

The DOW logo is a red diamond shape with the word "DOW" in white, bold, sans-serif capital letters. A registered trademark symbol (®) is located to the right of the diamond.

Low foam surfactant for hard surface cleaning

ECOSURF™ LFE-635 Surfactant

ECOSURF™ LFE-635 Low Foam Surfactant

Dow has introduced a new low foam surfactant product family which offers excellent hard surface cleaning performance. ECOSURF™ LFE-635 exhibits excellent cleaning and degreasing of hard surfaces compared to industry benchmarks. It is compatible with a wide range of nonionic, anionic and cationic formulations. ECOSURF™ LFE-635 is a liquid surfactant with excellent handling properties.

As an industry leader in sustainability, we are committed to reducing our environmental footprint, increasing resource efficiencies, and developing multi-functional products that do more for consumers. ECOSURF™ LFE Series Surfactants are readily biodegradable, low foam surfactants with very low aquatic toxicity, which meet or exceed existing environmental regulations. These surfactants meet the criteria for US EPA's Safer Choice program.

Table 1: Typical product properties⁽¹⁾

Surfactant	ECOSURF™ LFE-635
% Actives	100
Cloud point (°C) 1% AO.	35
CMC ⁽²⁾	315
Surface tension ⁽³⁾	32
HLB	9.9
Drave wetting (SEC)	17
Readily biodegradable	Yes
Meets US EPA Safer Choice criteria	Yes

⁽¹⁾These are typical properties, not to be construed as specifications.

⁽²⁾Critical micelle concentration: ppm at 25°C.

⁽³⁾Equilibrium surface tension: dynes/cm at 1% actives, 25°C.



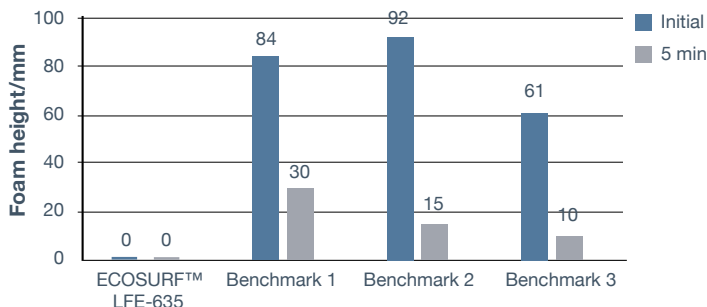
ECOSURF™ LFE-635 Low Foam Surfactant

Ross-Miles foam

Figure 1. Ross-Miles foam height, 1 wt% actives, 25°C

Low foam performance of ECOSURF™ LFE-635 is markedly improved over several industry benchmarks.

Both initial and five-minute foam heights for ECOSURF™ LFE-635 are **zero** mm.

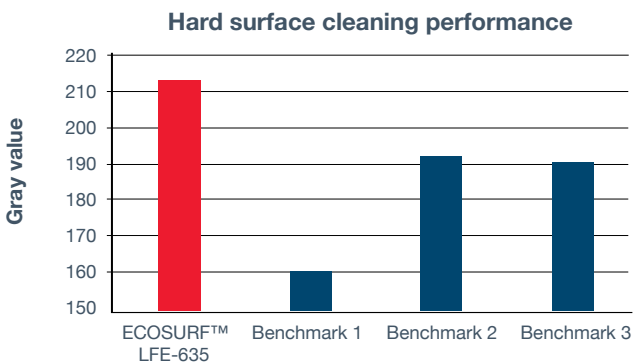


ECOSURF™ LFE-635 Surfactant

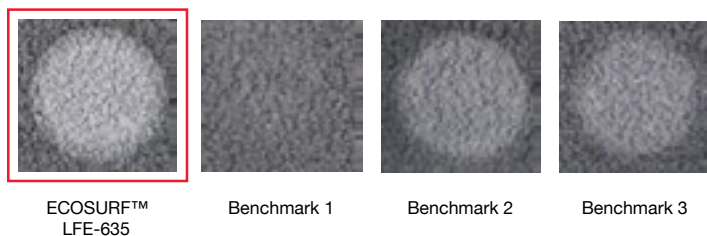
Ross-Miles foam

Figure 2. Excellent hard surface cleaning performance

ECOSURF™ LFE-635 exhibits excellent cleaning and degreasing of hard surfaces compared to industry benchmarks. It is compatible with a wide range of nonionic, anionic and cationic formulations.



Generic hard surface cleaner formulation, carbon black/vegetable oil on vinyl tile surface.



Let's work together to meet your industrial and institutional cleaning formulating needs. For more information on products, samples or technical assistance, connect with us at dow.com/icleaning.

About Dow

The Dow Chemical Company (Dow) combines science and technology knowledge to develop premier materials science solutions that are essential to human progress. Dow has one of the strongest and broadest toolkits in the industry, with robust technology, asset integration, scale and competitive capabilities that enable it to address complex global issues. Dow's market-driven, industry-leading portfolio of advanced materials, industrial intermediates, and plastics businesses deliver a broad range of differentiated technology-based products and solutions for customers in high-growth markets such as packaging, infrastructure, and consumer care. More information can be found at www.dow.com.

North America

U.S. & Canada 800 441 4DOW
989 832 1542

Mexico + 1 800 441 4369

Latin America

Argentina + 54 11 4319 0100

Brazil + 55 11 5188 9000

Columbia + 57 1 219 6000

Mexico + 52 55 5201 4700

Europe / Middle East

+ 800 3694 6367

+ 31 1 115 672626

Italy + 800 783 825

South Africa

+ 800 99 5078

Asia / Pacific

+ 800 7776 7776

+ 603 7965 53 92

+ 86 21 3851 4988

China + 400 889 0789

dow.com/icleaning

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

This document is intended for global use.

Published April, 2019.

© 2019 The Dow Chemical Company

®™Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow.

S2D 91917

Form No. 119-02574-0519