



Sustainable Cleaning Solutions

ABN: 42 138 432 194



VIRI-DIS

Disinfectant / Virucide / Fungicide

FEATURES	AREAS OF USE
<ul style="list-style-type: none">• US EPA registered formulation• Anti-bacterial• Anti-viral (will kill HIV and Hepatitis C)• Anti-fungal• Pleasant fragrance	<ul style="list-style-type: none">• Prisons• Hospitals• Aged Care• Institutions• Hospitality• Vet Clinics

Description

VIRI-DIS is designed for the cleaning and disinfecting of a wide range of hard surfaces, it is particularly effective in critical areas where a high level of disinfection is essential.

This product is an alkaline disinfectant/cleaner formulated with a powerful blend of specialised new generation quaternary ammonium compounds.

VIRI-DIS has been laboratory tested and proven effective against a wide range of bacteria, viruses and fungi.

Directions for Use

Dilute 1 part **VIRI-DIS** to 63 parts water (1:64). Best results are obtained with hot water. Cleaning solution should be allowed to contact surface for at least 10 minutes.

Efficacy data is detailed in the following pages.

Safety Information

VIRI-DIS is classified as an 'Irritant' according to the GHS criteria.

Please refer to the Safety Data Sheet (SDS) for a full First Aid procedure before using this product.

Packaging: 5lt, 15lt, 200lt



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Efficacy data - Disinfectant

Test Method: (AOAC Official test method, 14th edition. Use-dilution method)
Dilution rate: 1:64
Contact time: 10 minutes
Organic soil loading: 5%
Water hardness: 400ppm as CaCO₃

Organism	ATCC number	No. of replicates	Results
Acinetobacter baumannii	19606	10,10	0/10, 0/10
Brevibacterium ammoniagenes	6871	10, 10, 10	0/10, 0/10, 0/10
Campylobacter jejuni	29428	10,10	0/10, 0/10
Enterobacter aerogenes	13408	10, 10, 10	0/10, 0/10, 0/10
Enterococcus faecalis	11700	10, 10, 10	0/10, 0/10, 0/10
Enterococcus faecalis - Vy resistant	51299	10, 10	0/10, 0/10
Esheria coli	11229	10, 10, 10	0/10, 0/10, 0/10
Klebsilla pneumoniae	4352	10, 10, 10	0/10, 0/10, 0/10
Legionella pneumophila	33153	10, 10	0/10, 0/10
Pseudomonas aeruginosa	15442	60, 60, 60, 40	0/60, 0/60, 0/60, 0/40
Pseudomonas cepacia	17765	10, 10	0/10, 0/10
Pseudomonas cepacia	25416	10, 10	0/10, 0/10
Pseudomonas cepacia	25608	10, 10	0/10, 0/10
Salmonella (choleraesuis) enterica	10708	60, 60, 60, 40	0/60, 0/60, 0/60, 0/40
Salmonella schottmuelleri	10719	10, 10, 10	0/10, 0/10, 0/10
Salmonella typhi	6539	10, 10, 10	0/10, 0/10, 0/10
Serratia marcescens	274	10, 10, 10	0/10, 0/10, 0/10
Shigella dysenteriae	9380	10, 10, 10	0/10, 0/10, 0/10
Staphylococcus aureus	6538	60, 60, 60, 40	0/60, 0/60, 0/60, 0/40
Staphylococcus aureus ¹	33592	10, 10	0/10, 0/10
Staphylococcus aureus ²	14154	10, 10	0/10, 0/10
Staphylococcus aureus ³ (VISA)	CDC HIP-5836	10, 10	0/10, 0/10
Streptococcus pyogenes	12344	10, 10, 10	0/10, 0/10, 0/10
Virbrio cholerae	14035	10, 10	0/10, 0/10

¹ Methicillin Resistant strain - (MRSA), ² Multi drug Resistant, ³ Reduced susceptibility to Vancomycin

Conclusion: Viri-Dis effectively kills the above organisms as specified in the US EPA test performance standards. Viri-Dis meets US EPA requirements for hard surface disinfectant claims when diluted 1:64.



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VIRI-DIS

Efficacy data - Virucide

Test Method: (US EPA guidelines)
 Dilution rate: 1:64
 Contact time: 10 minutes
 Organic soil loading: 5%
 Water hardness: 400ppm as CaCO₃

Organism	Source of Virus or ATCC number	Host system; cytopathic effect	No. of replicates	Results Log ₁₀ reduction
Adenovirus Type 5 ⁴	ATCC VR-5	Human Epithelioma #2 cells; lytic cytopathic effect	4	>4.0
Adenovirus Type 7 ⁴	ATCC VR-7	H1-HeLa, ATCC CRL-1958	3,3	>4.0
Hepatitis B (HBV)	Hepadnavirus testing	Hepatitis B (w/ 5% serum)	4,4	>4.2, >4.2
Hepatitis C (HCV)	Bovine Viral Diarrhea Virus	MDBK cells	2	>5.0
Herpes Simplex Type 1	HSV-1 Sabin	Human Epithelioma #2 cells; lytic cytopathic effect	8	>4.0
Herpes Simplex Type 2	HSV-II Sabin (CL5)	Human Epithelioma #2 cells; lytic cytopathic effect	8	>3.5
HIV-1 (AIDS virus) ⁵	HTLV-IIIB; Electronucleonics Inc.	MT2 cells; lytic cytopathic effect	4	>4.5
Human Coronavirus	ATCC VR-740	MRC-5 cells	2	>3
Influenza A/Brazil	A/Brazil 11/78 (H1N1) E-7, CDC	10-day, chick embryo; death of embryo	4	>5.5
Norwalk (Feline Caliciviruses the surrogate for Norwalk virus)	Feline Caliciviruse (FSV) University of Ottawa	Crandell feline kidney (CrFK) cells	3,3,3,3	>6.59, >6..58
SARS associated Coronavirus	SARS associated Coronavirus strain 200300392	Veri E6 cells	4	>3.67
Respiratory Syncytial Virus	VR-26	Hep-2 (Human Larynx carcinoma)	2	>4.75
Rotavirus	Strain WA	MA 104 cells	8	>5.5
Vaccinia	Wyeth strain	Human Epithelioma #2 cells fed with MEM ₉₅ CS ₅	8	>5.0

⁴Dilution of 1:16

⁵ Contact time 1 minute

Conclusion: Viri-Dis effectively inactivates the above viruses as specified in the US EPA test performance standards. **Viri-Dis** meets US EPA requirements for hard surface virucidal claims when diluted 1:64.



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VIRI-DIS

Efficacy data - Virucide (animal viruses)

Test Method: (US EPA guidelines)
Dilution rate: 1:64
Contact time: 10 minutes
Organic soil loading: 5%
Water hardness: 400ppm as CaCO₃

Organism	Source of Virus or ATCC number	Host system; cytopathic effect	No. of replicates	Results Log ₁₀ reduction
Avian Influenza (H ₃ N ₂)	Avian Influenza (H ₃ N ₂) Virus ATCC VR 2072 Strain A/Washington/897/8 OX A/Mallard/ New York/ 6750/78	Embryonated Chicken Eggs	4,4,4	≥4.3
Avian Influenza (H ₅ N ₁)	Strain H5N1 - PR8/CDC-RG CDC#2006719965	Rhesus Monkey Kidney Cells (RMK)	4,4,4	≥4.0
Canine Distemper Virus	Canine Distemper Strain Ondestpoort	Vero CCL-81	2	>4.0
Feline Calicivirus	Feline Calicivirus (FSV) Univ. of Ottawa	Crandell Feline Kidney (Crfk cells)	3,3,3,3	>6.59, >6.58
Newcastle Disease Virus	NDV Atcc VR-108 Strain B-1 Hitchner and Blacksburg	Embryonated Chicken Eggs	4,4	>4.0
Pseudorabies Virus	PRV Strain Aujesczkies PT-1 Origin	MDBK Cells	2	>4.0

Conclusion: Viri-Dis effectively inactivates the above animal viruses as specified in the US EPA test performance standards. Viri-Dis is an effective virucide for non porous inanimate hard surfaces when diluted 1:64.



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VIRI-DIS

Efficacy data - Fungicide & Mildewstat

Test Method: Official Method of Analysis of the AOAC, Fungicidal Test
 Dilution rate: 1:64
 Contact time: 10 minutes
 Organic soil loading: Pre-cleaned
 Water hardness: 400ppm as CaCO₃

Organism	ATCC number	No. of replicates	Results		
			5 mins	10 mins	15 mins
Trichophyton mentagrophytes	9533	4	0/4 +	0	0

Test Method: Official Method of Analysis of the AOAC, Fungicidal Test Use Dilution
 Dilution rate: 1:32
 Contact time: 10 minutes
 Organic soil loading: 5%
 Water hardness: 400ppm as CaCO₃

Organism	ATCC number	No. of replicates	Results
Trichophyton mentagrophytes	9533	10, 10	0/10, 0/10

Test Method: Mildewstat (Mould and mildew control) - EPA - TSD 6-201 mildewstat on hard surfaces
 Dilution rate: 1:64
 Contact time: 10 minutes
 Organic soil loading: 5%
 Water hardness: 400ppm as CaCO₃

Organism	ATCC number	No. of replicates	Results
Aspergillus niger	6275	10, 10, 10	0/10, 0/10, 0/10

Conclusion: Viri-Dis effectively kills Trichophyton mentagrophytes as specified in the test performance standards. Viri-Dis is an effective fungicide for non porous inanimate hard surfaces when diluted at either 1:64 on pre-cleaned surfaces or at 1:32 in the presence of 5% organic soil (dirty surfaces). Viri-Dis effectively kills Aspergillus Niger as specified in the test standards. Viri-Dis is an effective mildewstat for non porous inanimate hard surfaces when diluted at 1:64.



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Summary of Antimicrobial efficacy - Bacterial Disinfection

Viri-Dis effectively kills the organisms listed below when diluted 1:64 with a contact time of at least 10 minutes.

Organism	Potential Health Effects ⁶
Acinetobacter baumannii	A nosocomial (hospital acquired) infection can cause septicemia, meningitis and urinary tract infections.
Brevibacterium ammoniagenes	Associated with industrial contamination.
Campylobacter jejuni	Associated with acute gastroenteritis. Spread by anal/oral route resulting in diarrhea outbreaks
Enterobacter aerogenes	Associated with bacteremia, respiratory, wound and urinary tract infections.
Enterococcus faecalis	Can cause life threatening hospital acquired (nosocomial) infections such as endocarditis.
Eshericia coli	Can result in diarrhea outbreaks. Associated with urinary tract infections and bacteremia.
Klebsilla pnuemoniae	Associated with severe pneumonia, urinary tract infections and bacteremia.
Legionella pneumophilia	Its' presence in water can cause legionellosis (respiratory infection)
Pseudomonas aeruginosa	Causes wound infections, meningitis, pneumonia and eye infections.
Pseudomonas cepacia	Causes septicemia, wound infections, meningitis, pneumonia and eye infections especially in the chronically ill.
Salmonella (choleraesuis) enterica	Causes acute gastroenteritis and septicemia.
Salmonella schottmuelleri	Causes acute gastroenteritis and diarrhea
Salmonella typhi	Causes acute gastroenteritis and diarrhea. Causative agent for typhoid fever.
Serratia marcescens	Urinary tract infections, meningitis and septicemia.
Shigella dysenteriae	Causes bacillary dysentery.
Staphylococcus aureus	Major cause of hospital acquired (nosocomial) infections. Causes wound infections, septicemia, endocarditis, meningitis, osteomyelitis and pneumonia. Causes food poisoning by colonising food and secreting enterotoxins.
Staphylococcus faecalis	Causes haemolysis, urinary tract infections and endocarditis.
Streptococcus pyogenes	Causes haemolysis, urinary tract infections and endocarditis. Causative agent or sore throats.
Virbrio cholerae	Causative agent for cholera causes severe diarrhea - often fatal.

⁶ Microbiology; D. Kingsbury and G. Wagner



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Summary of Antimicrobial efficacy - Virus Inactivation

Viri-Dis effectively inactivates the viruses listed below when diluted 1:64 with a contact time of at least 10 minutes.

Virus	Potential Health Effects⁷
Adenovirus Type 5	Causative agent of colds and other respiratory ailments
Avian Influenza H ₃ N ₂	A subtype of Influenza A. Can infect humans and pigs. This virus has now mutated into many strains.
Canine Distemper virus	Causes Distemper - a contagious, incurable and often fatal multisystemic viral disease that affects the respiratory, gastrointestinal, and central nervous systems.
Feline Calicivirus (Norwalk)	Affects the upper respiratory system, the eyes, the musculoskeletal system and the gastrointestinal tract.
Herpes simplex Type 1&2	May result in oral mucocutaneous lesions. Associated with most orofacial herpes and HSV encephalitis.
Hepatitis B (HBV)	Causes Hepatitis B
Hepatitis C (HCV)	Causes Hepatitis C - a chronic liver disease.
HIV-1 (AIDS Virus)	Causative agent of Acquired Immunodeficiency Syndrome (AIDS)
Human Coronavirus	Associated with respiratory infections.
Influenza A / Brazil	Causes influenza
Newcastle Disease Virus	Can affect most species of birds. Fatality rate of almost 100% can occur in unvaccinated poultry flocks. Can infect vaccinated poultry.
Pseudorabies virus	A swine disease that is endemic in most parts of the world. Known as Aujeszky's disease and in cattle as mad itch.
Respiratory Syncytial Virus	Can cause lower respiratory infections in children under 2 and mild upper respiratory infections in older children and adults.
SARS associated Coronavirus	Severe Acute Respiratory Syndrome
Vaccinia	Causes pox virus infections.

⁷ Microbiology; D. Kingsbury and G. Wagner



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Summary of Fungicidal and Mildewcidal properties

Viri-Dis effectively kills the fungi listed below when diluted as specified with a contact time of at least 10 minutes.

Fungi	Surface condition	Dilution rate	Potential Health Effects ⁸
Trichophyton mentagrophytes	Pre cleaned	1:64	Tinea (Athlete's foot) fungus. Found in shower and dressing rooms.
Trichophyton mentagrophytes	Dirty	1:32	Tinea (Athlete's foot) fungus. Found in shower and dressing rooms.
Aspergillus niger	Dirty	1:64	Black mould found in shower and dressing rooms. Can cause aspergillosis.

⁸ Microbiology; D. Kingsbury and G. Wagner