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MODERN CONCEPTS AND TRENDS OF CHEMICAL APPROACHES TO ENVIRONMENTAL ISSUES

In recent years there have appeared certain approaches aimed at reducing environmental pollution – "green" analytical chemistry. Its goal is the application of analytical procedures that produce less hazardous waste, are safer to use, and are more environmentally friendly.

Analytical methods are based on chemical reactions and electrochemical processes, as well as on interaction with all forms of energy (in particular, radiation), which give unambiguous signals directly from the place where something important for the chemist happens in the volume or on the surface: solid substance, liquid or gas. As is known, the analytical procedure for obtaining data consists of several stages: field sampling and sample processing, quartification, preparation and separation of laboratory samples, detection and identification [1]. All the above-mentioned must be done with high metrological quality, which means ensuring the above-mentioned parameters with the results of measurements. Whenever analytical methods are improved or replaced, the goal should be to improve the metrological quality of the procedure. Applying the principles of green chemistry to analytical procedures almost always leads to an improvement in the quality of the method – an increase in value and importance. Besides this, we can witness [4]:

- reduction of the number of solvents and other compounds in the process, which reduces the possible negative impact on the analyte;
- reduction of the stages in the process of sample preparation or separation, which reduces the sources of measurement errors and uncertainties;
- miniaturization and energy savings, which lead to a more reliable and simple analytical process.

Liquid-phase microextraction methods, which provide rapid, convenient, and high-throughput approaches to sample preparation, can be improved by modification. An example of their significant and diverse advantages is the addition of surfactants: the surface of a solid substrate or a capillary is modified at first, and then micelles are formed, which define different equilibria for chromatographic separation.

Many non-toxic, biodegradable and environmentally safe surfactants are readily available, and the most commonly used organic surfactants have little ecotoxicity [2]. They also make it possible to reduce the proportion of organic solvent in the mobile phase.

The separation that uses water or a buffered aqueous solution containing a surfactant is a good example of green chromatographic analysis, because it eliminates the use of organic solvents [3].

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IMPROVING THE TECHNOLOGY OF MEAT SLICED SEMI-FINISHED PRODUCTS BY USING HYDROCOLLOID ADDITIVES OF PLANT ORIGIN

The analysis of national and foreign literature shows the relevance of improving the technology of meat sliced semi-finished products by introducing plant-based additives into their composition in order to make fuller use of raw material resources in the industry and expand the use of non-traditional raw materials [1; 2].

The expediency of studying this problem is also determined by the need to provide the population with high-quality food products having a balanced composition of nutrients and biologically active substances.