

# Reading a surfactant blend in dog shampoo

What three cleanser names reveal, how blends change behaviour and where direct canine evidence is missing

## EVIDENCE STATUS

Organization-authored structured evidence map. No statistical pooling was performed because the retained evidence units were heterogeneous or non-quantitative. This is not a meta-analysis, systematic review or peer-reviewed paper.

## PREPARED BY

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## SUGGESTED CITATION

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## SCOPE BOUNDARY

Educational evidence synthesis only. Not veterinary advice, legal advice, a product recommendation, a safety verdict or a Cori formula disclosure.

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Related Journal guide: <https://coridog.com/journal/dog-shampoo-ingredients-explained>

# The short answer

## BOTTOM LINE

The three names can suggest an anionic, amphoteric and non-ionic surfactant blend. They cannot reveal active-matter levels, ratios, raw-material grades, final pH or how the marketed shampoo behaves on a dog.

The current source set supports blend-level reasoning, but contains no direct evidence that this fictional blend is gentle or well tolerated by dogs.

## Why this matters

Ingredient discussions often turn one familiar name into a verdict. Cleansing systems do not work as isolated label words: concentration, blend ratio, micelle structure, viscosity, dilution, contact time and rinsing all shape exposure and performance.

Human patch studies and porcine models can explain why dose and co-surfactants matter. They do not estimate the response to a rinse-off dog shampoo, so the missing finished-product canine evidence must remain visible.

## Four takeaways

### 01 Names identify possible roles, not a recipe

Official human-cosmetics records describe cleansing or surfactant functions for the three names. A label still does not disclose active matter, ratios, carrier water, impurities, processing or the role each material serves in this formula.

Sources 1, 3, 4, 5.

### 02 Blend behaviour depends on the system

Small human and porcine studies support the general point that total dose, composition and co-surfactants can change skin interaction. They do not support a universal ingredient ranking.

Sources 6, 7.

### 03 Foam is not a cleansing measurement

Foam can affect use experience, but it does not by itself measure soil removal, barrier interaction or tolerance. Those outcomes need defined finished-product methods.

Source 8.

### 04 Direct canine tolerance evidence is absent here

The mechanism studies use human occluded patches or porcine skin. The dog-shampoo survey measured product properties, not canine skin outcomes. Any claim of gentleness would need new finished-product evidence.

Sources 6, 7, 8.

# Key terms and a worked example

Technical vocabulary is useful only when readers can see what each term adds to the question. These definitions are intentionally narrow.

|                       |                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Anionic surfactant    | A surface-active material with a negatively charged water-facing group under relevant conditions. Sodium Laureth Sulfate is commonly described in this class. |
| Amphoteric surfactant | A surfactant whose charge behaviour can change with conditions such as pH. Cocamidopropyl Betaine is commonly used as an amphoteric co-surfactant.            |
| Non-ionic surfactant  | A surfactant without a formal ionic charge in its water-facing group. Decyl Glucoside is commonly described as non-ionic.                                     |
| Active matter         | The amount of surface-active material rather than the total weight of a supplied raw material, which may also contain water or other components.              |
| Micelle               | An organised surfactant structure formed in water. Blend composition and conditions can change these structures and therefore system behaviour.               |

## Example: a fictional three-surfactant label

A fictional dog shampoo lists Sodium Laureth Sulfate, Cocamidopropyl Betaine and Decyl Glucoside. A reader calls it harsh because the first name is an anionic surfactant.

1. The label supports a narrower observation: the formula may use a mixed cleansing system. It does not reveal the amount of any active surfactant, their ratio, the product's final pH or whether it is sold as a concentrate.
2. The human and porcine studies make blend and dose plausible questions, not answers about this dog shampoo. The useful next evidence would test the marketed formula at its intended dilution, contact time and rinse conditions.

BOUNDARY

No ingredient name or mechanism study in this map proves that the fictional product is gentle, harsh, safe or unsafe for dogs.

Sources 3, 4, 5, 6, 7.

# Deeper analysis

This section connects the sources without treating different study designs, standards or regulatory documents as interchangeable.

## A function record is the start of interpretation

The three names belong to different surfactant classes and all have reported cleansing or surfactant functions in CosIng. That makes a mixed cleansing system a reasonable hypothesis.

It does not reconstruct the formula. Commercial surfactant raw materials can arrive at different active levels and may include water, salts or other components. Ingredient order, even when its governing convention is known, does not reveal the active-matter ratio.

Sources 3, 4, 5, 2.

## Why blends can behave differently from isolated names

Surfactants organise into structures such as micelles. Adding a co-surfactant can change aggregate size, free-monomer activity, viscosity and interaction with skin lipids. The exact direction and size of those changes depend on composition and conditions.

Turkoglu's small human patch study found irritation related to total dose, application and composition. Barba's porcine model found less lipid disorder in the tested mixed formulations than with the primary anionic surfactant alone. Together they support blend-level thinking, but neither result can be converted into a canine mildness score.

Sources 6, 7.

## Foam, cleansing and mildness are separate outcomes

Foam is visible and easy to judge, so it often becomes a proxy for cleansing. A foam index instead describes one aspect of product behaviour under a defined method. Soil removal, coat feel, barrier response and tolerance are different endpoints.

The Peña-Corona survey found no significant foam-index differences across its sampled products while pH and viscosity varied. It did not determine which product cleaned better or was better tolerated. A comparative claim needs a method built around the exact outcome being claimed.

Source 8.

## Use instructions complete the exposure description

A concentrate diluted before use, a ready-to-use shampoo and a leave-on cleanser create different exposures. Amount, dilution water, contact time, mechanical action and rinsing belong beside the ingredient list when interpreting a result.

A finished-product study should use the marketed formula and realistic instructions. Testing a raw surfactant, an isolated ingredient or a different dilution can explain a mechanism without substantiating the marketed product.

Sources 6, 7.

## The missing link is direct canine finished-product evidence

This map contains canine product measurements but no controlled canine tolerance study of the fictional SLES, Cocamidopropyl Betaine and Decyl Glucoside blend. That absence is central, not a footnote.

A stronger claim would need a defined canine population, marketed product, comparator, intended-use protocol, relevant outcomes, follow-up and adverse-event reporting. Until then, the evidence supports questions about the blend, not a verdict.

Source 8.

## Evidence map

Rows keep each source's useful contribution beside the conclusion it cannot support. Citation numbers refer to the source register.

| SOURCE                                         | DESIGN / SCOPE                              | WHAT IT CONTRIBUTES                                                                                                      | IMPORTANT LIMIT                                                                                            |
|------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| CosIng terminology records<br>Sources 3, 4, 5. | Official human-cosmetics database           | Reports cleansing or surfactant functions for Sodium Laureth Sulfate, Cocamidopropyl Betaine and Decyl Glucoside.        | Terminology does not establish concentration, actual purpose, canine approval or finished-product outcome. |
| EU common-names glossary<br>Source 2.          | Decision (EU) 2025/1175; human cosmetics    | Provides current common ingredient names for EU human-cosmetic labels.                                                   | The naming system does not automatically govern pet-grooming products or prove performance.                |
| Surfactant-mixture patch study<br>Source 6.    | 13 humans; 24-hour occluded forearm patches | Irritation varied with total dose, application mode and formulation composition, supporting system-level interpretation. | Small human occlusion study; not rinse-off use and not a canine tolerance outcome.                         |
| Mammalian barrier mechanism study<br>Source 7. | Porcine skin; two cleansing formulations    | Co-surfactants reduced lipid-chain disorder relative to the primary anionic surfactant in the tested systems.            | Mechanism model with specific formulas; not a universal ranking or dog-shampoo safety test.                |
| Commercial dog shampoos<br>Source 8.           | Twenty products marketed in Mexico City     | Measured pH, viscosity, foam and other characteristics, showing variation between finished products.                     | Did not test this fictional blend or measure canine cleansing, tolerance or barrier outcomes.              |

### INTERPRETATION RULE

Terminology or mechanism evidence can generate a question. A defined finished-product claim needs evidence from the relevant finished product and conditions of use. None of those evidence units becomes a diagnosis.

# Method and review question

## REVIEW QUESTION

What can the names Sodium Laureth Sulfate, Cocamidopropyl Betaine and Decyl Glucoside suggest about a cleansing system, and what evidence remains necessary?

## SEARCH SCOPE

Official human-cosmetics terminology records, two formulation-mechanism studies and a descriptive dog-shampoo study were selected to separate possible ingredient functions from finished-product conclusions. Evidence was grouped by terminology, mechanism, finished-product measurement and canine directness.

## Recorded discovery routes

- PubMed: surfactant mixture AND skin barrier AND shampoo
- PubMed: dog shampoo AND (pH OR viscosity OR performance)
- Official records: CosIng SLES, Cocamidopropyl Betaine, Decyl Glucoside

Search recorded 27 August 2026. The source register reports 8 retained sources. Exact candidate and exclusion counts are not claimed because a public screening log was not maintained.

## Exclusion boundary

Ingredient-ranking pages, supplier marketing without methods, treatment studies and records that did not distinguish a raw material from a finished formulation were excluded.

## Synthesis decision

Structured narrative evidence map. Terminology records were used only for possible functions; human and porcine studies for mechanism; the dog-shampoo survey for product-property variation. No pooled estimate or SWiM claim was used because the evidence units do not estimate one comparable intervention effect.

### REPORTING REGIME

This is a targeted, single-organization evidence map. Search routes, retained sources, source links beside each takeaway, the worked example, every evidence row and each deeper-analysis section, and limitations are disclosed. The note does not claim exhaustive searching, duplicate screening or full systematic-review compliance.

# Questions for evidence users

Use these questions to test whether a conclusion is proportionate to the product, population, method and endpoint that were actually studied.

|   |                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------|
| 1 | What is the product format, and is dilution required?                                                 |
| 2 | What are the total active-surfactant level and blend ratio in the tested formula?                     |
| 3 | Were tests performed on the marketed product at intended dilution, contact time and rinse conditions? |
| 4 | Which outcome was measured: foam, soil removal, barrier response, irritation or user perception?      |
| 5 | Does the study population and exposure match dogs using this product?                                 |
| 6 | Does the conclusion describe the complete system rather than score one surfactant name?               |

## What stronger claims would need

- A comparative mildness claim needs a defined comparator, finished-product method and relevant endpoint.
- A canine-tolerance claim needs canine-appropriate finished-product evidence with transparent adverse-event reporting.
- A cleansing-performance claim needs a reproducible soil-removal or other relevant performance method, not foam alone.

# Limitations and sources

## Limitations

- This map combines different evidence units and does not treat human or porcine studies as canine outcomes.
- The search was targeted and was not independently duplicated.
- No formal risk-of-bias or certainty-grading framework was applied.
- No pooled estimate was attempted because endpoints, species, exposure and models were incompatible.
- The fictional three-name blend is not a formula, recommendation or concentration statement.

## Source register

### 1. European Commission CosIng database

Official human-cosmetics ingredient database; informative and non-binding. [Open source](#)

### 2. Commission Implementing Decision (EU) 2025/1175

Official Journal of the European Union, 18 June 2025; common names for EU human cosmetics. [Open source](#)

### 3. CosIng record: Sodium Laureth Sulfate

Official database record for reported cleansing and surfactant functions. [Open source](#)

### 4. CosIng record: Cocamidopropyl Betaine

Official database record for reported cleansing and surfactant functions. [Open source](#)

### 5. CosIng record: Decyl Glucoside

Official database record for reported cleansing and surfactant functions. [Open source](#)

### 6. Turkoglu et al. Evaluation of irritation potential of surfactant mixtures

International Journal of Cosmetic Science. 1999;21(6):371-382. Thirteen-person occluded-patch study. [Open source](#)

### 7. Barba et al. Action of surfactants on the mammal epidermal skin barrier

Giornale Italiano di Dermatologia e Venereologia. 2019;154(4):405-412. Porcine-skin mechanism study. [Open source](#)

### 8. Peña-Corona et al. Measurements of commercial dog shampoos

Polish Journal of Veterinary Sciences. 2022;25(2):213-221. Descriptive measurements of twenty products. [Open source](#)

## CORRECTIONS AND UPDATES

This is version 1.1 of a living research note. Material source additions, corrections or scope changes produce a new version and review date. The accessible HTML page is the canonical source of truth.

Correction policy: [Cori Dog editorial method](#)