LANXESS

Rely+On™ Virkon™

Broad Spectrum Virucidal Disinfectant

- Unique formulation
- Effective against a broad spectrum of disease-causing organisms
- For use in medical facilities, pathology and biosafety containment laboratories, treatment salons and residential homes

Rely+On™ Virkon™

The broad spectrum formulation of Rely+On™ Virkon™ is unique. No other disinfectant has the same powerful composition or extensive portfolio of performance and safety testing data. It combines application flexibility with broad spectrum efficacy, on hard surfaces, and in the face of organic challenge. These qualities make Rely+On™ Virkon™ the disinfectant of choice for use in medical facilities, pathology and biosafety containment laboratories, treatment salons and residential homes.

Superior Operator Safety Profile

Rely+On™ Virkon™ has fewer handling and use constraints than many other disinfectant products and is not classified as harmful or a sensitiser in both powdered form and in-use dilutions, in accordance with EU legislation on the classification and labelling of chemical preparations.

Environmental Profile

Rely+On™ Virkon™ oxygen-based chemistry contains simple organic salts and organic acids and the active ingredient decomposes by a variety of routes within the environment, in soil and water, breaking down to form the naturally occurring substances, potassium salts and oxygen. The major organic components are classified as readily biodegradable according to OECD and EU tests.

Rely+On™ Virkon™ is not considered persistent in the environment, according to the standard European process for the classification and labelling of chemical preparations. Independent studies have shown that diluted Rely+On™ Virkon™ should not, when used as directed, pose any threat to sewage treatment facilities.[1]

Mode of Action

Rely+On™ Virkon™ oxidizes key structures and compounds, such as proteins, leading to widespread, irreversible damage and subsequent deactivation/ destruction of the microorganism.

There is no evidence to suggest that bacterial disease-causing organisms develop resistance towards Rely+On™ Virkon™ as opposed to some other disinfectant types.

Proven Broad Spectrum Efficacy

Independently proven highly effective against:

- over 100 strains of virus in 22 viral families
- over 400 strains of bacteria
- over 60 strains of fungi and yeast

using a wide variety of contact times, temperatures and organic challenge levels.

Applications

Medical Facilities

- Routine disinfection of hard surfaces, furniture, floors, walls and doors in hospital wards, clinics and laboratories.
- Broad spectrum disinfection and decontamination of hard surfaces in critical clinical facilities, such as operating theatres, intensive care units and accident and emergency departments.
- Body fluid spillage clear-up and decontamination.

Pathology and Biosafety Containment Laboratories

- Routine cleaning and disinfection of hard surfaces and equipment*, such as benches, floors, walls and doors, cabinets, centrifuges and pipette discard jars.

Treatment Salons

- Routine cleaning and disinfection of hard surfaces such as floors, walls, doors and door handles.

Residential Homes

- Routine disinfection of hard surfaces, equipment*, furniture, floors, walls, doors and door handles in treatment and communal areas, corridors and bathrooms.**

Public Areas

- Routine disinfection of surfaces, including floors, walkways, walls, doors and door handles.

Hard Surface & Equipment Cleaning & Disinfection

The level of disease-causing organisms present after general cleaning can remain high enough to offer a serious disease challenge to patients and staff. Using a disinfectant proven to be effective against viruses, bacteria and fungi, such as Rely+On™ Virkon™, is essential.

Easy to Prepare

Readily soluble in warm tap water, Rely+On™ Virkon™ dissolves into a pink solution, which remains stable for up to 5 days, as a 1:100 solution. Consult your local representative for advice on stability for any alternate strength solutions.

Unused or inactive solutions may be disposed of via the sink (leading to waste water treatment facilities and in accordance with local regulations).

Task	Dilution Rate	Application
Hard Surface Disinfection	1:100 (10 grams of Rely+On™ Virkon™ to every litre of water)	Apply disinfectant solution using either a trigger spray bottle, a suitable knapsack type sprayer, cloth, sponge or floor mop. Allow to dry, before any re-use of treated areas. For disinfection of hard surfaces, apply the solution at a rate of 200ml/m^2
Equipment Disinfection (not for medical devices)	1:100 (10 grams of Rely+On™ Virkon™ to every litre of water)	Suitable equipment can either be submerged and washed in disinfectant solution or sprayed and then wiped clean with a cloth or sponge. Rinse disinfected equipment with clean water after 10 minutes when materials compatibility is of concern. Refer to the product Instruction for Use leaflet (IFU) for further specific information.

* Not for use for the disinfection of medical devices.
** Users should always check for compatibility with any sensitive materials before use. Do not use on any soft metals such as brass or copper. Not recommended for use on soft furnishings, textiles or carpets.

The specified uses and registered claims may vary from country to country. Please contact LANXESS to verify country-specific approved uses.

Rely+On™ Virkon™

1. EN Efficacy Studies (EU)

Type	Method	Organisms	Strains tested	Dilution rate	Contact time (mins)
Virus , suspension	EN 14476:2013 +A1:2015	Adenovirus type 5	ATCC VR-5	1:100	5
Virus , suspension	EN 14476:2013 +A1:2015	Poliovirus type 1	LSc-2ab (Chiron -Behring)	1:100	5
Virus , suspension	EN 14476:2013 +A1:2015	Murine norovirus	Berlin 06/06 DE Isolate S99	1:100	5
Virus , suspension	EN 14476:2013 +A1:2015	Influenza virus (H3N8)	A/duck/Ukraine/1/63	1:500	0.5
Bacteria, suspension	EN 13727:2012 + A2:2015	Ps aeruginosa	ATCC 15442	1:400	5
Bacteria, suspension	EN 13727:2012 + A2:2015	S aureus	ATCC 6538	1:400	5
Bacteria, suspension	EN 13727:2012 + A2:2015	E hirae	ATCC 10541	1:400	5
Bacteria, surface	EN 13697:2015	Ps aeruginosa	ATCC 15442	1:100	5
Bacteria, surface	EN 13697:2015	S aureus	ATCC 6538	1:100	5
Bacteria, surface	EN 13697:2015	E hirae	ATCC 10541	1:100	5
Bacteria, surface	EN 13697:2015	E coli	ATCC 10536	1:100	5
Yeast, suspension	EN 13624:2013	Candida albicans	ATCC 10231	1:67	5
Yeast, suspension	EN 13624:2013	Candida albicans	ATCC 10231	1:133	15
Yeast, surface	EN 13697:2015	Candida albicans	ATCC 10231	1:67	15

2. Additional Virucidal Efficacy

The table below summarises independent efficacy data of Rely+On™ Virkon™ against important disease-causing pathogens.

Organism/Disease	Strain	Dilution Rate
Adenovirus (h5)	Type 5 ATCC VR-5	1:100
Bacteriophages	Strep. lactis bacteriophage 66	1:500
Bacteriophages	Bacteriophage T2 with E.coli	1:500 – 1:4000
Bacteriophages	Bacteriophage MS2 with E.coli	1:500 – 1:4000
Bacteriophages	Bacteriophage OX174 with E.coli	1:500 – 1:4000
Human Coronavirus 229E	ATCC VR-740	1:100
COVID-19	SARS-CoV-2	1:100[†]
Feline calicivirus (surrogate for Norwalk & norovirus)	ATCC VR-782	1:100

Organism/Disease	Strain	Dilution Rate
Hepatitis A	Sattar	1:100
Hepatitis B	DHBV	1:100
Hepatitis C	BVDV ATCC CCL-222	1:100
HIV	Type 1	1:100
Influenza A virus	ATCC VR-544	1:100
Orthopox virus	–	1:100
Respiratory syncitial virus	ATCC VR-26	1:100
Rotavirus	Human Strain	1:250

Rely+On™ Virkon™ SARS-CoV-2 Efficacy

Rely+On™ Virkon™ broad spectrum disinfectant demonstrates extremely rapid efficacy against SARS-CoV-2, the virus responsible for COVID-19.

The efficacy testing was undertaken by Microbac Laboratories, Inc. in the USA, in accordance with the U.S. Environmental Protection Agency (EPA) compliant test methods, for products intended for virucidal hard surface disinfection, under high soiling conditions.

[†] Rely+On™ Virkon™ achieved rapid and complete inactivation of the SARS-CoV-2 virus at a dilution ratio of 1:100 in just 60 seconds.

3. Additional Bactericidal Efficacy

Organism/Disease	Strain	Dilution Rate
Acinetobacter baumannii	Carbapenem resistant strain	1:200
Bacillus cereus (veg)	ATCC 14579	1:100
Bacillus subtilis (veg)	NCTC 10073	1:100
Campylobacter jejuni	ATCC 24929	1:100
Chlamydia psittaci	VR-125 (strain 6BC)	1:100
Clostridium perfringens (veg)	ATCC 13124	1:100
Coxiella burnetii	Nine mile (RSA 493)	1:100
Enterobacter cloacae	ATCC 13407	1:400
Escherichia coli 0157	ATCC 43895	1:100
Escherichia coli	CIP 54.127	1:200
Escherichia coli	NCTC 8196	1:100
Escherichia coli (ESBL)	NCTC 11560	1:200
Enterococcus faecium	ATCC 6569	1:400
Enterococcus hirae	CIP 58.55	1:200
Enterococcus faecium	ATCC 10541	1:100
Legionella pneumophila	NCTC 1192	1:5000
Listeria monocytogenes	ATCC 19117	1:100
Klebsiella pneumoniae	ATCC 4352	1:100
Klebsiella pneumoniae (ESBL)	NCTC 13368	1:200
Pasteurella multocida	ATCC 12947	1:100

Organism/Disease	Strain	Dilution Rate
Proteus mirabilis	ATCC 14153	1:100
Proteus vulgaris	NCTC 4635	1:100
Ps. aeruginosa	ATCC 15442	1:100
Ps. aeruginosa	CIP 103467	1:200
Ps. aeruginosa	ATCC 15442	1:100
Ps. aeruginosa	CIP A22	1:100
Ps. aeruginosa	NCTC 6749	1:200
Ps. aeruginosa	PaFH72/a	1:100
Salmonella enteritidis	CVI – WVR – Lelystad	1:200
Salmonella typhimurium	DT104	1:200
Salmonella typhimurium	ATCC 23564	1:100
Shigella sonnei	ATCC 25931	1:100
Staphylococcus aureus	ATCC 33592 (MRSA)	1:100
Staphylococcus aureus	ATCC 6538	1:100
Staphylococcus aureus	NCTC 4163 (MRSA 2 clinical isolates)	1:100
Staphylococcus aureus	CIP 4.83	1:200
Staphylococcus epidermidis	ATCC 12228	1:100
Streptococcus faecalis	NCTC 775	1:100
Streptococcus pyogenes	ATCC 11229	1:100
Streptococcus suis	ATCC 43765	1:100

4. Additional Fungicidal/Yeasticidal Efficacy

Organism/Disease	Strain	Dilution Rate
Aspergillus niger (spores)	AnFH85/a	1:33
Candida albicans	CaFH69/a	1:40
Candida albicans	Gbl 648	1:100
Candida albicans	ATCC 10231	1:200

Organism/Disease	Strain	Dilution Rate
Fusarium moniliforme	ATCC 10052	1:50
Saccharomyces cerevisiae	ScFH68/a	1:40
Trichophyton mentagrophytes	ATCC 9533	1:50

Presentations

Rely+On™ Virkon™ Powder

- 500 g container – makes 50 litres of disinfectant
- 5 kg drum – makes 500 litres of disinfectant

Use biocides safely. Always read the label and product information before use.

Reference

1. WRc, 1997. Study to determine the toxicity of the virucidal disinfectant Virkon™ to the waterflea (Daphnia magna), the earthworm (Eisenia foetida) and anaerobic sludge.

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Energizing Chemistry

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