLATE TEST - TRADITIONAL
CONCENTRATED DISHWASHING
DETERGENT
(IKW II - Grease)**

Glucopure presents almost the same level of performance of betaines in a SLES system and the same ecological profile as APGs.

Number of washed plates



RECIPE (%A.I.)	A	B	C	D
Sodium laureth sulfate (2EO)	18	18	18	18
Cocoamidopropyl betaine (CAB)	12	6	-	-
Glucopure Foam	-	6	12	-
Lauryl polyglycoside (APG)	-	-	-	12
Renewable % of surfactants (RCI)	69%	76%	83%	85%
GHS labelling of the co-surfactant	H 412	H 412	No aquatox	No aquatox

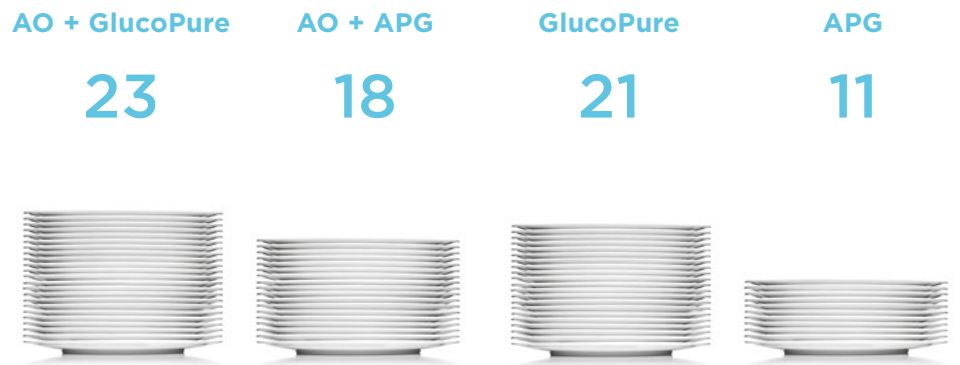
All formulations with 7.0% ethanol and water



**PLATE TEST - GREEN
CONCENTRATED DISHWASHING
DETERGENT (RCI>95%)
(IKW II - Grease)**

GlucoPure can replace amine oxides in green formulations, keeping the cleaning performance and improving the toxicological profile significantly.

Number of washed plates



RECIPE (%A.I.)	A	B	C	D
Sodium laurylsulfate	8	8	8	8
Lauramine oxide (AO)	3	3	-	-
GlucoPure Foam	4	-	7	-
Lauryl polyglycoside (APG)	-	4	-	7
Renewable % of surfactants (RCI)	>95%	>95%	>95%	>95%
GHS labelling of the co-surfactant	H 400 + H 411	H 400 + H 411	No aquatox	No aquatox

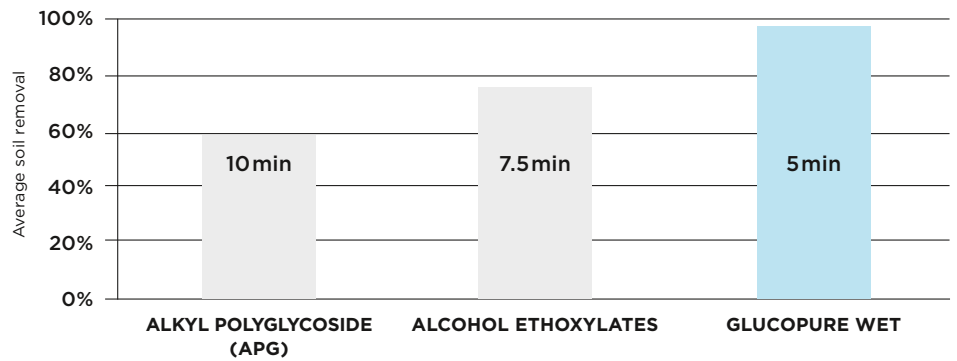
GlucoPure enables **HIGH PERFORMANCE**





SOAP SCUM REMOVAL TEST

GlucoPure needs 5 minutes to remove more than 90% of the soap scum while the ethoxylate needs 7.5 minutes and the APG needs 10 minutes to achieve the same performance.



INGREDIENTS (%A.I.)	A	B	C
Akyl polyglycoside (C8-C10)	2.3	-	-
C9-11 pareth-7	-	2.3	-
Glucopure Wet	-	-	2.3
Sodium laureth sulfate (2EO)	1.0	1.0	1.0
Citric acid	3.0	3.0	3.0
Sodium citrate	2.0	2.0	2.0
Appearance	Clear	Clear	Clear

STRESS-CORROSION CRACKING OF PLASTIC MATERIAL (DIN 53449-T PMMA (POLYMETHYLMETHACRYLATE))

After 14 days, both GlucoPure and APG have not attacked the PMMA plastic material, while the ethoxylate completely cracked it during the same period.



EcoTain®

PROTECTING THE MOST PRECIOUS RESOURCE – OUR FUTURE

THE ECOTAIN® LABEL OUR APPROACH TO SUSTAINABILITY

EcoTain® is our label for sustainability excellence products and solutions showcasing best-in-class performance. They highlight our contributions to a sustainable future and add value to our customers and society as a whole.

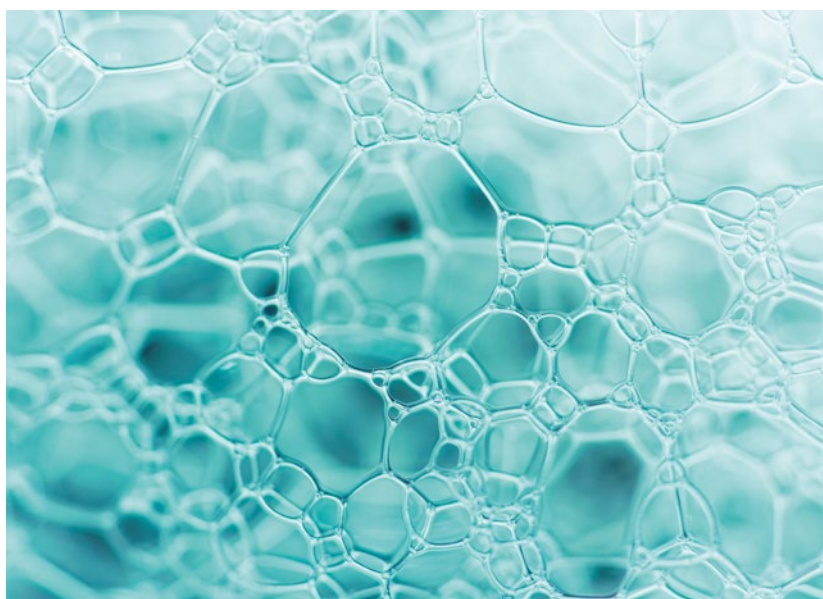
Each product and solution carrying the EcoTain® label has undergone a systematic, in-depth screening process using 36 criteria in all three sustainability dimensions: social, environmental and economic. Through this process, EcoTain® sets an ambitious benchmark, which distinguishes products that significantly exceed market standards in general and have best-in-class performance in one or several criteria screened. We evaluate the overall benefits and impacts across the entire value chain and product life cycle.

By uncovering value-adding sustainability benefits, EcoTain® empowers our customers to differentiate at the market and contributes to achieving their sustainability targets.

EcoTain® inspires and helps us realize our vision of becoming the global leading company for specialty chemicals. We will reach this goal by making meaningful contributions to our customers and society as a whole through outstanding offerings and by continuously developing our product portfolio towards sustainability excellence.



ECOTAIN®



Strong, smart and sustainable – OUR MILD SUGAR SURFACTANT

Our GlucoPure product range consisting of Foam, Deg, Wet and Sense offers a unique combination of sustainability and best performance without making you compromise, meeting the non-renewable based benchmarks in the market while being made of 95% of renewable carbon.

PEOPLE



SAFE USE, TRANSPARENCY AND INFORMATION

- Mild sugar surfactant with enhanced skin compatibility



ADDRESSING MEGATRENDS AND SOCIETAL NEEDS

- Reflects trend towards renewable feedstock instead of fossil fuel based ingredients

PLANET



RAW MATERIALS AND SUSTAINABLE SOURCING

- Based on natural and renewable resources
- Vegetable origin (sugar, hydrophobe alternatively from coco or palm oil or sunflower oil sourced in Europe)
- available in RSPO Mass Balance quality



RESOURCE EFFICIENCY AND ENVIRONMENTAL PROTECTION

- Highly efficient, improving directly the material efficiency in the use phase
- Multifunctionality enables using less components such as diluents
- Readily biodegradable (biodegradation >80% in 28 days according to OECD 301 B)
- Reduced effects on aquatic life and skin irritation.*¹



RSPO-1106234

PERFORMANCE



INTEGRATED SUSTAINABLE BUSINESS

- Complete range of products enables flexibility and leads to complexity reduction
- Tailor-made formulation advice



PERFORMANCE ADVANTAGES

- Reduced formulation complexity due to multi-functionality
- Increased cleaning performance of detergents
- Better viscosity and appearance control
- Enables Nordic Swan certification by allowing milder formulations
- Ecocert approved



*¹ Variation within the GlucoPure product range

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