



Virkon[®]S



Defining biosecurity on poultry farms.

THE BREAKTHROUGH FORMULATION THAT DEFINES ON-FARM BIOSECURITY.

Virkon®S offers poultry producers a highly convenient multi-purpose biosecurity system all in one pack for a wide range of applications:

- Surfaces
- Equipment
- Vehicles
- Aerial disinfection
- Water delivery systems
- Proven to kill over 500 strains of viruses, bacteria and fungi
- Proven against Newcastle Disease, Avian Influenza, Salmonella and Campylobacter
- Powerful, fast acting, flexible, multi-purpose biosecurity

INDEPENDENTLY PROVEN BROAD SPECTRUM EFFICACY.

Having invested millions of pounds in performance and safety testing, Virkon®S has a significant number of studies supporting approved label claims against the OIE List A Diseases, including; exotic Newcastle Disease and Highly Pathogenic Avian Influenza (Fowl Plague). For Salmonella, studies confirm that Virkon®S is highly active against five prevalent strains responsible for food poisoning. The broad spectrum efficacy of Virkon®S has been independently proven using a wide range of contact times, temperatures and organic challenge levels.

FORMULATED BROAD SPECTRUM KILLING POWER.

Formulated to overcome the problems of limited spectrum and limited activity exhibited by other disinfectants, Virkon®S achieves deactivation and destruction of the target organism through a broad spectrum, non-selective range of oxidation reactions. Unlike other disinfectant chemistries, such as aldehydes, Virkon®S does not exert a specific toxicological effect on the target organism and is proven to kill pathogens in seconds.

PROVEN TO KILL ON FARM AS WELL AS IN THE LAB.

Proven on-farm efficacy offers producers reassurance and the knowledge that the product they are using will be effective in real farm conditions, where low temperatures and high levels of organic challenge can present serious problems to other disinfectants. In field studies carried out by the US Department of Agriculture (USDA) Centres for Epidemiology and Animal Health, the researchers confirmed that Virkon®S was 100% effective in eradicating exotic Newcastle Disease virus and concluded that the need for costly sentinel bird placement was eliminated.

EXCELLENT CONTROL OF FOOD POISONING PATHOGENS TO EN TEST STANDARDS.

With the stringent EU legislation on Salmonella and Campylobacter control in full force across the poultry industry, Virkon®S has been re-evaluated at Wageningen University in The Netherlands to specifically address the EU legislation. The latest studies confirmed that Virkon®S achieved excellent dilution rates of 1:100 and 1:200 against the most prevalent Salmonella strains responsible for food poisoning; S. enteritidis, S. typhimurium, S. virchow, S. infantis and S.hadar, and Campylobacter jejuni.

THE FOOTDIP GOLD STANDARD, FOR RAPID SPEED OF KILL.

Independent field trials have demonstrated the impracticality of many types of disinfectants for footdips, due to slow kill rates. Researchers at Indiana's Purdue University in the US compared the performance of disinfectants from six leading classes and only the QAC disinfectant provided adequate footdip disinfection but required an impractical five-minute soak after boot cleaning. However, when Virkon®S was evaluated under similar circumstances, effective disinfection was achieved after boot cleaning in just 30 seconds.

The study confirmed that Virkon®S achieves excellent speed of kill at low temperatures and in the presence of organic challenge.



PROVEN ACTIVITY AT LOW TEMPERATURES.

The ability of a disinfectant to work well at low temperature contributes to the value of its use on a daily basis. Temperature is a major factor. It is well established that the efficacy of disinfectants can decrease as temperature decreases and it has been shown that formaldehyde exhibits reduced biocidal performance when the temperature is lowered. The reduced action of phenolic disinfectants on Avian Influenza virus at low temperatures has also been demonstrated. Conversely, the activity of Virkon®S against various viruses at 4°C is maintained.

ENVIRONMENTAL PROFILE.

The Virkon®S 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. Virkon®S is not classified as R53* and is not persistent in the environment, according to the standard European process for the classification and labelling of chemical preparations. Independent studies have shown that diluted Virkon®S should not, when used as directed, pose any threat to sewage treatment facilities.

AERIAL MISTING IN THE PRESENCE OF ANIMALS.

Spraying a fine disinfectant mist in poultry housing can help reduce cross infection and prevent secondary infection during outbreaks of respiratory and other diseases. Virkon®S can be misted in the presence of poultry at a dilution rate of 1:200 (0.5%). It is always important to read the Virkon®S label in order to ensure regulatory compliance.

SUPPORTING THE REDUCTION OF ANTIBIOTICS.

Governments worldwide are seeking reductions in the use of livestock antibiotics to limit the development of antibiotic resistance passing into the human population. Targeted legislation to reduce the use of prophylactic antibiotics in the food chain is now becoming a reality with the result that producers are taking steps to improve their biosecurity measures. With proven efficacy in a wide range of 'real world' biosecurity challenges against both viruses and bacteria, Virkon®S meets the toughest biosecurity challenges better than its competitors and provides the key to combating the effects of viruses and bacteria in livestock production. As a disinfectant of choice for governments worldwide, Virkon®S leads the way forward in biosecurity 'best practice' programmes.

PROVEN BROAD SPECTRUM EFFICACY.

VIRUCIDAL ACTIVITY DATA

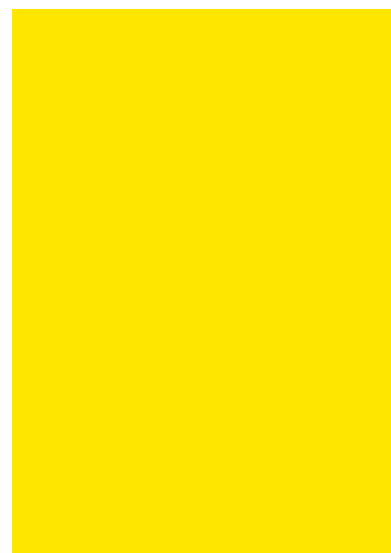
POULTRY DISEASE/RELATED CONDITION	VIRUS FAMILY	DILUTION RATE
Egg drop syndrome (EDS)	Adenoviridae	1:1000
Poultry enteritis mortality syndrome (PEMS)	Astroviridae	1:67
Infectious bursal disease (Gumboro)	Birnaviridae	1:250
Chicken anaemia virus (CAV)	Circoviridae	1:250
Infectious bronchitis	Coronaviridae	1:100
Marek's disease	Herpesviridae	1:200
Turkey rhinotracheitis (TRT)	Herpesviridae	1:200
Infectious laryngotracheitis (ILT)	Herpesviridae	1:100
Avian influenza H7N1	Orthomyxoviridae	1:320
Avian influenza H5N1	Orthomyxoviridae	1:800
Newcastle disease (NDV)	Paramyxoviridae	1:280
Fowl pox	Poxviridae	1:100
Avian reovirus	Reoviridae	1:100
Myeloid leucosis	Retroviridae	1:200

FUNGICIDAL ACTIVITY DATA

POULTRY DISEASE/RELATED CONDITION	PATHOGEN	DILUTION RATE
Aspergillosis (hatchery)	Aspergillus fumigatus	1:100
Aspergillosis	Aspergillus niger	1:100
Infections of the oesophagus and crop	Candida albicans	1:100
Dermatophytosis	Microsporum canis Trichophyton mentagrophytes	1:300 1:50 - 1:300

BACTERICIDAL ACTIVITY DATA

POULTRY DISEASE/RELATED CONDITION	PATHOGEN	DILUTION RATE
Food poisoning - humans	Bacillus cereus	1:100
Coryza in turkeys	Bordetella avium	1:100
Spirochaetosis	Brachyspira pilosicoli Brachyspira hyodysenteriae	1:100 1:100
Food poisoning – humans	Campylobacter coli Campylobacter jejuni Campylobacter pyloridis	1:100 1:100 1:100
Psittacosis	Chlamydomphila psittaci	1:100
Necrotic enteritis	Clostridium perfringens	1:100
Septicaemia, Arthritis in turkeys	Erysipelothrix rhusiopathiae	1:100
Enteritis	Escherichia coli	1:100 - 1:200
Food poisoning - humans	Escherichia coli O157:H7	1:100
Embryo mortality	Klebsiella pneumoniae	1:200
Food poisoning - humans, Septicaemia in poultry	Listeria monocytogenes	1:100
Chronic Respiratory Disease	Mycoplasma gallisepticum	1:100
Respiratory diseases	Ornithobacterium rhinotracheale (ORT)	1:100
Fowl Cholera	Pasteurella multocida	1:150
Secondary infections	Proteus mirabilis	1:200
Respiratory infection, Septicaemia	Pseudomonas aeruginosa	1:100
Paracolon infection in Turkeys	Salmonella arizona	1:100
Food poisoning - humans	Salmonella choleraesuis Salmonella enteritidis PT4 Salmonella hadar Salmonella infantis Salmonella thomasville	1:120 1:100 1:200 1:200 1:200
Septicaemia in Chickens, Food poisoning – humans	Salmonella typhimurium DT104	1:200
Food poisoning - humans	Salmonella virchow	1:200
Arthritis and septicaemia in turkeys, Omphalitis in chicks	Staphylococcus aureus	1:100
Septicaemia in poultry	Streptococcus zooepidemicus	1:100



10 REASONS TO PUT VIRKON®S AT THE HEART OF POULTRY FARM BIOSECURITY.

- 1** Virkon®S is the 'breakthrough' formulation that has re-defined on farm biosecurity and leads the way forward in Emergency Disease Control measures
- 2** Approved by Governments worldwide to combat major diseases such as Avian Influenza, Newcastle Disease and more
- 3** The only branded disinfectant referred to in the prestigious AUSVETPLAN as, "Virkon®S is a modern disinfectant with outstanding virucidal properties
- 4** The 'Gold Standard' footdip disinfectant - Virkon®S kills pathogens ten times faster than the nearest competitor, even at low temperatures and in the presence of organic challenge
- 5** Proven to kill on the farm as well as in the laboratory - independently proven in field trials to be highly effective against the most serious threat to livestock - the viruses
- 6** No need to rotate Virkon®S - independently proven to reduce the potential infectivity of resistant Salmonella super-strains
- 7** The superior operator safety profile ensures that Virkon®S is convenient for users and can be misted in the presence of animals
- 8** Environmental profile - Virkon®S has been formulated to include ingredients that have been carefully selected for their ability to degrade naturally within the environment
- 9** Easy to transport and store - Virkon®S can be transported conveniently and rapidly by rail, sea and air with no additional spend requirements for transport or storage
- 10** Biosecurity in a single pack - a highly convenient multi-purpose biosecurity system all in one pack for, surfaces, equipment, vehicles, aerial disinfection and water delivery systems



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Virkon®
the science to
kill pathogens