

# TOXICOLOGICAL EVALUATION OF WASHING-DISINFECTANT BIYODCID

*O. M. Brezvyn, Y. A. Ivashkiv, H. V. Rudyk, Z. I. Kurilas*

State Scientific-Research Control Institute of Veterinary Medicinal Products  
and Feed Additives,  
11, Donetska str., Lviv, 79019, Ukraine

The introduction of medicines as highly effective newest scientific achievements is possible only after studying them in animal experiments and clinical trials involving human beings - without this, the progress of mankind and public health would not have a future. When choosing preparations for the disinfection of livestock, it is necessary to pay attention not only to their antimicrobial effect, but also to possible toxicity for animals. Disinfection of objects of keeping livestock, processing of livestock products and their sale is one of the main activities in the system of prevention and elimination of infectious diseases, ensuring sustainable livelihoods of livestock and high sanitary quality of food products. To date, a number of domestic and imported disinfectants have been proposed in veterinary medicine, but most of them do not fully meet modern requirements for universality, transport stability, water solubility, activity against a wide range of microorganisms, the formation of their resistance, safety for humans and animals, not aggression in relation to building structures and materials, ecological safety, the optimal " efficiency - cost norm - price".

The study of bactericidal activity, toxicity, determination of the effectiveness of various concentrations of disinfectants in the disinfection of objects subject to veterinary and sanitary supervision is of great importance for the wide use of new drugs in practice. Therefore, the purpose of this work is to carry out preclinical tests of the disinfectant "Biyodtsid" for determining acute toxicity and determining the harmful effects of the drug with a single administration to the animals. Disinfectant "Biyodtsid " - solution quaternized form biologically active complex of N, N-bis (3-aminopropyl) dodecylamine, and diiodomethyl-p-tolylsulfone, is classified as drugs with antimicrobial activity against Gram-positive and Gram-negative microorganisms and viruses. "Biyodtsid" is designed for disinfection of poultry houses, cattle-breeding premises, technological equipment, as well as complete disinfection in preparation of premises for a new technological cycle.

A wide spectrum of antimicrobial action by biocidal is mediated by such combination of two active substances at which the

bactericidal action of diiodomethyl-p-tolylsulfone is enhanced by the action of the second component. The growth of biocidal activity can be caused by the action of the created quaternary ammonium salt based on N, N-bis (3-aminopropyl) dodecylamine. A distinctive feature of the "Bioicid" is that, as the second component, N, N-bis (3-aminopropyl) dodecylamine is used.

Acute toxicity study is an obligatory stage of research of new drugs, which allows you to evaluate the health risks of substances in terms of short-term actions and determine the class of toxicity and the breadth of therapeutic action. Therefore, at this stage of the study acute toxicity alkali detergent-disinfectant "Biyodtsid" has been studied.

The article presents the results of toxicological studies of the detergent-disinfectant "Biyodtsid" on laboratory rats. It is found that the detergent-sanitizer "Biyodtsid" containing N, N-bis (3-aminopropyl) dodecylamine, and diiodomethyl-p-tolylsulfone is moderately toxic (toxicity grade III). When working with it, you must follow the safety requirements. Working 0.1% solution of the drug is low toxicity (Class IV toxicity).

**Keywords:** WASHING-DISINFECTANT, TOXICOLOGICAL RESEARCH, DISINFECTION.