

Product Data Sheet

Version 4.0 AUG 2023

In this Product Data Sheet typical chemical, physical and microbiological properties of **MS MegaDes Novo** are explained. All information, including recommendations for use and application of the product are based on our knowledge and experience as at the date of this document.

Product description

MS MegaDes Novo is a fast-acting universal disinfectant for use in animal housing and vehicles for animal transport, active against bacteria, viruses and yeasts. **MS MegaDes Novo** can be applied by spraying, foaming or fogging.



Appearance	Blue liquid
Odour	Citrus
Shelf life	2 years
Biodegradable	Yes
Corrosivity	Minimal
Active against	Bacteria, viruses, yeasts
Dilution rate (foaming/spraying)	0.75 %
Minimal contact time	5 min

Active ingredients

CAS-nr	Ingredient	Concentration (%)
111-30-8	Glutaraldehyde	14.7
68424-85-1	Alkyl (C12-C16) dimethylbenzylammoniumchloride	9.8

MS MegaDes Novo contains two active ingredients, glutaraldehyde and quaternary ammonium chloride (Alkyl (C12-C16) dimethylbenzylammoniumchloride, ADBAC). Glutaraldehyde is active even at high degrees of organic pollution and ADBAC will be active over a wide pH range. The combination of these two active ingredients makes the disinfectant very widely applicable.

Storage and handling

Store **MS MegaDes Novo** in the closed original container at frost free conditions in a dark and well ventilated room. Optimal storage temperature is between 4 - 30°C. Storage above and below these temperatures might adversely affect product properties.

Handle the product with care and with the right personal protection gear (protective clothing, safety goggles, gloves) and under sufficient exhaust ventilation. Further detailed safety information can be found in the **Material Safety Data Sheet**.

Standard packaging

Size (kg)	Packaging	Material	Size (L x W x H) (mm)	Color
1	Bag	PET/PA/PE	180 x 90 x 260	White
10	Can	HDPE	232 x 192 x 309	Blue
20	Can	HDPE	297 x 260 x 357	Orange
60	Can	HDPE	390 x 340 x 640	Orange
200	Drum	HDPE	Ø 581 x 935	Blue
1000	IBC	HD HMW PE	1000 x 1200 x 1000	White

Packaging sizes mentioned above are standard sizes, depending on the country other sizes might be available. Contact your local advisor for more information.

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Registration

MS MegaDes Novo is registered in the Netherlands and will be registered under BPR for:

- Use on hard surfaces and spaces in animal housing, including animal transport against bacteria, viruses and yeasts (PT3).
- Use on hard surfaces and materials that come in contact with food and feed excluding milking equipment against bacteria and yeasts (PT4).

Contact your local advisor for specific registration regulation and status in your country.

Efficacy

Standard norms were used to prove the efficacy of **MS MegaDes Novo** against various pathogens (bacteria, viruses, yeasts and fungi). All EN norms used are applicable for testing chemical disinfectants and antiseptics for the use in veterinary areas, except EN 14476, which is applicable for use in medical areas. These tests are performed in accredited labs and the effective concentration is determined according to the reduction pass criterium given in the respective norm. The conditions (type of test (suspension or surface), temperature, time and soiling level) of the test are described in the norm. These conditions have a strong influence on the effective concentration. It is not possible to compare efficacy data of different products when the test conditions are different or unknown.

Norm	Description	Reduction pass criterium
EN 1656	Quantitative suspension test for the evaluation of bactericidal activity	$\geq \log 5$ (99.999 %)
EN 1657	Quantitative suspension test for the evaluation of fungicidal or yeasticidal activity.	$\geq \log 4$ (99.99 %)
EN 14349	Quantitative surface test for the evaluation of bactericidal activity on non-porous surfaces.	$\geq \log 4$ (99.99 %)
EN 14476 EN 14675	Quantitative suspension test for the evaluation of virucidal activity.	$\geq \log 4$ (99.99 %)
EN 16438	Quantitative surface test for the evaluation of fungicidal or yeasticidal activity on non-porous surfaces.	$\geq \log 3$ (99.9 %)

APHA: Disinfectant test in accordance with the guidelines for the testing of disinfection procedures and chemical disinfectants of the Animal and Plant Health Agency (UK).

WBVR and BDTL-SOP-3: laboratory specific tests.

VIRUCIDAL EFFICACY						
Organism	Norm	Medium	Time (min)	Temperature (°C)	Soiling*	Effective Concentration (%)
Avian Influenza (HPAI, H5N8)	WBVR	Suspension	30	4	none	0.75
African Swine Fever	BDTL-SOP-3	Suspension	30	4	none	0.25
Bovine Enterovirus type 1 (ECBO)	EN 14675	Suspension	5	10	3 g/L BA	0.75
Feline Coronavirus	EN 14476	Suspension	5	20	3 g/L BA + 3 g/L SE	0.15
Foot and Mouth disease	APHA	Suspension	30	4	FBS	3.00
Newcastle disease	APHA	Suspension	30	4	5% BY	1.00
Vaccinia virus	EN 14675	Suspension	5	10	3 g/L BA	0.75

*BA = Bovine Serum Albumin, BY = Baker's Yeast, FBS = Fetal Bovine Serum, SE = Sheep Erythrocytes.

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BACTERICIDAL EFFICACY						
Organism	Norm	Medium	Time (min)	Temperature (°C)	Soiling*	Effective Concentration (%)
<i>Brachyspira hyodysenteriae</i>	EN 1656	Suspension	30	30	3 g/L BA	0.125
<i>Campylobacter jejuni</i>	EN 1656	Suspension	30	30	3 g/L BA	0.050
<i>Clostridium perfringens</i>	EN 1656	Suspension	30	30	3 g/L BA	TBD
<i>Corynebacterium pseudotuberculosis</i>	EN 1656	Suspension	5	10	3 g/L BA	0.50
<i>Enterococcus hirae</i>	EN 1656	Suspension	5	10	3 g/L BA	0.25
	EN 14349	Non-porous	5	10	3 g/L BA	0.50
<i>Escherichia coli</i>	EN 1656	Suspension	30	30	3 g/L BA	0.050
<i>Mycoplasma hyopneumoniae</i>	EN 1656	Suspension	10	10	0.3 g/L BA	0.75
<i>Ornithobacterium rhinotracheale</i>	EN 1656	Suspension	30	30	3 g/L BA	0.125
<i>Pasteurella multocida</i>	EN 1656	Suspension	30	30	3 g/L BA	0.125
<i>Pseudomonas aeruginosa</i>	EN 1656	Suspension	5	10	3 g/L BA	0.25
	EN 14349	Non-porous	5	10	3 g/L BA	0.50
<i>Proteus vulgaris</i>	EN 1656	Suspension	5	10	3 g/L BA	0.25
	EN 14349	Non-porous	5	10	3 g/L BA	0.50
<i>Salmonella enteritidis</i>	EN 1656	Suspension	30	30	3 g/L BA	0.050
	APHA	Suspension	30	4	5% BY	2.00
<i>Salmonella typhimurium</i>	EN 1656	Suspension	30	30	3 g/L BA	0.125
<i>Staphylococcus aureus</i>	EN 1656	Suspension	5	10	3 g/L BA	0.25
	EN 14349	Non-porous	5	10	3 g/L BA	0.25
<i>Staphylococcus hyicus</i>	EN 1656	Suspension	30	30	3 g/L BA	0.050
<i>Streptococcus suis</i>	EN 1656	Suspension	30	30	3 g/L BA	0.050

*BA = Bovine Serum Albumin, BY = Baker's Yeast.

FUNGICIDAL / YEASTICIDAL EFFICACY						
Organism	Norm	Medium	Time (min)	Temperature (°C)	Soiling*	Effective Concentration (%)
<i>Aspergillus brasiliensis</i>	EN 1657	Suspension	30	30	3 g/L BA	3.00
	EN 16438	Non-porous	5	10	3 g/L BA	2.00
<i>Candida albicans</i>	EN 1657	Suspension	5	10	3 g/L BA	0.75
	EN 16438	Non-porous	5	10	3 g/L BA	0.75

*BA = Bovine Serum Albumin, BY = Baker's Yeast, FBS = Fetal Bovine Serum.

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Influence of antifreeze

Tests were performed in water and in a 1:1 mixture of water:antifreeze (ethylene glycol) according to EN 1656 with 3 g/l BA as interfering substance at 4°C with an exposure time of 5 min. The influence on the effective concentration was limited.

Usage calculation

SPRAYING / FOAMING

Wetting	0.4 L/m ²
Concentration	0.75 %
Density	1.05 kg/L

Amount of **MS MegaDes Novo** needed for 1 m²:
 $0.0075 * 0.4 = 0.003 \text{ L/m}^2$

Area that can be disinfected with 1 kg **MS MegaDes Novo**:
 $1 / (0.003 * 1.05) = 317 \text{ m}^2$

FOGGING*

Wetting	20 g/m ³
Concentration	5 %

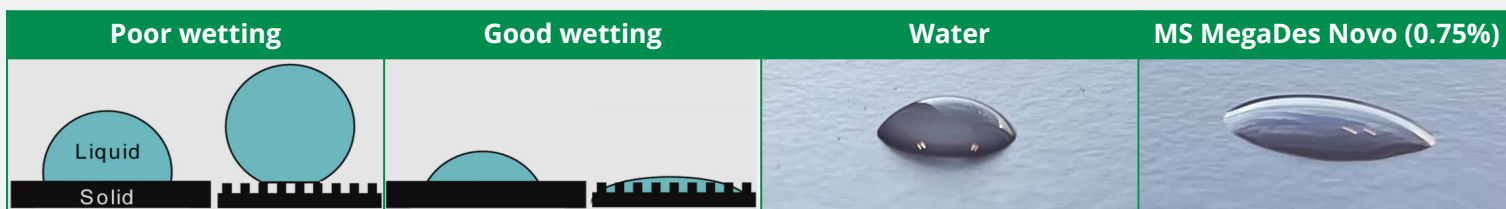
Amount of **MS MegaDes Novo** needed for 1 m³:
 $0.05 * 20 = 1.0 \text{ g/m}^3$

Area that can be disinfected with 1 kg **MS MegaDes Novo**:
 $1 / 0.001 = 1000 \text{ m}^3$

**These concentrations are advised between 10 - 30°C and 50 - 70%RH. For other environmental conditions, please contact your advisor.*

Wetting

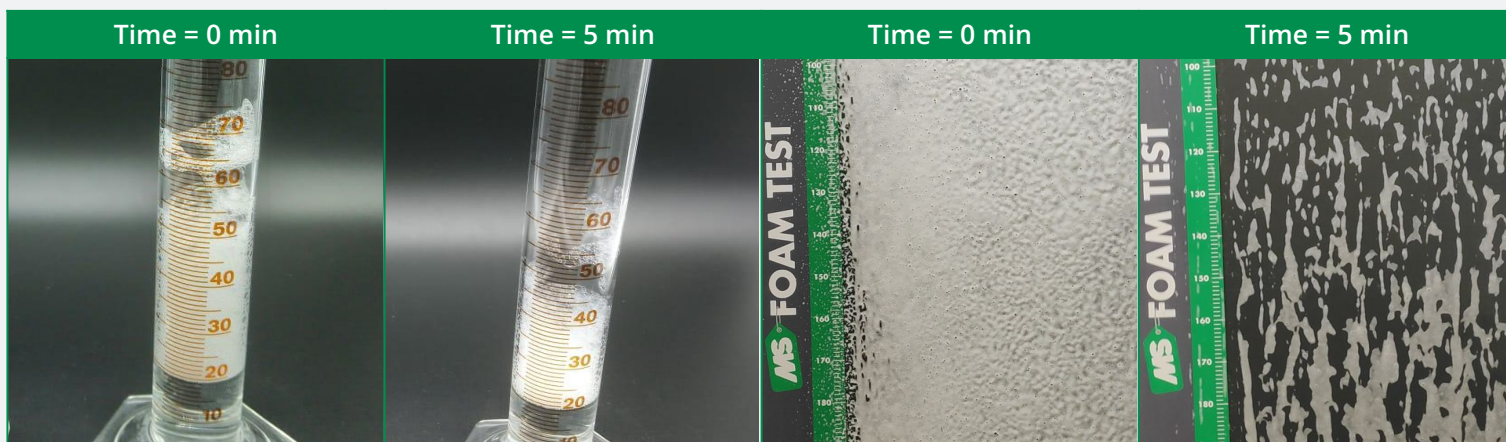
The wetting of **MS MegaDes Novo** on a coated surface was compared with water. The better the wetting of a product, the better the spreading of the product on the surface and the better the contact. This will result in better disinfection. The shape of a droplet on a surface is a measure of the wetting. The flatter the droplet is, the better the wetting. The wetting of **MS MegaDes Novo** at use concentration is much better than water.



Foaming

The foaming capacity of **MS MegaDes Novo** was tested in a lab test and by spraying the product on the wall. The pictures below on the left show the amount of foam generated by the product in a measuring cylinder after shaking and the decrease over time.

On the right are pictures taken at a certain time after spraying the diluted product on a coated non-porous wall. **MS MegaDes Novo** generates a foam that will adhere to vertical surfaces for at least the minimal contact time (5 minutes), what makes it suitable to use in stables with many vertical surfaces.



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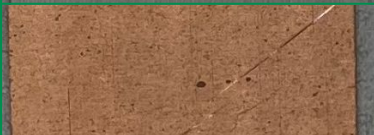
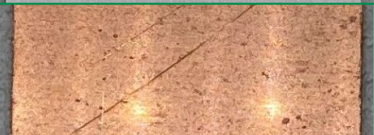
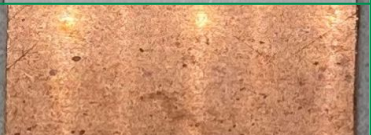
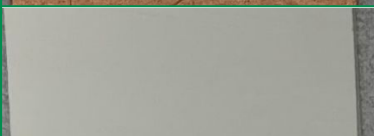
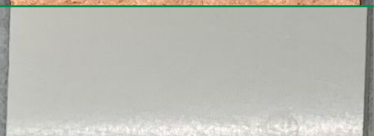
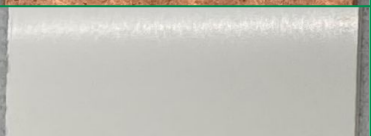

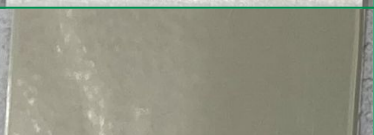

Corrosivity

The interaction of **MS MegaDes Novo** with various materials (metals and plastics) was determined in a coupon immersion and mass loss test. Coupons of the various materials were immersed into a 1% solution of **MS MegaDes Novo** for 7 days (168 hours). This time is equivalent to more than 2000 times soaking for 5 minutes. The corrosion rate was calculated using the following formula:

$$Rc = K \times \frac{W}{A \times T \times D}$$

where:
Rc = corrosion rate (mm/y)
K = constant (= 87600)
W = mass loss (g)
A = area (cm²)
T = exposure time (h)
D = density (g/cm³)

Material	Corrosion rate (mm/y)
Aluminium	< 0.05
Galvanized iron	< 0.05
Stainless steel (RVS 304)	< 0.05
Copper	< 0.05
Polyvinyl chloride (PVC)	< 0.05
Polypropylene (PP)	< 0.05

	Initial	Tap water*	MS MegaDes Novo*
Aluminium			
Galvanized iron			
Stainless steel (RVS 304)			
Copper			
Polyvinyl chloride (PVC)			
Polypropylene (PP)			

*Materials were immersed in solution for 168 hours.

MS MegaDes Novo is not corrosive to the various materials tested in the concentration used for foaming or spraying. All corrosion rates are lower than 0.05 mm/y and there is no visual difference before and after immersion. Therefore it is safe to use **MS MegaDes Novo** on the most common materials used in livestock farming.

Disclaimer

All results and recommendations made in this document are based on tests performed with MS Schippers materials. The Schippers Group recommends strongly to perform tests at the location of use and with the local application equipment to ensure the optimal use of the product. Contact your local advisor for assistance.



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