

көрсетті. Патоморфологиялық зерттеу барысында анықталған сальмонеллезге тән өзгерістер: жедел катаральды-геморрагиялық энтерит, мезентериялық лимфа түйіндерінің жедел серозды қабынуы, жедел тоқырау гиперемиясы және өкпе ісінуі, бауыр мен жүректің түйіршікті дегенерациясы.

РЕЗЮМЕ

Сальмонеллез у телят - это распространенное инфекционное заболевание, вызываемое бактериями сальмонеллами, которые представляют опасность также и для человека. Оно чаще всего встречается у молодняка в возрасте до двух месяцев, а наибольшее число случаев приходится на весну, особенно после отелов. Это инфекционное заболевание, распространенное в большинстве регионов РК.

В данной научной статье представлены данные о патологических и морфологических изменениях в пяти трупах телят, инфицированных сальмонеллой *in vivo*, а также об эффективности препарата "Эмикс", применяемого против сальмонеллеза телят. Использовали сорок телят и разделили их на четыре группы; Grp1: Здоровый теленок, общая программа кормления, "Эмикс", Grp2: Здоровый теленок, общая программа кормления (контрольная группа), Grp3: Больной теленок без аппетита, общая программа кормления, "Эмикс", Grp4: Больной теленок без аппетита, общее кормление программа. В конце эксперимента группа 1 показала лучшую живую массу по сравнению с другими группами. Характерные для сальмонеллеза изменения, выявленные в ходе патоморфологического исследования, следующие: острый катарально-геморрагический энтерит, острое серозное воспаление брыжеечных лимфатических узлов, острая застойная гиперемия и отек легких, а также гранулярная дегенерация печени и сердца.

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TOXICOLOGICAL PROPERTIES OF THE DRUG «GLUDEZ» BASED ON GLUTARALDEHYDE

ANNOTATION

Disinfection occupies a special place in the system of basic antiepidemiological measures, as an element of a significant reduction in the total number of microorganisms and complete disinfection of pathogenic microflora at environmental facilities. In this regard, the search for new highly effective means for disinfection, prevention and treatment is currently especially relevant against the background of

environmental changes in the environment. The analysis of the specialized literature shows that the process of creating new effective tools and technologies for their application is currently being activated [1-8]. Special requirements are imposed on disinfectants in order to prevent environmental pollution and ensure safety for people and animals. It is also important such quality as the convenience and simplicity of their use.

In this regard, it is important to create and use effective disinfectants aimed at suppressing the viability of pathogenic microflora in environmental objects. At the same time, the toxicological evaluation of the disinfectant is the main criterion for the selection of promising drugs and the preparation of disinfectant compositions for introduction into veterinary practice.

Signs of intoxication with the drug «Gludez» and the death of experimental animals strictly depended on the dose of the administered solutions of the drug under study, and the clinical picture of poisoning of white mice began to manifest itself 10-40 minutes after oral administration. At the same time, the average lethal dose (LD₅₀) for white mice was 680 mg/ kg, and at a dose of 1030 mg / kg, the death of white mice occurred. Based on the data obtained, the drug «Gludez» according to the parameters of acute toxicity refers to medium toxic substances (hazard class III).

Key words: *Gludez, dose, efficacy, disinfection, toxicity, allergy, mortality, mice.*

Introduction. The epizootological situation in Kazakhstan for some infectious diseases remains tense, especially with regard to such anthroponoses as brucellosis, tuberculosis, anthrax, some viral diseases in which specific prevention drugs are not reliable enough. It is quite obvious that the prevention and control of infectious diseases, in addition to vaccination, is based on non-specific prevention, including timely implementation of a complex of sanitary and disinfection measures for veterinary facilities. Naturally, a successful solution of the latter is possible if there is an appropriate arsenal of available effective domestic disinfectants.

With an outbreak of zoonooses, it becomes necessary to carry out complex measures aimed not only at their diagnosis and treatment, but also at the destruction of the pathogen in the objects of the external environment. Disinfection is an integral part of complex measures carried out both in disadvantaged and in safe points for infectious diseases.

Therefore, in modern economic conditions, veterinary science faces an urgent task in modern provision of the agricultural sector with new highly effective and inexpensive domestic disinfectants to combat zoonooses [1-8].

Currently, parasol, metaphor, phormoyod, glutex, delegolvet, deoform, cataphor, etc., and their mixtures, which have bactericidal properties, are used to disinfect various objects of veterinary supervision. However, due to insufficient provision of production with effective and affordable disinfectants and the search for new, environmentally safe and inexpensive domestic disinfectants, the development of technology for their use in farms of various types are of paramount importance.

Materials and Methods. The research was carried out in the scientific and production enterprise «Antigen».

Acute toxicity of the developed disinfectant drug «Gludez» was determined on white mice weighing 19-25 grams and white rats weighing 160-180 grams, kept in vivarium conditions in accordance with the norms of feeding and keeping laboratory animals. After the introduction of the test drug, the experimental animals were monitored daily for 14 days, and the non-dead in the first 24 hours, while monitoring was established until appetite and behavior were fully restored. The nature of experimental animals and the severity of poisoning symptoms, the rate of their onset and regression, and lethality were recorded. Solutions of the drug in various concentrations were administered orally to animals once into the stomach using a special needle having a bulbous thickening at the end.

Control laboratory animals were injected with a similar amount of sterile saline solution.

Acute toxicity of the drug was determined by LD₅₀ indicators. To do this, the LD₅₀ dose of the administered drug was determined in preliminary experiments. Titrated doses were administered orally in a volume of 0.5 ml to white mice and 5 ml to white rats. Experimental animals were divided into 5-7 groups (5-8 in each). Sterile saline solutions were administered to each control group of animals. Every

case of death and clinical manifestation of toxic reactions to the administered doses of the test drug was noted.

The doses of the drug for the final experiments were determined separately and in ascending order at the rate of 1 mg per 1 kg of live weight of experimental animals. The administered doses of the drug were selected in such a way that when the highest dose was administered, it provided 100% death and between them at least 5 intermediate doses causing the death of more or less than 50% of experimental animals.

The determination of the local irritant effect was carried out by applying a solution of the test drug to the trimmed surface of the abdominal cavity of guinea pigs (4x5 cm) and rabbit (8x9 cm) and by applying it to the mucous membrane of the eye. The drug was applied once to the mucous membrane of one eye in the amount of 1-2 drops, the other eye was a control. Changes were recorded after exposure to the drug after 1 hour and daily monitoring was carried out until the local reaction disappeared. According to the system of A.Maida, a quantitative assessment was determined.

Results and their discussion. Signs of intoxication and death of experimental animals strictly depended on the dose of the drug solutions administered. The results of studying the acute toxicity of the drug «Gludez» with intragastric administration are summarized and the results of determining the parameters of acute toxicity of the drug are given in Tables 1 and 2.

Table 1 – Parameters of acute toxicity of the disinfectant «Gludez» for white mice

Medication	Dose, mg/kg	Number of animals	Case	Survived	Lethality, %
«Gludez»	340	8	0	10	0
«Gludez»	570	8	2	6	20
«Gludez»	680	8	4	4	50
«Gludez»	1030	8	6	2	80
«Gludez»	1210	8	8	0	100

From the data given in Table 1, it can be seen that with oral administration of the disinfectant, the average lethal dose (LD₅₀) for white mice was 680 mg / kg, and at a dose of 1030 mg / kg, the death of white mice was 80%. The total death of the experimental white mice occurred at a dose of 1210 mg/kg. At the same time, the clinical picture of poisoning in white mice began to manifest itself 10-40 minutes after oral administration of the test drug. The experimental animals showed lethargy, impaired activity in movement, they were crammed into the corners of the cage, and later their death was observed. Clonic convulsions were noted before death.

Table 2 – Data on acute toxicity of the disinfectant «Gludez» for laboratory white rats

Medication	Dose, mg/kg	Number of animals	Case	Survived	Lethality, %
«Gludez»	450	6	0	6	0
«Gludez»	610	6	1	5	16
«Gludez»	950	6	3	3	50
«Gludez»	1280	6	4	2	80
«Gludez»	1870	6	6	0	100

From the data given in Table 2, it can be seen that with oral administration of the disinfectant, the average lethal dose (LD₅₀) for laboratory rats was 950 mg / kg, and at a dose of 1280 mg / kg, the death of laboratory rats was 80%. Complete death of laboratory animals occurred at a dose of 1870 mg/kg. At the same time, there was a typical clinical picture of intoxication and death of all white rats within 3-5 hours.

The calculations showed that the LD₅₀ of the drug «Gludez» for white mice was 680 mg / kg, and laboratory rats was 950 mg/kg.

Thus, the maximum tolerated dose of «Gludez» for adult white mice is 340 mg / kg; for white rats 450 mg / kg; absolutely lethal for laboratory white mice 1210 mg / kg; for white rats - 1870 mg / kg; average lethal (LD_{50}) for white mice - 680 mg/ kg, for white laboratory rats 950 mg/kg (Graph 1).

Based on the data obtained according to GOST 12.1.007-76, the drug «Gludez» in terms of acute toxicity refers to medium-toxic substances (hazard class III).

As a result of the production tests of the preparation «Hyponat-BPO» at a rate of 0.3-0.5 l/m² and exposure of 90 min; in the quality control of disinfection for the isolation of bacteria of the genus *Bacillus* - with a single application of disinfectant «Hyponat-BPO» at a rate of 0.5 l/m² and exposure of 120 min. *Staphylococcus* and *Bacillus* bacteria were detected in the control washes from the surfaces taken before treatment in 100% of the samples from the surfaces. Thus, after a single application of the solution of disinfectant «Hyponat-BPO» on the surfaces of walls and floor of the shop of primary processing of pigs disinfection is achieved at a rate of 0.5 liters/m² and exposure of 90 minutes in the control for *staphylococcus*, and in the control for bacteria of the genus *Bacillus* - at a rate of 0.5 liters/m², but exposure of 120 minutes. We believe that «Hyponat-BPO» can be recommended for preventive and forced disinfection of wall and floor surfaces, inventory of the slaughterhouse and primary processing of pigs.

The results with «Anolyte ANK-SUPER» at the rate of 0.3-0.5 l/m² and exposure time of 90 min; when controlling the quality of disinfection by the isolation of bacteria of the genus *Bacillus*, disinfection of the surfaces of the walls and floor of the section was achieved by a single application of «Anolyte ANK-SUPER» at the rate of 0.5 l/m² and exposure time of 120 min. *Staphylococcus aureus* and *Bacillus* bacteria were detected in control washes from the surfaces in 100% of the samples before treatment. Thus, after a single application of means «Anolyte ANK-SUPER» on the surfaces of walls and floor of the shop of primary processing of pigs at a rate of 0.5 liters/m² and exposure 90 minutes achieved disinfection of 28 surfaces in the control of *staphylococcus*, and in the control of bacteria of the genus *Bacillus* - at a rate of 0.5 liters/m², but exposure 120 minutes. We believe that «Anolit ANK-SUPER» is effective for disinfection of surfaces of walls and floor, inventory of the slaughterhouse and primary processing of pigs when controlling the quality of disinfection with the use of test cultures of *staphylococcus* and bacteria of the genus *Bacillus*.

The scheme of application of innovative aldehyde disinfectant «DZPT-2» against African swine fever virus (ASF) was determined. Experiments on virulicidal activity of the disinfectant were conducted under strict compliance with biosafety requirements in the BSL-3 laboratory (Ukrainian Research Institute of Plague Control named after I. I. Mechnikov of the Ministry of Health of Ukraine). I.I. Mechnikov Institute of the Ministry of Health of Ukraine). It was found that «DZPT-2» acts virulently on the pathogen of African swine fever at a concentration of 0.5-1.0% of the active ingredient at 1-hour exposure and a rate of 300-500 ml/m². «DZPT-2» shows virulicidal properties against ASF virus at temperatures up to minus 26-24°C. It is assumed that the production of working solutions was carried out on 20% antifreeze solution at a concentration of 0.5-1.0% of the active ingredient at a dwell time of 1 hour and a rate of consumption of 300-500 ml/m². Our results were confirmed by bioanalysis as the most sensitive method of determining the viability of the pathogen. Disinfectant «DZPT-2» can be used in anti-epizootic measures for African swine fever, effectively prevent and force disinfection of animals and objects of veterinary control.

An effective domestic formulation of the preparation «Smake®» based on ChAS (alkyldimethylbenzylammonium chloride) for disinfection of objects of veterinary supervision, which has a wide spectrum of action against Gram-positive and Gram-negative bacteria, viruses and fungi, has been tested. It was established that the use of 1% working solution of «Smake®» at a rate of 350 ml/m² and exposure of 30 min is effective in infectious diseases of bacterial and viral etiology, the pathogens of which are classified as low-resistant (group 1) and resistant (group 2) according to resistance to disinfectants, in which the quality control of disinfection is assessed by the isolation of *E. coli* and *Staphylococcus aureus* bacteria. The preparation «Smake®» by the degree of impact on the body belongs to the 3rd class of moderately hazardous substances in accordance with GOST 12.1.00776., Toxicity of the preparation LD_{50} is 2.3+0.5 g/kg when injected into the stomach It is low hazardous by

the degree of volatility (4th class by the degree of volatility). It has weakly expressed cumulative properties and sensitizing effect.

The economic effect is 840 rubles at the consumption of 3.5 liters of «Smake®» concentrate per 1000 m of treated surface (in prices of 2007), which confirms the feasibility of using "Smake®" for disinfection of objects of veterinary supervision. The preparation «Smake®» does not represent ecological and sanitary-hygienic danger, as possessing the properties of quaternary ammonium compounds, does not have corrosive effect and by toxicity refers to moderately dangerous compounds, which significantly improves the environmental situation at the objects of its application.

Application of «Virocide» in poultry flocks (ratio of agent:water - 1:4 /20+60 ml/; on fogging: 10 minutes; time of action: 20 minutes; time of action in 22.5 m³) significantly ($P < 0.1\%$) reduced microbial contamination of eggshell surface (treated: 50.1 ± 129.3 ; untreated: 286.1 ± 271). *E. coli* indicator flora survived disinfection in 4% of egg samples. When a selective accumulation medium (X-bouillon) was used, *E. coli* microbes could be detected in 21% of the samples. The survival rates of *E. coli* microbes on control eggs were 22% and 51% for isolation and enrichment, respectively. The same survival rate of these bacteria on the surface of eggshells treated with conventional formaldehyde ranged from 5% to 43%.

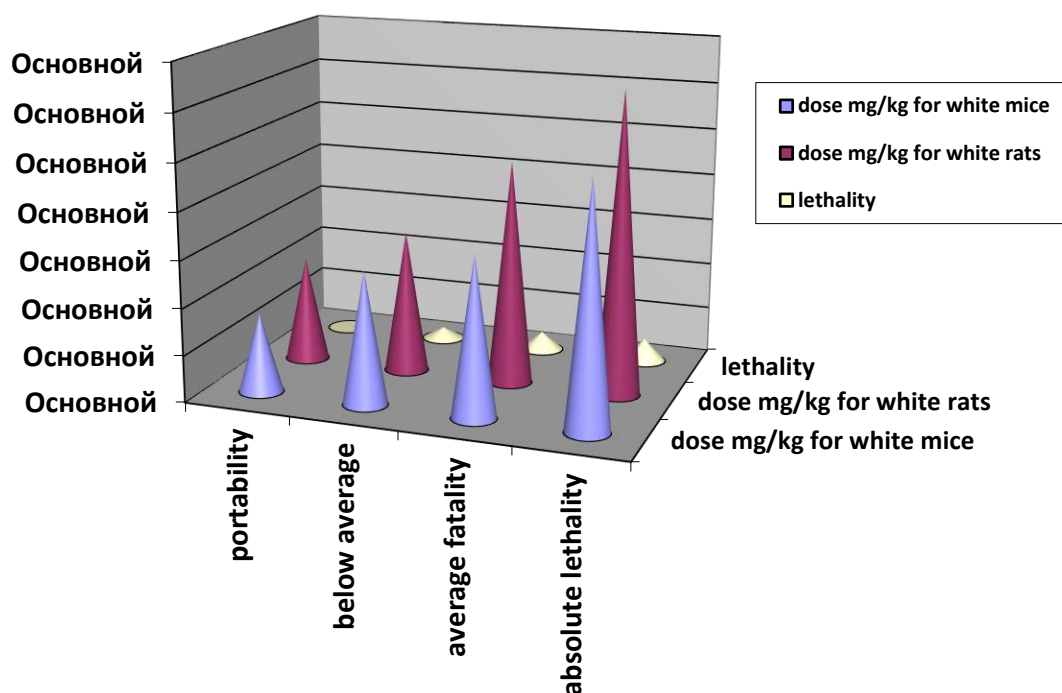
«Virocide spray» applied at a concentration of 0.2% at 43°C dramatically reduced microbial contamination of the surface of turkey eggs (treated: 2.6 ± 3.8 and 5.18 ± 12.5 ; untreated: 88 ± 112 and $152.8 \pm 164/4$ cm²). Indicator bacteria *E. coli* could not be isolated from the surface of treated eggs. The disinfectant fixed the pigmentation of turkey eggs, which could be wiped off with X-bouillon by swabbing only to a limited extent. This stabilized pigmentation could possibly serve as an indicator of effective surface disinfection.

In the present study, *Escherichia coli*, *Enterococcus faecalis* and *Enterococcus hirae* were evaluated as potential indicator organisms for the possible presence of *Salmonella Enteritidis* (SE) on laying hen farms after cleaning and disinfection by comparing their susceptibility to disinfection. A quantitative suspension disinfection test according to the European standard EN1656 was performed using CID20 and «Virocid» disinfectant products (both from CID Lines, Ieper, Belgium).

In a preliminary test, sensitivity to both disinfectant products was compared between ATCC SE, *E. coli*, *En. faecalis*, and *En. hirae* strains. The sensitivity of SE to disinfection was most comparable to that of *E. coli*. In the second disinfection test, the killing of *E. coli* was compared with SE ATCC strains as well as with field strains. The results showed no significant effect per strain ($P > 0.05$ for CID20 and virocid), meaning that no differences in sensitivity to disinfection were found. When comparing sensitivity at the species level overall for all concentrations of disinfectant used, no significant difference was found between *E. coli* and SE in sensitivity to virocid ($P > 0.05$). In conclusion, because of the similar response to disinfection in the suspension disinfection test, *E. coli* can be used as an indicator of the possible presence of *Salmonella* after cleaning and disinfection. The results of the study showed that the disinfectant «AlkoPerit» effectively inhibits the growth of bacteria *Escherichia coli* and *Pr. vulgaris*. The best results were obtained in the second experimental group, in which incubation eggs were treated with the disinfectant «Alkoperite» at a dose of 2 ml per 10 ml of incubator.

It was found that the CFU content in all experimental groups was from $1,0 \times 10^2$ to $4,0 \times 10^2$ versus $6,0 \times 10^4$ in the control group. The bacteriological efficiency of eggshell treatment with the drug «AlkoPerit» varied from 99,3 to 99,8 %. The presence of a type of *E. coli* (*E. coli*) and proteus (*Pr. vulgaris*) was found on the flushes from the surface of the eggshell. The growth of *E. coli* was suppressed in all experimental and control groups, bacteria of the genus *Pr. vulgaris* were found on the surface of eggshells in the control and fi [9-20].

Determination of the irritating effect of the drug «Gludez» on the skin and mucous membranes. In the comprehensive assessment of new compositions of disinfectants, the study of the effect of the drug on the skin and mucous membranes is of the greatest interest. In this regard, we studied the features of the locally irritating, resorptive and allergenic properties of «Gludez».



Graph 1 – Maximum tolerated dose of «Gludez»

Evaluation of the irritating effect of the drug «Gludez» was carried out on 5 rabbits, by observing changes in the mucous membranes of the eye, sclera and cornea.

The test drug in the form of a 1; 2; 3% solution was applied to the conjunctival sac of the left eye of rabbits, the right eye served as a control (sterile saline solution was applied).

After instilling the test solution into the eye for 1 minute, the nasolacrimal canal was pressed at its inner corner. Monitoring of the condition of the mucous membrane and the transparency of the cornea of the eyes of experimental animals was carried out from the moment of instillation of the solution for a week.

When a 1% solution of the drug «Gludez» was injected into the conjunctival sac of the rabbits' eyes, no visible changes were observed, and when a 3% solution was administered, hyperemia, swelling of the conjunctiva and surrounding tissues, lacrimation and photophobia were noted, which disappeared on the 5th day of the observation period.

The irritating effects of the drug on the skin were studied on 3 albino rabbits. To do this, the 8x9 cm skin areas were carefully trimmed on the back to the left and right of the spine the day before the experiment. Plastic collars were put on the rabbits' necks to exclude the licking of the test substance. A 3% solution of the drug «Gludez» was applied daily for 14 days, and distilled water was applied to the control group of rabbits. The results of the assessment of the local irritant effect of the drug «Gludez» are presented in Table 3.

As a result of the conducted research, it was found that daily application to the skin of rabbits for 10 days of a solution containing 3% «Gludez» causes only hyperemia and peeling of the skin, which disappeared on the 6th day of observations. At the end of the observation period, the skin of the subjects was evenly covered with hair and did not differ from the control area. It should be noted that a single application of the drug to the skin in its native form does not cause pronounced changes in the skin. Thus, it has been established that the drug «Gludez» does not cause pronounced local irritant effects during short-term contact.

When studying the skin-resorptive properties of the drug in a subacute experiment, mild poisoning of white rats and mice was observed after 18 applications to the skin, the clinical picture was noted in the form of a depressed state of the subjects, rapid breathing and low mobility.

Normalization of the condition occurred 15-18 hours after the last treatment. The conducted experience indicates a moderate skin-resorptive effect of the drug «Gludez».

Table 3 – Local irritant effect of the drug «Gludez» on the mucous membrane of the eye of rabbits

Eye reaction	Time of registration of the reaction of the mucous membrane of the eye (days)											
	1 hour		1		2		3		4		5	
	G	K	G	K	G	K	G	K	G	K	G	K
Hyperemia of the conjunctiva and cornea: - vessels are injected	+	-	+	-	+	-	+	-	+	-	-	-
individual vessels are difficult to distinguish	-	-	-	-	-	-	-	-	-	-	-	-
- duffuse deep redness	-	-	-	-	-	-	-	-	-	-	-	-
Swelling of the eyelids: - mild edema	+	-	+	-	+	-	-	-	-	-	-	-
- pronounced edema with partial eversion	-	-	-	-	-	-	-	-	-	-	-	-
- pronounced swelling, the eye is half closed	-	-	-	-	-	-	-	-	-	-	-	-
Excretory: - minimum amount in the corner of the eyes	+	-	+	-	+	-	-	-	-	-	-	-
- the amount of secretions moisturizes the eyelids surrounding the skin	-	-	-	-	-	-	-	-	-	-	-	-
Note: «-» - no reaction, «+» - the presence of a reaction; G - exposure to the drug «Gludez»; K - control												

Determination of allergenic effect. To study the allergenic effect of the drug «Gludez», experiments were carried out on 3 rabbits, which were previously cut off skin areas (2x3 cm) on the back, left, right of the spine and the drug was applied daily for 14 days in a 3% concentration.

After the last application, a permissive dose of the test solution of the drug was applied to the trimmed area of the rabbit skin. During two days (the observation period), the skin condition of the experimental and control areas did not change, which allows us to conclude that there is no allergenic effect of the drug «Gludez».

Conclusions. the maximum tolerated dose of «gludez» for adult white mice is 340 mg / kg; for white rats 450 mg / kg; absolutely lethal for laboratory white mice 1210 mg / kg; for white rats - 1870 mg / kg; average lethal (ld50) dose for white mice - 680 mg / kg, for white laboratory rats 950 mg/kg.

According to the parameters of acute toxicity, the drug «Gludez» belongs to medium toxic substances (hazard class III).

The drug «Gludez» (3% solution in the permitted dose) does not have allergic reactions and does not cause a pronounced local irritant effect in the recommended doses.

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ТҮЙІН

Микроорганизмдердің жалпы санын айтарлықтай азайту және қоршаған орта объектілеріндегі патогенді микрофлораны толық дезинфекциялау элементі ретінде негізгі эпизоотияға қарсы шаралар жүйесінде дезинфекция ерекше орын алады. Осыған байланысты дезинфекциялаудың, алдын алудың және емдеудің жаңа жоғары тиімді құралдарын іздеу қазіргі уақытта қоршаған ортаның экологиялық өзгерістері фонында ерекше өзекті болып табылады. Арнайы әдебиеттерді талдау қазіргі уақытта оларды қолданудың жаңа тиімді құралдары мен технологияларын жасау үрдісінің қарқынды жүріп жатқанын көрсетеді [1-8]. Қоршаған ортаның ластануын болдырмау және адамдар мен жануарлардың қауіпсіздігін қамтамасыз ету үшін дезинфекциялық құралдарға арнайы талаптар қойылады. Ыңғайлылық пен пайдаланудың қарапайымдылығы сияқты сапа да маңызды.

Осыған байланысты біз ересек ақ тышқандар үшін «Глюдездің» ең жоғары рұқсат етілген дозасын зерттедік: 340 мг/кг; ақ егеуқұйрықтар үшін 450 мг/кг; зертханалық ақ тышқандар үшін

1210 мг/кг; ақ егеуқұйрықтар үшін – 1870 мг/кг; ақ тышқандар үшін орташа өлім дозасы (LD₅₀) 680 мг/кг, ақ зертханалық егеуқұйрықтар үшін - 950 мг/кг.

Жедел уыттылық параметрлері бойынша «Глюдеза» препараты орташа улы заттарға жатады (қауіптілік класы III).

«Глюдез» препараты (3% рұқсат етілген дозадағы ерітінді) аллергиялық реакцияларсыз және ұсынылған дозаларда айқын жергілікті тітіркендіргіш әсер етпейді.

РЕЗЮМЕ

Дезинфекция занимает особое место в системе основных противоэпизоотических мероприятий, как элемент значительного снижения общей численности микроорганизмов и полного обеззараживания патогенной микрофлоры на объектах окружающей среды. В связи с этим поиск новых высокоэффективных средств для дезинфекции, профилактики и лечения в настоящее время особенно актуален на фоне экологических изменений в окружающей среде. Анализ специальной литературы показывает, что в настоящее время активизируется процесс создания новых эффективных инструментов и технологий для их применения [1-8]. К дезинфицирующим препаратам предъявляются особые требования с целью предотвращения загрязнения окружающей среды и обеспечения безопасности для людей и животных. Немаловажно и такое качество, как удобство и простота их применения.

В связи с этим нами исследовано максимально допустимая доза «Глюдеза» для взрослых белых мышей составляет 340 мг / кг; для белых крыс 450 мг / кг; для лабораторных белых мышей 1210 мг / кг; для белых крыс - 1870 мг / кг; для белых мышей средняя смертельная доза (LD₅₀) составляет 680 мг / кг, для белых лабораторных крыс-950 мг/кг.

По параметрам острой токсичности препарат «Глюдеза» относится к среднетоксичным веществам (III класс опасности).

Препарат «Глюдез» (3% раствор в допустимых дозах) не имеет аллергических реакций и не оказывает выраженного местного раздражающего действия в рекомендуемых дозах.

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