

Structural and semantic features of light industry terms in English: a linguistic analysis

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Annotation. This article analyzes the morphological, syntactic, and semantic features of light industry terminology in English. It identifies compounding, affixation, and blending as key word-formation processes and highlights the role of noun phrases, adjective-noun combinations, and prepositional phrases in ensuring terminological precision. Additionally, semantic relationships such as hyponymy, synonymy, polysemy, and antonymy aid in material classification and product differentiation. The findings are valuable for linguists, translators, and industry professionals, improving technical communication, translation accuracy, and terminology management. Understanding these linguistic structures enhances clarity in global trade and industrial documentation. Future research should explore AI-driven terminology tools and cross-linguistic variations to support industry advancements.

Keywords: Light Industry Terminology, Morphology, Syntax, Semantics, Compounding, Affixation, Blending, Noun Phrases, Translation and Localization, Industrial Linguistics

Структурно-семантические особенности терминов легкой промышленности в английском языке: лингвистический анализ

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Аннотация. В данной статье анализируются морфологические, синтаксические и семантические особенности терминологии легкой промышленности в английском языке. Выявлены основные процессы словообразования, такие как словосложение, аффиксация и смешивание, а также подчеркнута роль именных групп, сочетаний прилагательного и существительного, а также предложных конструкций в обеспечении терминологической точности. Кроме того, семантические отношения, включая гипонимию, синонимию, полисемию и антонимию, способствуют классификации материалов и дифференциации продукции. Результаты исследования полезны для лингвистов, переводчиков и специалистов отрасли, поскольку способствуют улучшению технической коммуникации, точности перевода и управлению терминологией. Понимание этих языковых структур повышает четкость промышленной документации и международной торговли. В будущем исследователям следует изучить инструменты терминологии на основе ИИ и межъязыковые вариации, чтобы поддерживать развитие отрасли.

Ключевые слова: Терминология легкой промышленности, Морфология, Синтаксис, Семантика, Словосложение, Аффиксация, Смешивание, Именные группы, Перевод и локализация, Индустриальная лингвистика

Ingliz tilidagi yengil sanoat atamalarining tarkibiy va semantik xususiyatlari: lingvistik tahlil

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Annotatsiya. Ushbu tadqiqot ingliz tilidagi yengil sanoat terminologiyasining morfologik, sintaktik va semantik xususiyatlarini tahlil qiladi. Tadqiqot soʻz yasashning asosiy usullari boʻlmish qoʻshma soʻzlar, affiksatsiya va aralashuv jarayonlarini aniqlaydi hamda terminologik aniqlikni taʼminlashda ot guruhlari, sifat+ot birikmalari va predlogli iboralarning rolini taʼkidlaydi. Bundan tashqari, giponimiya, sinonimiya, polisemantika va antonimiya kabi semantik munosabatlar materiallarning tasniflanishi va mahsulotni farqlash jarayonlariga yordam beradi. Tadqiqot natijalari tilshunoslar, tarjimonlar va sanoat mutaxassislari uchun foydali boʻlib, texnik kommunikatsiya, tarjima aniqligi va terminologiya boshqaruvini yaxshilaydi. Ushbu til tuzilmalari xalqaro savdo va sanoat hujjatlarining aniqligini oshirishga yordam beradi. Kelajakdagi tadqiqotlar sunʼiy intellekt asosidagi terminologiya vositalari va tillararo tafovutlarni oʻrganishga yoʻnaltirilishi kerak.

Kalit soʻzlar: Yengil sanoat terminologiyasi, Morfologiya, Sintaksis, Semantika, Qoʻshma soʻzlar, Affiksatsiya, Aralashuv, Ot guruhlari, Tarjima va lokallashuv, Sanoat lingvistikasi.

1. Introduction. Light industry refers to the production of consumer goods and small-scale industrial products such as textiles, apparel, furniture, and food processing. Unlike heavy industry, which focuses on large-scale, capital-intensive manufacturing, light industry emphasizes low energy consumption, less environmental impact, and high-value-added products (Harris, 1998). This sector plays a vital role in global economies, particularly in emerging markets, where it drives employment, economic diversification, and export growth (Neuwirth, 2015). An essential aspect of light industry is its specialized terminology, which facilitates clear communication among manufacturers, suppliers, policymakers, and consumers. Accurate terminology ensures standardized documentation, efficient international trade, and precise material classification (Lashkul, 2023). Misinterpretations in industrial terminology can lead to logistical errors, regulatory issues, and product mislabeling, highlighting the need for linguistic clarity in technical communication (Sivtseva et al., 2019).

This article focuses on analyzing the linguistic features of light industry terminology in English, specifically its morphological, syntactic, and semantic properties. By examining how terms are formed, structured, and related, this study aims to enhance understanding and application of industry-specific language.

The primary objectives of this study are:

- To examine the morphological and syntactic structures of light industry terms, focusing on compounding, affixation, blending, and noun phrase formations.
- To explore the semantic relationships and fields within industry terminology, including hyponymy, synonymy, polysemy, and antonymy, which help classify and differentiate materials and products.

By analyzing these linguistic aspects, this study provides a structured approach to understanding and interpreting technical terminology in the light industry.

A clear understanding of linguistic features in light industry terminology has practical applications in:

- Translation & Localization – Accurate translations are critical for product labeling, international trade agreements, and technical manuals, ensuring consistency across languages (Angelone & Massey, 2024).
- Education & Training – Teaching industry-specific language helps professionals and students develop technical literacy, enabling effective communication in global markets (Harris, 1998).
- Professional Communication – Precise terminology reduces ambiguity, improves quality control documentation, and enhances efficiency in supply chains and regulatory compliance (Sivtseva et al., 2019).

By integrating linguistic analysis into industry practices, this study aims to bridge communication gaps, facilitate international trade, and support language professionals in industry-specific translation and technical writing.

2. Morphological Features of Light Industry Terms. Morphology is the study of word formation and structure, analyzing components such as roots, stems, prefixes, and suffixes (Lieber, 2009; Abiyeva & Safikhanova, 2024). It explores how words are created and modified through different linguistic processes, including inflection, which affects grammatical properties like tense or number, and derivation, which forms new words by adding affixes (Lieber, 2009). While morphology focuses on internal word structures, syntax examines how words combine into phrases and sentences (Payne, 2006). Some linguistic theories argue that morphology and syntax are separate systems, while others suggest that word formation is an extension of syntactic processes (Julien, 2007). The study of morphological patterns in the light industry is essential for understanding specialized terminology, improving communication, and aiding in new term creation.

Compounding

Compounding is a key morphological process in light industry terminology, where two or more words are combined to form a new term with a distinct meaning. Examples include:

- *Textile manufacturing* (*textile* + *manufacturing*) – refers to the production of fabric-based materials.
- *Cotton blend* (*cotton* + *blend*) – describes a mixture of different fiber types.

Compounding allows for efficient term creation in technical fields by linking related concepts (Bauer, 2003).

Affixation

Affixation involves adding prefixes and suffixes to base words to modify their meanings. This process is essential in forming specialized terms in the light industry, as seen in:

- *Recycling* (prefix *re-* meaning "again") – indicates reusing materials.
- *Biodegradable* (prefix *bio-* meaning "life" + suffix *-able* meaning "capable of") – describes materials that decompose naturally.

Affixation enhances terminology development by allowing words to be modified systematically for specific industrial applications (Plag, 2003).

Blending

Blending is another morphological process that merges parts of two words to form a new term, commonly found in technical and industrial vocabulary. Examples include:

- *Spandex* (*expand* + *fabric*) – an elastic fiber widely used in clothing.

Blended terms often arise from technological innovation and branding, reflecting industry advancements and product development (Algeo, 1977).

Examining morphological structures in light industry terminology provides insights into how words are formed and understood. For example:

- Compounding: *Industrial sewing machine* (*industrial* + *sewing* + *machine*) describes a high-performance stitching device.
- Affixation: *Non-woven material* (prefix *non-* meaning "not" + *woven*) indicates fabric bonded without weaving.
- Blending: *Velcro* (*velvet* + *crochet*) refers to hook-and-loop fastening fabric.

These morphological processes help in categorizing materials, standardizing industry terminology, and simplifying technical communication.

Understanding morphological patterns is vital for decoding and generating new terms in the light industry. A strong grasp of morphology allows professionals to:

- Interpret technical terms accurately in product descriptions, regulations, and manuals.
- Develop standardized terminology to enhance clarity in manufacturing and trade.

- Innovate by creating new material names and product labels based on established word formation rules.

By incorporating morphological analysis into industry practices, businesses and researchers can improve communication, streamline documentation, and foster linguistic adaptability in an evolving market.

3. Syntactic Features of Light Industry Terms. Syntax is the study of the rules governing word combinations to form phrases and sentences (Stanlaw, 2020; Wang, 2008). It is a fundamental aspect of human linguistic capacity, connecting meaning with form through structured word order and relationships (Adger, 2015). In industry-specific language, syntax plays a crucial role in shaping technical terminology, ensuring clarity, consistency, and precision in communication. Understanding syntactic structures in the light industry is essential for developing standardized terminology, facilitating translation, and improving professional discourse across global markets.

Noun Phrases

Noun phrases are one of the most prevalent syntactic structures in light industry terminology, typically consisting of a head noun and modifiers that specify its properties. Examples include:

- *Synthetic fiber* (*synthetic* + *fiber*) – a term specifying a man-made textile material.
- *Industrial sewing machine* (*industrial* + *sewing machine*) – a high-performance device used for mass production in textile manufacturing.

Such noun phrases enhance terminological precision and are widely used in product classification, manufacturing specifications, and regulatory documents (Bell, 2012).

Adjective-Noun Combinations

Adjective-noun constructions refine meaning by describing the qualities of an industrial product or material. Examples include:

- *Heavy-duty fabric* (*heavy-duty* + *fabric*) – refers to durable textiles designed for industrial use.
- *Non-woven material* (*non-woven* + *material*) – a fabric made without weaving, commonly used in medical and disposable textiles.

These structures are essential for product differentiation, allowing industries to categorize and label goods based on material properties and functions (Gan, 2015).

Prepositional Phrases

Prepositional phrases add context and relational meaning to noun phrases, clarifying function, material, or purpose. Examples include:

- *Machine for cutting* (*machine* + *for cutting*) – describes a device designed for cutting textiles or fabrics.
- *Fabric of cotton* (*fabric* + *of cotton*) – specifies the material composition of the textile.

These phrases extend the descriptive capacity of technical terminology, ensuring detailed product specifications and improved clarity in industrial documentation (Kotochi, 2017).

Examining syntactic structures in light industry terminology highlights how words combine to convey technical and functional meanings:

- Noun phrase example: *Automated weaving system* (*automated* + *weaving system*) – describes a technology-driven textile production method.
- Adjective-noun example: *Water-resistant coating* (*water-resistant* + *coating*) – refers to a protective layer applied to materials.
- Prepositional phrase example: *Dyeing process of wool* (*dyeing process* + *of wool*) – indicates the treatment applied to wool fabrics.

These syntactic constructions enable precise communication in product manuals, trade descriptions, and technical research.

Understanding syntactic structures in light industry terminology is critical for translation, education, and technical documentation. Key benefits include:

- Accurate Translation & Localization – Standardized syntactic patterns ensure consistency in multilingual technical communication, minimizing misinterpretations (Angelone & Massey, 2024).
- Enhanced Technical Education – Training professionals in industry-specific syntax improves their ability to understand and apply technical terminology (Stanlaw, 2020).
- Improved Professional Communication – A structured approach to terminology formation facilitates precise documentation, regulatory compliance, and efficient industrial workflow management (Sivtseva et al., 2019).

By integrating syntactic knowledge into industrial practices, businesses and linguists can enhance terminology development, standardization, and international trade communication, ensuring greater efficiency in the light industry sector.

4. Semantic Features of Light Industry Terms. Semantics is the study of meaning in language, focusing on the stable and context-free aspects of meaning (Bagha, 2011). It examines how languages organize and express meaning, dealing with words, phrases, and sentences (Hussain & Sajid, 2015). The field explores the relationship between linguistic forms and their associated concepts, including meaning relationships such as synonymy, antonymy, and hyponymy (Bagha, 2011). Unlike pragmatics, which focuses on meaning in specific contexts, semantics is concerned with objective and general meaning (Hussain & Sajid, 2015). Over time, semantic theories have shaped approaches to vocabulary teaching, lexicography, and industry-specific terminology development (Horwich, 2008).

Hyponymy

Hyponymy describes hierarchical relationships between terms, where a superordinate (general) term encompasses hyponyms (specific terms). In the light industry, *textile* functions as a superordinate term, including *cotton*, *silk*, and *polyester* as hyponyms (Gao & Xu, 2013). This classification is essential for material categorization and industrial databases, ensuring clarity in labeling, product specifications, and supply chain management.

Synonymy

Synonymy refers to words with similar meanings, which is essential in the light industry for terminology standardization. For instance, *fabric* and *textile* are often used interchangeably, but *textile* generally refers to woven or knitted materials, while *fabric* includes all cloth-like materials, including non-woven textiles (Khan, 2016). Understanding such nuances enhances communication in manufacturing, marketing, and product descriptions.

Polysemy

Polysemy occurs when a word has multiple meanings depending on the context. In textile production, the term *loom* can refer to both the machine used for weaving and the process of weaving itself (Casas Gómez, 2002). Such ambiguity requires context-aware interpretation in technical documents and industrial software applications to avoid miscommunication in production workflows.

Antonymy

Antonymy deals with opposites in meaning, which is crucial in material classification. Terms like *natural fibers* versus *synthetic fibers* highlight fundamental differences in material origin, properties, and sustainability (Benotto, 2015). Antonymy is particularly relevant in marketing and consumer awareness, as it helps differentiate eco-friendly products from synthetic alternatives, influencing purchasing decisions.

Semantic relationships significantly influence industry operations. Hyponymy ensures consistency in product classification, making inventory management and industrial labeling more efficient. Synonymy improves searchability in databases, ensuring that alternative terms retrieve relevant product information. Polysemy necessitates precise definitions in technical manuals and regulatory documents to prevent misinterpretations. Antonymy is used in product differentiation, such as labeling *organic* versus *synthetic* fabrics, which impacts marketing and compliance with eco-labeling standards. Understanding semantic relationships enhances communication and prevents

ambiguity in professional settings. In textile and light industries, well-defined terminology ensures accuracy in product specifications, supply chain documentation, and regulatory compliance. Industries that integrate semantic structures into databases and AI-driven search engines can improve material traceability and quality control. Moreover, semantic frameworks help standardize international trade terms, minimizing misunderstandings in global supply chains. By embedding semantic relationships into industrial data systems, manufacturers, designers, and suppliers can streamline operations, improve material classification, and enhance search functions—ultimately fostering efficiency and precision in the light industry.

5. Discussion. The interaction between morphological, syntactic, and semantic features plays a crucial role in shaping the meaning and function of light industry terminology. Morphological structures such as compounding, affixation, and blending influence how new terms are formed and understood. For example, the compounding of "cotton blend" signifies a mixture of fibers, while the affixation in "biodegradable" conveys an ability to decompose naturally. These morphological modifications directly affect the semantic interpretation of terms, ensuring precision in industrial communication. Similarly, syntactic structures determine how terms are categorized and contextualized. Noun phrases like "synthetic fiber" specify material composition, while prepositional phrases such as "machine for cutting" clarify a product's function (Bell, 2012; Kotochi, 2017). Structural modifications can lead to semantic shifts, as seen in the term "woven fabric" (which emphasizes the manufacturing process) versus "fabric of cotton" (which highlights material composition). These variations demonstrate how structural choices affect meaning and industry-specific usage. Furthermore, polysemy arises due to structural flexibility in terminology. A term like "loom" can refer to both a weaving machine and the process of weaving, depending on its syntactic placement. This dual meaning requires context-aware interpretation in technical documentation and product specifications (Casas Gómez, 2002). Understanding the interconnection between structure and meaning is essential for ensuring accurate terminology application across different industrial contexts.

The findings of this study have several practical applications in translation, education, and industry communication:

- For Translators & Terminologists:
 - Awareness of morphological and syntactic patterns can help translators avoid misinterpretations in multilingual trade and product labeling (Angelone & Massey, 2024).
 - Understanding semantic relationships aids in selecting appropriate equivalents in different languages, ensuring terminological consistency in global markets.
- For Educators & Industry Professionals:
 - Teaching industry-specific syntax and morphology improves technical literacy among workers and professionals (Harris, 1998).
 - Training programs can incorporate morphological analysis to help professionals decode new terms and adapt to evolving industry language.
- For Industry & Regulatory Bodies:
 - Accurate terminology management ensures compliance with international trade standards, reducing the risk of mislabeling and regulatory disputes (Sivtseva et al., 2019).
 - Well-structured industrial databases benefit from semantic classification, allowing for efficient material tracking and product categorization.

Challenges in terminology management include rapid linguistic evolution, technological advancements, and cross-language inconsistencies. Addressing these challenges requires:

- Standardized term databases to maintain consistency across global supply chains.
- AI-driven terminology tools for automated term recognition and classification in industrial documentation.

- Ongoing linguistic research to adapt terminology to emerging materials and production techniques.

The evolution of light industry terminology is influenced by technological progress, automation, and globalization. Future research should explore:

- The impact of AI and automation on the creation and adaptation of new industry terms.
- Cross-linguistic studies on how different languages handle compounding, affixation, and semantic relations in industry terminology.
- The role of digital databases in improving terminology standardization and retrieval for industry professionals.

By further investigating these areas, researchers and professionals can enhance linguistic efficiency in the light industry sector, ensuring clearer communication and improved global trade practices.

6. Conclusion. This study has explored the morphological, syntactic, and semantic features of light industry terminology, emphasizing their role in shaping technical vocabulary and professional communication. The analysis of morphological patterns revealed that compounding, affixation, and blending are essential processes in the formation of industry-specific terms. These mechanisms allow for efficient word creation, material classification, and innovation in product naming, making terminology more adaptable to technological advancements. At the syntactic level, the study highlighted the prevalence of noun phrases, adjective-noun combinations, and prepositional phrases in light industry terminology. These structures contribute to terminological precision, ensuring clarity in product descriptions, trade regulations, and industrial documentation. The syntactic composition of terms plays a critical role in categorizing and differentiating materials, enabling more effective communication within the industry. The study also examined the semantic relationships that define this specialized vocabulary, including hyponymy, synonymy, polysemy, and antonymy. These relationships help classify materials, distinguish between product variations, and refine technical definitions. The semantic organization of industry terminology enhances data retrieval, translation accuracy, and regulatory compliance, particularly in multilingual trade and international business settings. Understanding the linguistic structures of light industry terms is highly relevant to linguists, translators, and industry professionals. For linguists, this study provides a framework for analyzing technical language evolution. For translators, awareness of morphological and syntactic nuances is crucial in ensuring accurate cross-language communication. For industry professionals, clear and standardized terminology reduces ambiguity, enhances documentation accuracy, and supports better supply chain management.

In conclusion, the study underscores the importance of structured terminology in specialized fields. As global trade and technological advancements continue to evolve, a deep understanding of industry-specific language will remain essential for enhancing communication, fostering innovation, and ensuring linguistic precision in the light industry sector. Future research should explore the role of digital tools, AI-based terminology management, and cross-linguistic variations in industry terminology, ensuring that language keeps pace with industrial progress.

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