

CleanFormulation: Research Methodology & Evidence Appraisal Framework

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Subject: Standards for Ingredient Analysis and Regulatory Interpretation

1. Objective and Scope

The CleanFormulation project operates as an independent bridge between primary formulation science and consumer guidance. The objective is to provide objective, evidence-based analysis of cleansing ingredient systems, prioritizing chemical behavior and regulatory status over commercial marketing claims.

2. Evidence Hierarchy

We apply a strict "Weight of Evidence" (WoE) approach. Sources are prioritized in the following order:

1. **Regulatory Consensus:** SCCS (EU), CIR (USA), and ECHA Annexes.
2. **Primary Peer-Reviewed Literature:** Toxicology studies, dermatological journals, and chemical engineering papers (sourced via PubChem, ScienceDirect).
3. **Technical Reference Texts:** Standard formulation chemistry textbooks (e.g., *Handbook of Detergents*).
4. **Publicly Available Safety Data Sheets (SDS):** For raw material chemical specifications.
5. **Note:** Marketing brochures and "clean beauty" brand lists are explicitly excluded as primary evidence.

3. The "Formulation Context" Protocol

Unlike databases that rate ingredients in isolation, our methodology evaluates ingredients based on **Formulation Dynamics**:

- **Concentration Relevance:** Distinguishing between a 100% "hazard" and a 2% "exposure."
- **Exposure Route:** Differentiating between "Rinse-off" (soap) and "Leave-on" (lotion) safety profiles.
- **Synergy & Interaction:** How surfactants interact with skin barrier lipids (Stratum Corneum) rather than just identifying a chemical name.

4. Regulatory Translation Strategy

We utilize the **EU Cosmetic Regulation (EC) 1223/2009** as our primary legal benchmark. Our process includes:

- Cross-referencing INCI names with the **CosIng Database**.
- Monitoring the **Rolling Action Plan (CoRAP)** for ingredients under new safety scrutiny.
- Interpreting Annex III (Restricted) and Annex V (Preservatives) to ensure our guidance matches the strictest global safety standards.

5. Transparency and Conflict of Interest

- **Independence:** No financial incentives are accepted from chemical suppliers or cosmetic brands to influence research outcomes.
- **Reproducibility:** All technical articles must cite primary sources, allowing readers to verify findings at the source (e.g., providing PubChem CIDs).
- **Correction Policy:** As science evolves, we maintain a public "Changelog" for all significant research updates.