



## METHODS OF ACTIVE WORD FORMATION OF POLYMER TERMS IN ENGLISH AND UZBEK LANGUAGES

Meyliyev Muzaffar Haydar o'g'li

orcid: 0009-0006-6905-093X

2 grade doctoral student of National University

E-mail: muzaffarmeyliyev8@gmail.com

<https://doi.org/10.5281/zenodo.14873788>

**Abstract:** This article analyzes and summarizes different views on the most effective methods of term generation. The lexicon with a limited scope is studied as a general topic. Linguistic features of polymer chemistry terms, changes in meaning are in general. The scientific terms and their semantic analysis, which are the main subject of study in the article, form the research perspectives of chemical terms, polymer technology terms based on the natural features of terminology and linguistics general.

**Аннотация:** В данной статье анализируются и обобщаются различные взгляды на наиболее эффективные методы генерации терминов. Лексика ограниченного объема изучается как общая тема. Изучены лингвистические особенности терминов химии полимеров, изменение их значений в целом. Научные термины и их семантический анализ, являющиеся основным предметом исследования в статье, формируют перспективы исследования химических терминов, терминов технологии полимеров, основанных на естественных особенностях терминологии и лингвистики в целом.

**Annotatsiya:** Ushbu maqolada termin hosil qilishning eng samarali usullari haqida turli xil qarashlar tahlil qilinadi va umumlashtiriladi. Qo'llanish doirasi chegaralangan leksika umumiy mavzu sifatida o'rganiladi. Polimerlar kimyosi terminlarining lingvistik xususiyatlari, ma'noda o'zgarishlar umumlashtirib o'rganiladi. Maqolada asosiy o'rganiladigan predmet qilib olingan ilmiy terminlar va ularning semantik tahlili terminologiya, umuman tilshunoslikning tabiiy xususiyatlaridan kelib chiqib kimyoviy atamalar, polimerlar texnologiyasi bo'yicha terminlarning tadqiqot istiqbollarini shakllantiradi.

**Key words:** term, terminological lexicon, formation of terms, compound terms, active methods of word formation.

**Ключевые слова:** термин, терминологическая лексика, терминообразование, сложные термины, активные способы словообразования.

**Kalit so'zlar:** termin, terminologik leksika, terminlarning yasalishi, qo'shma terminlar, so'z yasashning faol usullari.

All aspects of the development and existence of human society are accompanied by scientific discoveries, today science is entering the international and international level of development. An important factor in the development of science is the unification of world scientific knowledge, which makes it possible to achieve a greater level of objectivity and depth of research. The accuracy of the language serves as a basis for science, which determines the very existence of an interethnic scientific society. The basis of the scientific language is terminology, it is subject to a strict hierarchy and accompanies the formation of world scientific knowledge at all levels of its development. The conceptual content of the term is determined by its place in the system. The term, being part of a certain terminological system, refers to a particular area of science, technology, production. It has its own definition (exact scientific definition) among the terms in the same field. One and the same word can be a term of different fields of knowledge. This is not polysemy, but homonymy (cf. the term "systematics" in botany, economics and mathematics), since the terms within their terminological field are usually unambiguous, unlike "everyday" words. The terms are also associated with a certain scientific concept: they reflect the results of scientific research and their theoretical understanding. In this respect, they are opposed to the general vocabulary. Sets of terms are an important part of the common language at the word-formation and grammatical levels. They are formed on the basis of concepts and lexico-semantic relations. General theoretical as well as applied linguistics are the environment for the development and study of the term, since the term is inseparable from the units of the national language. A term is a unit of the lexical system of a language that has special features that make it possible to distinguish between a term and a non-term. In order to analyze the internal properties of a term, it is studied within the framework of real-life communities of units, terminological systems serving individual branches of knowledge. In modern linguistics, such properties of a term include: correspondence to a term of a concept or concept in the mind of its bearer, belonging to a special field of knowledge, definitiveness, accuracy of meaning, contextual independence (within the thematic text), consistency, nominativity, lack of expression and stylistic neutrality, purposeful character and constancy in speech.



Thus, a term is a special language unit (word or phrase) that is in systemic relations with other language units similar in status to the corresponding special language, used to accurately name and express a special (or professional) object, concept, phenomenon or type activities. The term, as a unit of the common national language, at the same time belongs to a special linguistic subsystem. A term is a special language unit that performs a special function of naming a specialized and professional concept, which makes it possible to distinguish it from other language units in the language system. Terms, which are special linguistic units, exist and realize their properties only through "their" specific terminological system. Outside of this system, the terms become part of the commonly used units of the national language. They are determinologized, and commonly used vocabulary, in turn, has the ability to penetrate terminology, realizing the process of terminology. These features of the mobility of terminological and non-terminological vocabulary indicate the interaction of terminology and a common language. An important role is played by terminological systems in the lexical system of natural language and its functional varieties. Among them are languages for special purposes. A terminological system is a linguistic model of a certain special area. This model can exist along with the logical model, represented by a system of concepts and a system of definitions. It embodies the logical model in a system of verbal signs. The term system adequately depicts the real system of scientific and technical concepts of a given subject area, and it is isomorphic to it. It is "a complex dynamic stable system ... its function is to serve as a sign (linguistic) model of this field of knowledge or activity."

Terminology is an ordered system that is subject to requirements. General language requirements: grammatical means of expressing standardized terminology (for example, the category of number, the category of gender, the category of case, form formation, and others); attitude to foreign, dialect and vernacular words acting as terms (for example, attitude to borrowings from other languages); lexico-semantic characteristics of terms (polysemy, homonyms, synonymy, antonymy); short form of the term (lexical reduction by means of word formation, as well as by means of symbols). Regulatory requirements include specific requirements for the formation of terminology. Correspondence of methods and models of term formation with methods and models of general word formation and specific models of term formation; preference for certain models of term formation (in accordance with the regularity of the functioning of models, the specialization of word-forming affixes and models for the expression of any meaning); grammatical features of terms; stylistic requirements for terminological constructions (in a compound term).

As part of the term system, terms are combined into various groups, different in terms of the concepts they designate, in terms of formal features, and in their place in the term system. One system is an element of another, larger system. Each element may turn out to be a system, but smaller than the one in which it is included.

Terms as lexical units denoting general concepts of special areas of activity are part of the language for special purposes (LSP - language for specific purposes), therefore, the terminological system "Chemistry of polymers" is characterized by functions that characterize the language for special purposes:

- 1) the function of transmitting information and means of communication;
- 2) "the function of designation, naming of highly specialized professional concepts (objects, signs, actions, processes);
- 3) the function of a special name for well-known concepts, which are given increased expressiveness through a special meaning" [1, p. 8].

As an example, we give the terms of polymer chemistry, which refer to:

A) highly specialized professional concepts: addition polymerization ( "poly condensation"), board shaped polymer ( "rigid polymer"), photochemical aging ( "photochemical aging"), sintering ("sintering"), mesoporous particle ( " mesoporous particle"), etc.;

b) well-known concepts in a specialized sense: backbone is a well-known meaning of a word in - "main support" (Cambridge Dictionary: electronic resource), a highly specialized meaning in the terminology of polymers in - "the main chain of a macro molecule" (English Dictionary of Chemistry and Technology of Polymers); blooming - the well-known meaning of the word in - "blooming", "bursting with health" (Merriam Webster Dictionary: electronic resource), a highly specialized meaning in the terminology of polymers in. — "sweating" (English Dictionary of Chemistry and Technology of Polymers); domain - the well-known meaning of the word in. - "region", "sphere" (Cambridge Dictionary: electronic resource), a highly specialized meaning in the terminology of polymers in. — "an area of increased density in a polymer" (English Dictionary of Chemistry and Technology of Polymers) etc.

To serve the communicative needs of the industry, the language must have the necessary lexical and semantic means, which are the terms. Normalized professional vocabulary, its accuracy, adequacy, the



presence of nomenclature units, special speech turns, syntactic structures underlie the formation of the language of the polymer industry. Terms are part of a certain conceptual system, they are "special words, limited by their special purpose; words that tend to be unambiguous as an exact expression of concepts and naming things" [2, p. 61]. It is believed that the meaning of the term is a special concept, however, according to the point of view of V. M. Leichik, this thesis requires clarification, since the same lexeme can denote several concepts related to one or more term systems. Also, "several lexical units serve as a means of expressing one concept" [3, p. 34].

How is it possible to determine whether a lexeme is a term? To delimit the term from non-terminological units, referencing criteria, which have begun to be criticized since the 60s, allow. To date, there are many studies in which all or some of the requirements for the term are questioned, which makes this aspect of the study far from an exhaustive solution. The focus of this study is not to review the debatable points related to the criteria for the selection of terms. This paper presents the main features of the term, on the basis of which the vocabulary segments of the term system of polymers were distinguished. Consider the signs of the term according to the classification of S. V. Grinev Grinevich [4, p. 26]:

1. The belonging of the term to a special field of knowledge and its functioning within the given terminological system. The term does not exist separately. It functions within the system, taking its place, and is in close lexicon-semantic relations with other lexemes. High systemic organization is an important feature of terms and their difference from "non-terms".

2. Content accuracy - clarity, limited meaning of the term.

3. The presence of a definition is considered mandatory for the term, since the criterion plays an important role in delimiting the term from the vocabulary of the general literary language. At the same time, the definition itself should contain terms and be fully understandable to a professional, and not to an average person [5, p. 21]. V. M. Leichik believes that "not only a term, but also any word or phrase can have a definition, and the concept often denoted by it is multidimensional" [3, p. 24]. In this regard, the scientist notes that it is more correct to define a term as a lexical unit that requires a definition, and does not have one. However, often a terminological unit may be familiar to the "man in the street" and does not require subject competence to analyze its content. This is due to the fact that to create their own industry terminology, chemists mainly used two languages: Greek and Latin, which, of course, influenced the corpus of the polymer terminology system, where we can observe the presence of such a Latin fragment as the Latin prefix "de" (eng. de), which has a connotation with "removal" or "absence" in terms (English) delamination, denaturation, depolymerization. In fact, the presence of the "Greek-Latin trace" can be traced in many lexemes of this terminological system, for example: the confix mono (Greek mono - "one") in the international term "monomer" ( ), monomer (English), monomer (German. ) or poly (Greek polys - "many" and metros - "part") in the key term polymer ( ), polymer (English), polymère (French), polímero (Spanish), etc. [6].

1. Stylistic neutrality - the term is recognized as a neutral unit in stylistic and emotionally expressive terms, it should not give rise to additional associations. Considering figurativeness, emotionalism and expressiveness as characteristics of a term, it is necessary first of all to turn to metaphorical term formation: "In the field of terminology, there are three types of semantic term formation: metaphorical transfer, metonymy transfer and narrowing of meaning" [7].

4. Contextual independence, according to which the term retains its meaning, going beyond the scope of subject relatedness. In turn, being related to a special area narrows the meaning of the term and makes it unambiguous within the term system, which is achieved by the environment of the words with which the term enters into connection. We agree with the opinion of A. A. Reformatsky, who believes that a term can exist outside the context, like an ordinary word, since it is an integral part of a certain terminology that acts instead of context. On the other hand, the requirement for a term that there is no ambiguity, described by D.S. Lotte, conflicts with the statement that "terms retain their ambiguity, being lexical units of a certain natural language" [3, p. 24], that is, they are based on a linguistic basis. For example, often the same term can be used in related fields of knowledge with slightly different meanings: inhibitor in polymer chemistry in "chemical stabilizer", "retarder"; in medicine it is a "depressor nerve", in ecology it is a "braking factor", in the oil and gas industry it is a "passivator", etc.

5. Nominative, meaning the use of mostly nouns as a term. A review of the literature devoted to the study of terminology makes it possible to single out one more criterion - the absence of synonymy, since this phenomenon contradicts the purpose of the term. Despite the selection of this criterion among the requirements for its meaning, S. V. Grinev-Grinevich explains that "in all areas of terminological vocabulary there are a large number of synonyms, and some types of synonymy are regular" [4, p. 32]. So, some





concepts in polymer chemistry have synonymous equivalents, for example: apparent molar mass, apparent molecular weight, apparent relative molecular mass ("average (apparent) molecular mass"); chain-breaking antioxidant, chain terminating antioxidant (: "antioxidant breakage of the reaction chain"); tack, interface adhesion ("inter-facial adhesion"), etc. The term exists within a certain subject relatedness, within a term system as a set of terms united by one theory, reflecting the connections of all concepts of the industry. Therefore, systemic organization is an important property of the term in general and is a characteristic feature of the corpus of polymer chemistry units in particular. An example of hyper-hyponym relations that form a consistent hierarchy within the terminological system are: hypernym polymer particle ("polymer particle") - a hyponym of polymer microsphere ("polymer nanocapsule"); hypernym polymerization process (for polymerization process) is a hyponym emulsion polymerization ("emulsion polymerization"), etc.

In general, among the terms in the scientific and technical style, the following are distinguished: "simple - noun terms, abbreviated terms, complex terms, multi-component terms, verb terms, adjective terms" [8, p. 187]. The latter, in turn, often perform the function of an integral part of term elements in terminology (for example, multi-component nouns adhering thread, artificial weathering, continuous phase domain, critical micelle concentration, Where adjective is composite element). Verbs, in turn, do not have an independent lexical meaning and are decomposed into semantic elements: "produce" + "action denoted by the corresponding noun terms" - polymerize ("to carry out polymerization"). Nevertheless, M.P. Brands divides verb terms into two groups: terminological proper and commonly used verbs used to express special concepts. The term system "Chemistry of polymers" is predominantly substantive in nature, the terms-verbs do not function as independent units and correlate with the terms-nouns. Semantically, verb terms convey a narrower concept of a process, while noun terms convey a more general one.

## References:

1. Gerd. - 2nd ed., add. and rework. - St. Petersburg. : St. Petersburg State University, 2011. - 60 p.
2. Reformatsky, A. A. Introduction to linguistics / A. A. Reformatsky. - M., 1996. - 275 p.
3. Leychik, V. M. Terminology : subject, methods, structure / V. M. Leychik. - M. : Publishing house LKI, 2007. - 256 p.
4. Grinev-Grinevich, S. V. Terminology / S. V. Grinev-Grinevich. - M., 2008. - 307 p.
5. Zyablova, O. A. Principles of language research for special purposes (on the example of the language of economics): dis. ... Dr. philol. Sciences: 10.02.19 / O. A. Zyablova. - M., 2005. - 316 p.
6. Rozanova, Ya. V. Formation of the terminology of the field "Chemistry of polymers" in English / Ya. V. Rozanova // Countries. Languages. Culture: Sat. Materials of the XI Intern. scient.-pract. Conf.,
7. V. Rozanova // Countries. Languages. Culture: Sat. Materials of the XI Intern. scient.-pract. Conf.,
8. Makhachkala, December 19–20. 2019 / Yes gestan. state those. un-t; ed. N. N. Abueva. - 2020. - S.
9. Gerd, A.S. Introduction to the study of languages for special purposes: textbook. allowance / A. S.