Characteristics and Translation Strategies of Cosmetic Ingredient Terminology

CHEN Xiangyi, ZOU Jianling

University of Shanghai for Science and Technology, Shanghai, China

The cosmetics industry operates on a global scale, making the accurate translation of ingredient terminology crucial for international trade and consumer comprehension. Cosmetic ingredient terms are characterized by their interdisciplinary nature, regulatory constraints, and function-oriented definitions. Based on real-world translation examples, this paper analyzes the challenges in translating cosmetics ingredient terminology for international trade and proposes targeted translation strategies. The study aims to facilitate the global marketing of cosmetic products while ensuring consumers can accurately understand product ingredient information.

Keywords: cosmetics ingredients, terminology characteristics, translation strategies

Introduction

With the rapid growth of the global cosmetics market, international trade in cosmetic products has become increasingly frequent. In this context, the accurate expression and translation of cosmetic ingredient information have taken on particular importance. On one hand, consumers are paying greater attention to the safety, efficacy, and suitability of cosmetic ingredients, and they demand clear and reliable information about product composition. On the other hand, cosmetic companies must ensure that ingredient information is accurately conveyed when promoting their products in global markets, so as to comply with regulatory requirements and meet consumer expectations across different countries and regions. However, language differences among nations present significant challenges, making precise translation of ingredient terminology a critical step in enabling consumers to obtain accurate information.

Overview of Terminology Translation

"Terminology" refers to "words or phrases used to denote specialized concepts within a specific disciplinary field". Liu Shuxin (1984) posited that "terminology comprises standardized words or expressions" that refer to "specific objects or phenomena within a particular domain of knowledge, characterized by univocality, systematicity, and stability". Its meaning and scope are rigorously defined by disciplinary theories.

Regarding the translation of chemical and industrial terminology, Xu Songling (2010) emphasized the precise designation of material structures, compositions, or technical processes, adhering to the principle of

"one term, one translation" (pp. 36-42). The core of such translation lies in ensuring the univocality and systematicity of concepts in professional communication (Wang, 2015), thereby constructing a rigorous bridge for scientific and technical dialogue. However, when these terms enter the consumer domain as cosmetic ingredients, the objectives of translation undergo a significant shift. The focus of "definition simplification" moves from pursuing structural precision to enhancing functional perception and market communication efficiency. Translation strategies consequently evolve to balance professionalism with communicative effectiveness.

In practice, this often involves appropriately simplifying lengthy professional terms, retaining essential information while improving the acceptability of the translated names. This is particularly relevant for terms that might evoke negative associations among consumers. Here, adjustments are made to enhance the affinity of the translated names while maintaining scientific accuracy. Furthermore, within regulatory boundaries, translation may appropriately reflect the functional properties of the ingredient. These strategies are employed primarily because cosmetics, as daily consumer goods, require ingredient names that balance professionals' need for accuracy with consumers' comprehension.

In today's era of rapid technological advancement, translators can also leverage specialized translation software to implement integrated terminology management, ensuring terminological consistency and accuracy (Yang, 2025).

Characteristics of Cosmetic Ingredient Terminology

Interdisciplinary Nature

Terminology for cosmetic ingredients is closely intertwined with multiple disciplines, such as chemistry, biology, and materials science. For instance, the common cosmetic ingredient Glycerol has the chemical name Propanetriol, falling within the field of organic chemistry. Another common ingredient, Ceramide, is a primary component of the intercellular lipids in the stratum corneum, crucial for maintaining the skin barrier function, which places it within the realm of biochemistry. Similarly, the ingredient Polydimethylsiloxane, known for its low surface tension and high lubricity, can form a breathable and water-resistant film, belonging to the field of polymer materials science.

Industry Standardization

The standardization of cosmetic ingredient terminology is a fundamental characteristic that distinguishes it from general translation practice. Its core regulatory framework is primarily embodied in the strict adherence to internationally accepted naming systems. The International Nomenclature of Cosmetic Ingredients (INCI) has become the globally recognized industry standard, and any translation of ingredient terms into other languages must be based upon this standardized foundation. This means that, regardless of the target language region, ingredient labeling must prioritize the INCI name, with the local language translation typically appearing in parentheses or as supplementary information. For example, the International Organization for Standardization (ISO) and the European Union Cosmetic Regulation (EC 1223/2009) explicitly specify that "water" must be labeled as "Aqua." Furthermore, botanical ingredients must be accurately converted based on their Latin botanical names, rather than using regional common names, ensuring the unique and unambiguous identification of ingredients worldwide.

Functional Orientation

The naming of cosmetic ingredients directly or indirectly reveals their role in formulations, physical properties, or chemical mechanisms of action. The terminology for cosmetic ingredients is not arbitrary. Rather, it possesses a strong functional orientation. By interpreting an ingredient's INCI name, we can gain insight into its core function within a formulation. For instance, suffixes ending in "-ate" often indicate cleansing or emulsifying functions, such as Sodium Lauryl Sulfate. Suffixes ending in "-cone"or "-siloxane" typically denote silicone derivatives, responsible for providing smooth skin feel and filling pores, as seen in Dimethicone.

Challenges in Translating Cosmetic Ingredient Terminology

Inconsistency in Interdisciplinary Terminology

In the field of cosmetic terminology translation, the lack of consistency in interdisciplinary terms poses a prominent challenge. This difficulty stems from the intersection and integration of multiple disciplines, such as chemistry, biology, materials science, and medicine within cosmetics. Different disciplines often have varying definitions and expressions for the same term. Rong Linhai and Rong Peijue (2010) argued that the translation of terminology is not merely a matter of translation itself. It is also closely related to the dissemination, advancement, innovation, and development of science and technology. They propose fundamental principles for terminology translation: accuracy, univocality, and standardization (pp. 39-43).

> Example 1: In the phage assay, clear zones or <u>plaques</u> indicate areas where bacteriophages have lysed the bacterial lawn.
> Translation: 久而久之，<u>斑块</u>会脱落阻塞血管。
> Example 2: Regular brushing helps remove dental <u>plaque</u>, a biofilm containing bacteria that forms on teeth.
> Translation: 定期刷牙有助于清除<u>牙菌斑</u>——这是一种附着在牙齿表面、含有细菌的生物膜。

In both Example 1 and Example 2, the word "plaque" appears with two different translations: "phage plaque" and "dental plaque". Derived from French, the core semantic meaning of "plaque" is "a deposit or accumulation adhering to a surface." However, its specific meaning varies across different disciplines. Translators who fail to recognize the polysemy of such terms are prone to inaccuracies and mistranslations.

Discrepancy Between Scientific Terminology and Commercial Designations

This discrepancy arises from the conflict between the strict requirement for "scientific accuracy" in professional fields and the pursuit of "popular accessibility" in market communication. It results in entirely different expressions for the same substance in academic literature versus product packaging, requiring translators to accurately distinguish between them and maintain logical correspondence.

> Example 3: The comedogenic potential of an ingredient is typically assessed using the rabbit ear assay, which measures its tendency to cause microcomedone formation.
> Translation: 成分的致粉刺性通常通过兔耳实验进行评估，该实验测量其导致微粉刺形成的倾向。
> Example 4: Our oil-free moisturizer is non-comedogenic, so it won't clog your pores or cause breakouts.
> Translation: 我们的无油保湿霜为<u>不致痘配方</u>，不易堵塞毛孔，无惧痘痘烦恼。

In Example 3, "comedogenic" is translated directly as "致粉刺性", explicitly stating its assessment method (rabbit ear assay) and emphasizing its scientific nature as a risk evaluation standard. In contrast, Example 4 transforms it into "不致痘配方", using the more colloquial term instead of the professional term, and converting a scientific evaluation into a product attribute that implies safety. This divergence essentially reflects the clash between scientific rationality and market-oriented appeal. If translators do not account for

the applicable context, it can prevent readers from grasping the intended meaning conveniently, quickly, and accurately.

Ambiguity in Sensory Descriptions

Sensory descriptions inherently possess a characteristic of "perceptual ambiguity." Such descriptions often stem from brands' subjective distillation of product experience (e.g., "silky" may derive from R&D personnel's tactile feedback during hand trials; and "dewy" may originate from visual assessments of simulated skin conditions in the lab) and lack unified industry standards or quantifiable metrics. Different consumers may interpret the same sensory vocabulary in varying ways (dry skin users may perceive "hydrating" as "moisturizing without tightness," while oily skin users might understand it as "refreshing and non-greasy"). This "ambiguity" means that abstract adjectives in English often have no direct equivalent terms or fixed interpretative frameworks in the Chinese context.

> Example 5: The texture is feather-light and delivers a dewy finish.
> Translation: 质地如羽毛般轻盈，呈现水润光泽感。

While "feather-light" conveys the property of "lightness," it fails to specify the practical benefits this lightness offers (e.g., "non-clogging" or "no pilling"). "Dewy finish" describes the outcome but does not link to scenario-specific needs, such as "whether it feels greasy" or "suitability for dry/oily skin." Consequently, consumers cannot predict the actual experience from the text, diminishing the impulse to try the product.

> Example 6: The fragrance is a fresh citrus blend, perfect for morning use.
> Translation: 这款香气是清新的柑橘调，适合晨间使用。

Example 6 primarily exhibits issues of vague olfactory description, lack of rhetorical richness, and emotional disconnect. The term "citrus blend" encompasses various scent profiles without specifying the exact type, preventing consumers from forming a clear olfactory association or achieving the effect of "smelling with the mind." Moreover, the description employs no synesthetic rhetoric; relying solely on "fresh" and "citrus blend" fails to render the abstract olfactory experience perceptible. It also neglects to convey the value of the fragrance in mood enhancement, thereby failing to meet consumer desires for benefits like "energizing" or "mood-lifting." This oversight diminishes the product's competitive differentiation in fragrance and weakens its appeal to consumers.

Translation Strategies for Cosmetic Ingredient Terminology

Strengthening Domain-Specific Knowledge of Cosmetic Ingredients

To resolve interdisciplinary ambiguities in cosmetic terminology, translators must prioritize the continuous enhancement of terminological competence and domain knowledge. To achieve this, translators should first systematically master the naming principles of the International Union of Pure and Applied Chemistry (IUPAC), the industry standards of the International Nomenclature of Cosmetic Ingredients (INCI), and the regulatory logic of China's Inventory of Existing Cosmetic Ingredients (IECIC), clarifying the differences among these frameworks. Furthermore, translators need to develop strong literature retrieval skills to stay updated with scientific opinions and terminology revisions issued by organizations, such as the Personal Care Products Council (PCPC) and the Scientific Committee on Consumer Safety (SCCS). By synthesizing information from multiple sources, translators can independently build and regularly update a cross-referenced terminology database.

On the other hand, in-depth study of interdisciplinary knowledge in cosmetic science is essential. As noted, without relevant expertise, technical translators may produce inaccurate or unprofessional translations. Therefore, to effectively translate technical texts, translators must also acquire a solid background in the relevant specialized knowledge (Gu, 2017, pp. 46-49). By internalizing both terminological methodologies and contextual knowledge across fields, and concurrently deepening their professional expertise, translators can establish stable connections between chemical nomenclature, regulatory labeling, and consumer language. This approach addresses the challenge of inconsistent interdisciplinary terminology and enhances translators' cross-disciplinary translation capabilities.

Enhancing Resource Utilization

Faced with complex, multi-layered terminology, translators need to construct a multidimensional resource system and leverage artificial intelligence to support decision-making. The core objective is to reduce information silos among chemistry, dermatology, linguistics, and regulatory studies, achieving optimal utilization of translation resources through the deep integration of structured knowledge bases and intelligent technologies. First, a cross-disciplinary integrated terminology knowledge base should be established. This knowledge base should encompass not only INCI names and their multilingual equivalents, but also integrate dimensional information, such as chemical structures, mechanisms of action on the skin, safety thresholds, and regional regulatory statuses.

Within this framework, AI technology plays a pivotal role as a resource enhancer. Utilizing natural language processing and large language models, AI can rapidly parse newly emerging ingredient terms. By cross-referencing the knowledge base, it can automatically generate preliminary translations that align with disciplinary contexts and regulatory requirements while identifying potential risk points. This not only significantly improves translation efficiency, but also ensures professional compliance through intelligent verification. Simultaneously, translators should skillfully utilize authoritative professional resources, such as the Terminology Online platform released by the China National Committee for Terms in Sciences and Technologies and its official website, to ensure terminological accuracy and avoid ambiguity.

Integrating Context to Select Appropriate Translation Strategies

The ultimate goal in translating abstract sensory descriptions for cosmetics is not merely to "find the perfectly equivalent term", but to "reconstruct consumers' perception and expectation of the product experience within the Chinese linguistic and cultural context." This requires translators to act not only as linguistic converters, but also as "anticipators of consumer experience" and "transmitters of brand value." Translators must accurately capture the core experience conveyed in the English description while deeply understanding the cognitive habits, situational needs, and emotional desires of Chinese consumers. Through "dynamic expression, scenario-based association, and emotional infusion," abstract text is transformed into "perceivable, relatable, and shareable" experiential symbols, ultimately achieving the communicative effect of "words as experience" and helping products establish a distinctive brand identity in the target market.

This process demands that translators go beyond literal translation and assume the role of "experience designers," conducting in-depth analysis of the source text. Specifically, translators should first employ concretization and benefit association, converting vague sensations into tangible benefits that directly address consumers' practical concerns. Second, they should skillfully use synesthetic rhetoric and imagery creation—for example, describing a fragrance as "the sensation of morning sunlight piercing through dew"—to transform

invisible olfactory or tactile experiences into vivid visual imagery and emotional resonance. Furthermore, translators can utilize comparative differentiation, establishing clear benchmarks for ambiguous experiences through phrases like "absorbs faster than ordinary products" to highlight product advantages. When equivalent concepts are lacking in the target language, translators may boldly engage in creative translation of proprietary concept terms, coining novel phrases, such as "soft-focus glass skin" to precisely anchor and elevate the product's unique experiential qualities. In summary, successful translation of sensory descriptions is not merely a matter of word-for-word conversion, but a consumer-cognition-oriented act of recreation. Its ultimate goal is to transform uncertain sensory codes in the source language into precise marketing language that resonates with consumers and drives purchase decisions.

Conclusion

The translation of cosmetic ingredient terminology is not merely an act of linguistic conversion, but a delicate balancing act spanning multiple disciplines and consumer psychology. The interdisciplinary nature, industry standardization, and context-dependency of terminology necessitate that translators assume dual roles as both scientist and communicator. On one hand, they must adhere to standards, such as INCI and regulatory requirements to ensure academic compliance, safety, and traceability. On the other hand, they must clothe the same ingredient in reversible contextual layers based on its formulation, allowing it to move seamlessly among laboratory settings, regulatory documents, and commercial selling points without loss of essential meaning.

Looking ahead, the translation of cosmetic terminology will face new challenges arising from advancements in biotechnology and the rise of AI-customized ingredients. With the development of emerging technologies like synthetic biology, increasingly complex novel ingredient names will continue to emerge, placing higher demands on the accuracy and consistency of terminological translation. Furthermore, as consumer awareness of ingredients grows, terminology translation will increasingly need to strike a balance between scientific rigor and market acceptance. This requires translators to not only possess specialized background knowledge, but also to deeply understand the cultural psychology and consumption habits of the target market.

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