LactiGo Clinical Ingredient Perspective: Ethoxydiglycol

At LactiGo, formulation decisions are guided by clinical science, toxicology, and strict quality control standards. As part of ongoing education, we would like to provide additional context around ethoxydiglycol — its role, safety profile, and how it is evaluated.

1. Functional Role: Controlled Transdermal Delivery

Ethoxydiglycol is included as a penetration enhancer to support the delivery of key actives — specifically carnosine and magnesium — through the skin and into underlying tissue.

This mechanism is well understood in topical science. Importantly, the function is **not to "force" substances into the body**, but to **facilitate controlled, targeted absorption** within established safety parameters.

Context:
Public ingredient rating systems typically identify ingredient function, but do not assess **how that function is engineered within a complete formulation**, including delivery intent, dose control, and target specificity.

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2. Penetration & Impurity Considerations

A common theoretical concern with penetration enhancers is whether they could increase the transport of unintended impurities present within a formulation.

From a formulation science perspective, this is not a function of the penetration enhancer alone — it is a function of **overall formulation quality and raw material purity**.

At LactiGo:

- All ingredients are sourced with **strict purity specifications**
- Each batch is supported by **certificates of analysis including impurity profiling**
- Substandard or non-compliant materials are rejected
- Pharmaceutical-grade ethoxydiglycol (BASF Transcutol® P, >99.7% purity) is used

This ensures that what is being delivered is **intentional, controlled, and of the highest standard**.

Context:
Ingredient rating databases do not evaluate:

- Source-specific purity differences
- Impurity thresholds or contaminant controls
- Supplier qualification standards

As a result, they cannot differentiate between **low-grade and pharmaceutical-grade implementations of the same ingredient**.

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3. Dose & Exposure Context

Toxicological references associated with ethoxydiglycol are derived from **high-dose, non-topical exposure models**, including oral ingestion and exaggerated animal studies.

In contrast, LactiGo is:

- Topically applied
- Used in controlled quantities
- Operating significantly below established safety thresholds

The European Scientific Committee on Consumer Safety (SCCS) has concluded that ethoxydiglycol at or below 2.6% in leave-on products **does not pose a risk to consumer health**.

Context:
Many public databases highlight hazard signals from any study, regardless of dose or relevance, and do not apply **margin-of-safety calculations**, which are central to clinical risk assessment.

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4. Concentration vs. Classification

In the United States, the Cosmetic Ingredient Review (CIR) Expert Panel has deemed ethoxydiglycol safe at concentrations up to 80% in cosmetic applications. LactiGo's formulation remains well within conservative international guidelines.

Context:
Rating systems often flag the presence of regulatory limits as a "concern," without distinguishing between:

- A **restriction threshold**
- A **risk threshold**

These are not equivalent in toxicology.

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5. Ingredient Quality & Real-World Risk

Modern formulation science places significant emphasis on **ingredient grade, manufacturing standards, and purity**, as these directly influence safety outcomes.

LactiGo's use of high-purity, pharmaceutical-grade materials materially reduces any theoretical risk associated with:

- Residual solvents
- Heavy metals
- Trace contaminants

Context:
Most public-facing ingredient tools are not designed to evaluate **manufacturing quality systems**, which are a critical component of real-world product safety.

Summary

Ethoxydiglycol is a well-studied and widely accepted component of topical delivery systems. Within LactiGo, it is:

- Used intentionally to support transdermal delivery
- Formulated within established safety thresholds
- Sourced at pharmaceutical-grade purity
- Supported by rigorous quality control processes

While public ingredient databases serve a valuable role in increasing awareness, they are not designed to assess **formulation-level risk, ingredient quality, or clinical context**.

Our approach is to combine:

- Established toxicological science
- High-quality sourcing
- Purpose-driven formulation

to ensure both performance and safety are aligned.