



## **THE NATIONAL VETERINARY RESEARCH INSTITUTE**

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ZCHS-067/27/18

Puławy, 28th March 2018

### ***Opinion on the MS MEGADES NOVO disinfectant***

**(MS SCHIPPERS)**

#### ***Introduction***

African swine fever (ASF) is a viral, infectious and contagious disease of domestic swine and representatives of Suidae including free-living wild boars, warthogs and red river hogs.

ASF is listed on the A list of the International Organization of Animal Health (OIE) and is subject to the reporting obligation. Currently, in Poland and neighbouring countries such as Lithuania, Latvia, Estonia and Ukraine, ASF is found in the population of free-living wild boars but also on farms with farm-breeding of pigs and commercial farms (Latvia, Lithuania, Estonia and Ukraine). To date, over 1,700 cases of ASF in wild boars and 107 outbreaks in pigs have been found in Poland. In the Baltic countries affected by the ASF problem, a similar number of outbreaks in pigs have been reported so far, however, a larger number (by several times) of wild boars infected with ASFV was identified. In July 2017, the first cases of ASF were found on the territory of the Czech Republic. To date, over 220 cases of this disease have been found in the Czech Republic in wild boars. In addition, 4 outbreaks of ASF have been recorded in Moldova since 2016, while the number of cases in wild boars has been increasing continuously.

The current epidemiological situation in Belarus and Ukraine is not clearly defined, however, it is known that in these countries ASFV is spreading in the wild and porcine animals. Due to the potential threat of ASFV spreading, many other countries, including Germany and Finland, conduct wild boar hunting to reduce their population. Due to the high epidemiological and economic significance caused by the occurrence of ASF and the lack of vaccines and other means to prevent the spread of the disease, one of the basic methods of its eradication is the use of effective disinfectants. In connection with the above, the tests carried out at the National Reference Laboratory on African swine fever (ASF) in PIWet-PIB were aimed at checking the disinfecting effect of MS MEGADES NOVO according to the guidelines of PN-EN 14675 standard "Chemical disinfectants

and antiseptics – Quantitative, suspensive method for determining the virucidal action of chemical disinfectants and antiseptics used in the veterinary field" (pl.: Chemiczne środki dezynfekcyjne i antyseptyczne - Ilościowa, zawiesinowa metoda określania wirusobójczego działania chemicznych środków dezynfekcyjnych i antyseptycznych stosowanych w obszarze weterynarii)

**Data of the applicant**

MS SCHIPPERS

**Trade name**

MS MEGADES NOVO

**The technical and medical name of the product**

MS MEGADES NOVO

**Methodology**

The disinfectant was tested at the concentrations recommended by the manufacturer, and at least in 2 concentrations below the concentration recommended by the manufacturer. The disinfectant was dissolved in hard water. Each concentration tested was subjected to the action of interfering substances: a solution containing bovine albumin and a solution containing a mixture of bovine albumin and yeast extract. The bovine enterovirus type I virus was added to the substance mixture, then the mixture of substances was transferred to a titration plate containing MEM nutrient fluid with the addition of 2% bovine albumin and the appropriate serial dilutions were made. A suspension of MDBK cells (bovine kidney epithelial cells) allowing virus multiplication was introduced into each well containing a mixture of disinfectant, nutrient, virus and interfering substance.

At the same time, virus control was carried out by transferring the appropriate virus dilutions to wells on the titration plate without the presence of the disinfectant. The results were read after the 3rd day. The cytopathic effect (CPE) was assessed in each of the wells of the plate. Based on the CPE reading, the viral titre was calculated using the TCID<sub>50</sub> index (virus titrated based on 50% of the cytopathic effect). The difference between the virus titre in the control and the virus with the addition of the test disinfection agent in the appropriate concentration was calculated.

In parallel to the tests, MDBK cell growth control was performed on each of the tested plates, and control of the disinfectant agent effect without the addition of interfering substances on MDBK cells.

The virucidal effect was considered to be a reduction in the virus titre level of about 4 log<sub>10</sub> in relation to the initial titre.

**Characteristics of the substance**

- a) Form: liquid substance, well soluble in hard water
- b) Concentrations recommended by the manufacturer: 0.75%

**Results:**

- a) The virus titre in the virus control (TCID<sub>50</sub>): 6.25 log<sub>10</sub>
- b) The viral titre in the presence of the disinfectant

	Concentration							
	1%		0.75%		0.5%		0.25%	
Interfering substances	Al.	Al.+E	Al.	Al.+E	Al.	Al.+E	Al	Al.+E
Titre (TCID <sub>50</sub> )	2.5	3.75	2.5	4.75	2.5	5.5	4.75	5.25
Difference in titres	3.75	1.5	3.75	1.5	3.75	0.75	1.5	1

Al.= Albumin, E= yeast extract, -\* = destruction of cells in the cell line culture

### Summary

Taking into account the results of the conducted tests, it is stated that the disinfectant "MS MEGADES NOVO" shows virucidal activity at the concentration declared by the manufacturer (0.75%).

The person issuing an opinion

[Signature]

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