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Product Name VIRI-DIS SV

Classified as hazardous

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name VIRI-DIS SV

Company Name Sustainable Cleaning Solutions Pty Ltd

Address 6 Lakewood Boulevard Braeside

VIC 3195 Australia

Emergency Tel. 0417 807 780

 Telephone/Fax
 Tel: (03) 9580 2499

 Number
 Fax: (03) 9580 2488

Recommended Use A specialised disinfectant for bacteria, virus and fungus control.

2. HAZARDS IDENTIFICATION

Hazard Classified as hazardous
Classification HAZARDOUS SUBSTANCE.
NON-DANGEROUS GOODS.

Classified as Hazardous according to criteria of National Occupational Health

& Safety Commission, Australia (NOHSC).

Not Classified as Dangerous Goods according to the Australian Code for the

Transport of Dangerous Goods by Road and Rail. (7th edition)

Risk Phrase(s) Classified as hazardous

R36/38 Irritating to eyes and skin.

Safety Phrase(s) S2 Keep out of reach of children.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S45 In case of accident or if you feel unwell seek medical advice immediately S61 Avoid release to the environment. Refer to special instructions/safety

data sheet.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Liquid

Characterization

Ingredients	Name	CAS	Proportion
	Water	7732-18-5	60-100 %
	Other ingredients determined not to be hazardous	Not required	0-10 %
	Quaternary Ammonium Compound	63449-41-2	5-10 %
	Surfactants		0-10 %

4. FIRST AID MEASURES

Inhalation Remove from exposure. Move to fresh air. If symptoms persist, see a doctor.

Ingestion Rinse mouth with water. Do not induce vomiting. Give a glass of water or milk

to be taken slowly. Seek medical advice.

Skin If skin contact occurs, remove contaminated clothing and wash skin thoroughly.

Eye If in eyes, hold eyes open, flood with water for at least 15 minutes and see a

doctor.

Advice to Doctor Product contains a quaternary ammonium salt and detergent in solution. Contact

Poisons Information Centre.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Print Sate: 7/09/2015

Use extinguishing media appropriate to surrounding fire. Use water spray to

guishing Media cool containers and surrounds.

Specific Hazards Not flammable.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal of small spillages only. For large spillages liquids should be

contained using sand or earth, and both liquids and solids then transferred to

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salvage containers. Residues should be treated as for small spillages. CAUTION: Before dealing with spillage take necessary protective measures, inform others to keep at a safe distance and, for flammable materials, shut off all possible sources of ignition. CARE! Spillages will be slippery. If local regulations permit, mop up with plenty of water and run to waste, diluting greatly with running water. Otherwise absorb on inert absorbent, transfer to container and arrange removal by disposals company. Wash site of spillage thoroughly with water. Ventilate area to dispel any residual vapours.

7. HANDLING AND STORAGE

Conditions for Safe Storage

Store in a cool, well ventilated place, out of reach of children. Large quantities should be stored in a bunded area. Store in original container. Keep away from acids and oxidising agents. Prevent vapours from collecting in low lying or enclosed spaces. Protect from physical damage. Clean up all spills and splashes promptly; avoid secondary accidents. Prevent release into the environment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Other Exposure Information Engineering No value assigned by the National Occupational Health and Safety Commission (NOHSC).

(NOHSC

None required for normal use. Maintain adequate ventilation at all times.

Controls Personal Protective Equipment

Avoid contact with the skin and eyes. Personal protection to be selected from those recommended below, as appropriate to mode of use, quantity handled and degree of hazard:-

Safety glasses, where risk of splashing exists

Gloves, rubber or plastic, when handling concentrate or in case of

prolonged contact.

Always maintain a high level of personal hygiene when using this product. That is wash hands before eating, drinking, smoking or using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Liquid

Appearance

Clear green mobile liquid

Odour

Lime fragrance.

Boiling Point

100C

Solubility in Water

Miscible at all concentrations

Specific Gravity

1.0

pH Value

11.5 - 12.5

Vapour Pressure

No data

Flash Point

None

Flammability

Not flammable.

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under normal use conditions.

Conditions to Avoid

Heat, flames, ignition sources and incompatibles.

Incompatible

Strong alkalis, acids, oxidizing agents

Materials Hazardous

Water vapour, carbon dioxide, oxides of nitrogen, trace of hydrogen chloride.

Decomposition

Products

11. TOXICOLOGICAL INFORMATION

Toxicology Information No adverse health effects are expected, if the product is handled in accordance with this Material Safety Data Sheet and the product label. Symptoms and effects that may arise if the product is mishandled and

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overexposure occurs are:

Inhalation Aspiration (breathing in) of liquid spray or mist liable to cause irritation

of respiratory tract.

Ingestion Quaternary ammonium salts are moderately toxic and corrosive. Irritant to

throat and mucous membranes. When diluted as directed, may cause discomfort

and possible nausea.

Skin May cause irritation on prolonged contact with the concentrate. When diluted

as directed, irritant effects are unlikely.

Eye Concentrated product may cause burns to the eyes. When diluted as directed,

causes discomfort.

Chronic Effects Repeated skin contact with the concentrate may lead to dermatitic effects.

Acute Toxicity - Oral LD50: Quaternary ammonium salt 366 mg/kg oral, rat

Surfactant 3,000 mg/kg oral, mouse

12. ECOLOGICAL INFORMATION

Persistence/ Major components are readily biodegradable.

Degradability
Information on
Ecological Effects

Harmful to aquatic life.

Ecological Effects
Environ. Protection A

Avoid contaminating waterways, drains, sewers, or ground.

13. DISPOSAL CONSIDERATIONS

Waste Disposal

Do not dump large quantites into biological treatment ponds. Laboratory data indicates that is quaternary ammonium compounds are discharged steadily at low concentrations (<15mg/l), it may be expected that these salts can be degraded in sewage treatment plants by acclimatised organisms. Before discharging to sewer, contact local authority. Contact local Waste Disposal Authority before all major disposal problems.

14. TRANSPORT INFORMATION

Transport Information Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. REGULATORY INFORMATION

Regulatory Information Classified as hazardous HAZARDOUS SUBSTANCE. SCHEDULED POISON.

Classified as Hazardous according to criteria of National Occupational Health

& Safety Commission, Australia (NOHSC).

Classified as a Scheduled Poison according to the Standard for the Uniform

Scheduling of Medicines and Poisons (SUSMP).

Poisons Schedule S5

Hazard Category Irritant

AICS (Australia) All components listed.

16. OTHER INFORMATION

Signature of

Technical Manager 03 9580 2499

Preparer/Data Service

Technical Contact Emergency Advice All Hours:

Poisons Information Centre: 13 11 26 - 24hrs

Other Information This MSDS summarises at the date of issue our best knowledge of the

health and safety hazard information of the product, and in particular how to safely handle and use the product in the Workplace. Please refer to the technical datasheet (Instructions for use), and the label on the drum. The company cannot anticipate or control the individual working conditions encountered and so each user should read this MSDS carefully, and if in

doubt ring the Contact Point Number given below.

...End Of MSDS...

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ABN: 42 138 432 194



VIRI-DIS SV

SUSTAINABLE VET RANGE DISINFECTANT / VIRUCIDE / FUNGICIDE

FEATURES	AREAS OF USE
 US EPA registered formulation Anti-bacterial Anti-viral (will kill HIV and Hepatitis C) Anti-fungal Pleasant fragrance 	 Prisons Hospitals Aged Care Institutions Hospitality Vet Clinics

Description

VIRI-DIS is an alkaline disinfectant/cleaner formulated with a powerful blend of specialised new generation quaternary ammonium compounds. 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.

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 classed as an irritant substance. Avoid contact with the neat product at all times. VIRI-DIS is considered non hazardous when diluted to 1:64. Ensure when using neat VIRI-DIS the user wears the Personal Protective Equipment stated on the Material Safety Data Sheet.

If poisoning occurs contact a doctor or Poisons Information Centre Australia on 13 11 26. If in eyes, hold eyes open and flood with plenty of clean water- seek medical advice if necessary. If swallowed do not induce vomiting, give water to drink and seek medical attention. If skin or hair contact occurs, wash area thoroughly with clean water.

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	
Eshericia coli	11229	10, 10, 10	0/10, 0/10, 0/10	
Klebsilla pnuemoniae	4352	10, 10, 10	0/10, 0/10, 0/10	
Legionella pneumophilia	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 SV

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	Host system; cytopathic	No. of	Results
	ATCC number	effect	replicates	Log ₁₀
			-	reduction
_		Human Epithelioma #2 cells;		
Adenovirus Type 54	ATCC VR-5	lytic cytopathic effect	4	>4.0
Adenovirus Type 74	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
	Bovine Viral	MDBK cells		
Hepatitis C (HCV)	Diarrhea Virus		2	>5.0
		Human Epithelioma #2 cells;		
Herpes Simplex Type 1	HSV-1 Sabin	lytic cytopathic effect	8	>4.0
		Human Epithelioma #2 cells;		
Herpes Simplex Type 2	HSV-11 Sabin (CL5)	lytic cytopathic effect	8	>3.5
	HTLV-IIIB;	MT2 cells; lytic cytopathic	.	
HIV-1 (AIDS virus) ⁵	Electronucleonics Inc.	effect	4	>4.5
Human Coronavirus	ATCC VR-740	MRC-5 cells	2	>3
	A/Brazil 11/78 (H1N1) E-	10-day, chick embryo; death		
Influenza A/Brazil	7, CDC	of embryo	4	>5.5
Norwalk (Feline Caliciviruses the	Feline Caliciviruse (FSV)	Crandell feline kidney (CrFK)		>6.59,
surrogate for Norwalk virus)	University of Ottawa	cells	3,3,3,3	>658
	SARS associated	Veri E6 cells		
	Coronavirus strain			To a second seco
SARS associated Coronavirus	200300392		4	>3.67
		Hep-2 (Human Larynx		
Respiratory Syncytial Virus	VR-26	carcinoma)	2	>4.75
Rotavirus	Strain WA	MA 104 cells	8	>5.5
		Human Epithelioma #2 cells		
Vaccinia	Wyeth strain	fed with MEM95CS5	8	>5.0

⁴Dilution of 1:16

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.

⁵ Contact time 1 minute



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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	Host system; cytopathic	No. of	Results
	ATCC number	effect	replicates	Log10
				reduction
	Avian Influenza (H3N2) Virus ATCC VR 2072		<u> </u>	
Avian Influenza (H3N2)	Strain A/Washington/897/8 OX	Embryonated Chicken Eggs	4,4,4	<u>></u> 4.3
	A/Mallard/ New York/ 6750/78	A/Mallard/ New York/		derive Abustin
Avian Influenza (H5N1) Strain H5N1 - PR8/CDC- RG CDC#2006719965		Rhesus Monkey Kidney Cells (RMK)	4,4,4	<u>></u> 4.0
Canine Distemper Virus Canine Distemper Strain Ondestpoort		Vero CCL-81	2	>4.0
Feline Calicivirus (FSV) Univ. of Ottawa		Crandell Feline Kidney (Crfk cells)	3,3,3,3	>6.59, >6.58
NDV Atcc VR-108 Strain Newcastle Disease Virus 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 SV

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	- Aller Alle	***************************************	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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VIRI-DIS SV

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 dysentry.		
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	nolerae Causative agent for cholera, causes severe diarrhea - often fatal		

⁶ Microbiology; D. Kingsbury and G. Wagner



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VIRI-DIS SV

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 Effects/	
Adenovirus Type 5	Causative agent of colds and other respiratory ailments	
Avian Influenza H3N2	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 multisytemic 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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VIRI-DIS SV

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