



Technical Data Sheet

ECOSENSE™ NS 806 ECOSENSE™ NS 809

High-performance non-ionic activator for household cleaning agents

Features & Benefits

EcoSense™ NS 806/ EcoSense™ NS 809 is a biodegradable, low foaming non-ionic surfactant designed for home care that demonstrates excellent wetting, permeation and emulsification characteristics. In addition, its low flow point and small gelling area make formulation design and manufacture easier.

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	ECOSENSE™ NS 806	ECOSENSE™ NS 809
Appearance		Light yellow liquid	Light yellow liquid
Active ingredient	%	100	100
HLB		10.8	12.5
Cloud point (10% wt aq. Soln)	°C	41.5–46.5	62–67
Surface tension (25°C, 1% wt. aq. soln.)	mN/m	29.5	30.5
Flow point	°C	5	16

Table 2.
Performance Comparison

	ECOSENSE™ NS 806, ECOSENSE™ NS 809	Synthetic alcohol alkoxylate	Nonylphenol ethoxylate	Natural alcohol ethoxylate
Wetness (0.1%)	☆☆☆☆	☆☆☆☆	☆☆☆☆	☆☆☆☆
Narrowness of the gelling area	☆☆☆☆	☆☆☆☆	☆	☆
Low flow point	☆☆☆☆	☆☆☆☆	☆☆☆	☆
Formulation stabilization effect	☆☆☆☆	☆☆☆☆	☆☆☆	☆☆☆
Hard surface cleaning power	☆☆☆☆	☆☆☆	☆☆☆☆	☆☆
Low toxicity to aquatic organisms	☆☆☆☆	☆☆	☆☆	☆☆
Biodegradable	☆☆☆	☆☆☆	☆	☆☆☆

☆= poor, ☆☆= marginal, ☆☆☆= good, ☆☆☆☆= exceptional
Compared with the same degree of cloudiness

Performance

Low Foaming Properties

The EcoSense™ NS 806/ EcoSense™ NS 809 has significantly lower foaming and breaks up more quickly than conventional surfactants. Figure 1 shows a comparison of the initial foam height and foam height after five minutes of EcoSense™ NS 806/ EcoSense™ NS 809 using the Ross Miles method. Comparing each, the initial foam height is lower, and after five minutes, the foam is almost gone. This excellent low foaming property is expected to reduce the need for foam control agents.

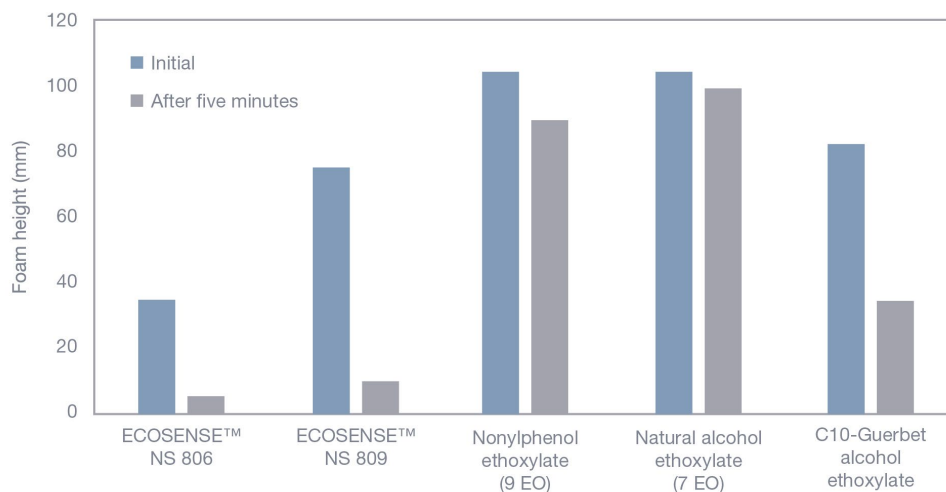


Figure 1. Foaming test (Ross Miles method, 0.1% aqueous solution, 25°C)

Good Wetting and Permeation Characteristics

The EcoSense™ NS 806/ EcoSense™ NS 809 demonstrates excellent wetting and permeation characteristics. As shown in Figure 2, EcoSense™ NS 806 exhibits superior wetting and permeation characteristics compared to other non-ionic surfactants, helping the detergents penetrate dirt.

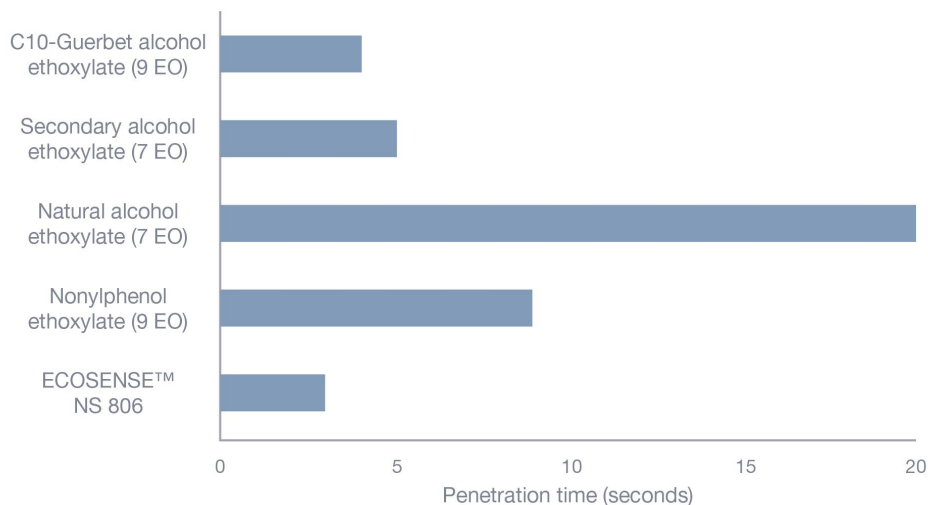


Figure 2. Permeability comparison (canvas disc method, 0.3% aqueous solution, 25°C)

Performance

Excellent Emulsifying Effect

As shown in Figure 3, EcoSense™ NS 806/ EcoSense™ NS 809 has better emulsifying effects than natural alcohol ethoxylates and is excellent for removing oil stains.

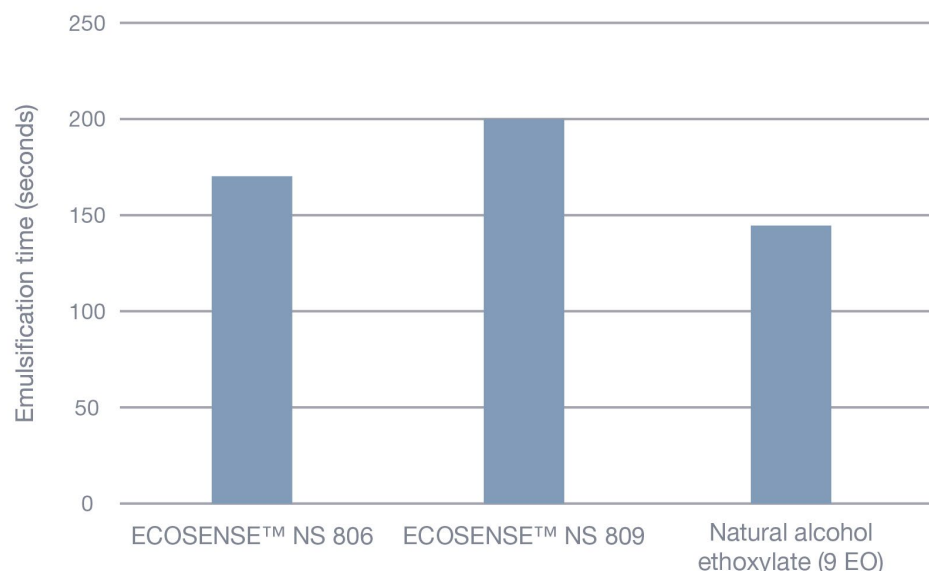


Figure 3. Comparison of emulsion maintenance times for peanut oil (0.5% aqueous solution)

Small Gelling Area

In the production of concentrated detergents, gelation during surfactant dissolution is a major obstacle to productivity. As shown in Figure 4, EcoSense™ NS 806/ EcoSense™ NS 809 has a smaller gelling area compared to natural alcohol ethoxylates and nonylphenol ethoxylates, contributing to formulation stability and reduced solvent usage in concentrated liquid detergent applications. It also reduces the time required for dissolution, contributing to increased productivity.

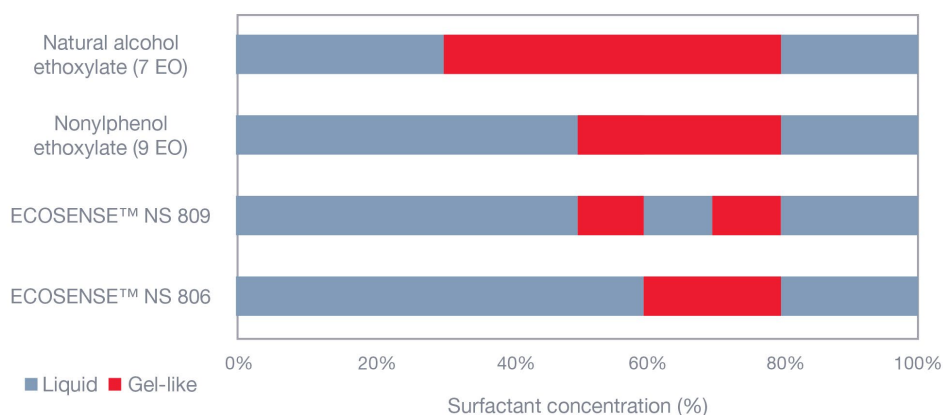


Figure 4. Comparison of gelling areas

The data provided here represents general product characteristics and is not intended as a product specification.

**Handling
Precautions**

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

**Health and
Environmental
Information**

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

**Disposal
Considerations**

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

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