USEFUL INFORMATION ABOUT DISINFECTANTS AFTER A REPORTABLE DISEASE IN PIGS

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GLOSSARY

Claim: Product label or advertising material that specifies its effectiveness in relation to the regulations of the reference country.

Approved: Official registration of the product or official website of the country's government specifically indicating its effectiveness.

Bactericide: Chemical or physical substances that kill bacteria, whether pathogenic or not.

Spore-forming bacteria: Bacteria that is capable of creating resistant structures, known as spores, for prolonged periods of time until conditions become favorable for its vegetative form.

Biocide: Chemical substance or microorganism intended to destroy, deter, render harmless or exert a controlling effect on any pest.

Corrosive: Corrosive materials are those that chemically attack and destroy exposed body tissue. They can also damage or even destroy metals.

Disinfectant: Substance used to destroy pathogenic microorganisms in contaminated environments, materials or equipment to prevent infection.

Emergency exemption: Authorization for exemptions for unregistered uses to address emergency situations.

Endospore: See spores.

Vegetative form: State in which spore-producing bacteria in the metabolically active and potentially pathogenic form.

Registered: Effectiveness recognized by the analysis of efficacy of compound ingredients.

Microorganism substitution: a harmless microorganism that has resistant properties similar to a pathogenic organism and which can be used a substitute for testing.

Registered product: Product with a different name, but from the same manufacturer with the same formula.

Spores: Also called endospores, are structures of an organism adapted for dispersal and for survival, often for long periods of time, in adverse conditions.

Sporicide: Disinfectant product or chemical capable of destroying the spores of specific organisms.

Tested: Final report or summary of study with results to prove the effectiveness provided by the manufacturer or distributor.

Virucide: Substance capable of destroying viruses.

ACRONYMS

CFIA: Canadian Food Inspection Agency

CERVES: Centro di Referenza Nazionale per le Malattie Vescicolari, Italie (OIE's reference laboratory for swine vesicular disease)

CISA: Center for Animal Health Research, Spain (European reference laboratory for African Swine Fever)

CNEVA: Centre national d'études vétérinaires et alimentaires, France

CVL: Central Veterinary Laboratory, Surrey, United Kingdom

DEFRA: Department for Environment, Food & Rural Affairs, United Kingdom

DIN: Drug identification number

EFSA: European Food Safety Authority

EPA: Environmental Protection Agency, United States

EQSP: Équipe québécoise de santé porcine

FIFRA: Federal Insecticide, Fungicide and Rodenticide Act, United States

INRV: Institute for Veterinary Research, Belgium

IE: Ireland

NCFAD: National Centre for Foreign Animal Disease, Winnipeg, Canada

OIE: World Organisation for Animal Health

WHO: World Health Organization

EU: European Union

UK: United Kingdom

US: United States

VAR: Veterinary and Agrochemical Research Centre, Belgium

Introduction

This document is intended for those in the pork industry as a tool to find active disinfectants that can be used against agents responsible for certain reportable diseases. It can also be used to determine if a product is registered with Health Canada, its classification and components, to verify certain general indications for use and to located contact information.

The list may not be exhaustive of all disinfectants registered by Health Canada that can be used against a specific causative agent. It only contains the products that, according to various studies conducted by companies, private laboratories or others, have been recognized as effective by a government or scientific institution.

Whenever possible, the Canadian Food Inspection Agency (CFIA) recommends the use of products registered with Health Canada that have a DIN, but, when the disinfectants proved by Health Canada are not available or the use of the product is contraindicated, products containing chemical compounds of proven efficacy that are identical may be considered. Inclusion of a product in this document does not necessarily imply its approval by Health Canada or the CFIA.

Information was obtained from the CFIA, Health Canada, manufacturers and distributors of commercial products and biocide chemical compounds during the period of July 13 to October 29, 2021.

Since the reader can use this document to identify potential products, it is the reader's responsibility to ensure that the product label contains the information for its use. It is recommended to the reader to check with the supplier for the manufacturer's recommendations in this regard.

When used outdoors (e.g., in a compression sprayer), any disinfectant solution must be changed regularly to ensure its effectiveness. At all times, the solution must be protected from sunlight and extreme temperatures.

Classification of pathogens

Biosecurity is defined as the implementation of a set of measures to reduce the risk of infection, including cleaning and disinfection. The complete cleaning and disinfection process is complex, it is a matter of judiciously associating molecules to a succession of precise steps and mechanical actions while considering the environmental parameters at the time of the intervention. It essentially consists of five steps: dry cleaning, wet cleaning, drying, disinfection and final drying. The design and materials used for the construction of buildings influence the methods used. Equipment such as feeders, troughs and water systems require special attention.

Since it is impossible to ensure 100% prevention against the introduction and spread of diseases in the country, once a disease is reported, it is important to return affected facilities to production as soon as possible and safely. Veterinary hygiene disinfectants are used to disinfect materials and surfaces

associated with the housing and transportation of animals. The wide variety of microbial pathogens implies that specific compounds are necessary for their inactivation.

Viruses can be divided into two groups: enveloped viruses (more sensitive to most disinfectants) and non-enveloped viruses (much more resistant). Among the reportable diseases cited in this document, viral diseases are listed in **Table 1.**

Table 1. Reportable viral diseases

Disease	Family	Characteristics
African swine fever (ASF)	*Asfarviridae*	Enveloped DNA, multilayer
Classical swine fever (CSF)	*Flaviridae*	Enveloped RNA
Foot-and-mouth disease	*Picornaviridae*	Non-enveloped RNA
Aujeszky's disease/Pseudorabies	*Herpesviridae*	Enveloped DNA
Swine vesicular disease	*Picornaviridae*	Non-enveloped RNA
Vesicular stomatitis	*Rhabdoviridae*	Enveloped RNA
Rabies	*Rhabdoviridae*	Enveloped RNA

Depending on their physiochemical characteristics, bacteria may be more or less sensitive to certain disinfectants. However, other metabolic characteristics of certain bacteria can provide resistance to a number of disinfectants commonly used, such as those that cause anthrax and tuberculosis. The diseases caused by the bacteria cited in this document are listed in **Table 2.**

Table 2. Reportable bacterial diseases

Disease	Bacteria	Characteristics
Anthrax	*Bacillus anthracis*	Gram (+) bacteria, spore-producing
Brucellosis	*Brucella spp.*	Gram (-) bacteria
Bovine tuberculosis	*Mycobacterium bovis*	Gram (+) bacteria, complex cell wall

Most non-spore-forming bacteria (such as *Brucella spp*.) and enveloped viruses (such as rabies) are easily inactivated with disinfectants. However, non-enveloped viruses and fungus spores are less sensitive. Mycobacteria and bacterial endospores are resistant to a many commonly used disinfectants. Prions, such as the agent causing bovine spongiform encephalopathy (BSE), are extremely resistant to chemical inactivation. For certain pathogens, many methods may be required for decontamination.

Two reportable diseases in pigs**, cysticercosis and trichinellosis,** are caused by parasites. Teniasis, cysticercosis and trichinellosis, among others, have been ranked as the most significant foodborne human parasites in terms of public health, socio-economic and commercial impact by the World Health Organization (WHO). Disinfectants do not play a major role in a program to prevent or control these diseases. Consequently, they will not be covered in this document. Prevention is possible not only through the application of vigorous meat inspection, but also through improvements in general sanitation, swine farm management, and economic and educational conditions in communities at risk.

Recommendations on disinfectants

The most frequently used types of disinfectants include aldehydes, halogens, oxidizing agents, phenols and quaternary ammonium compounds. The characteristics of a pathogen, i.e., enveloped and non-enveloped viruses, Gram positives or Gram negatives, spore-producing bacteria, parasites and their specific characteristics will influence the choice of disinfectant (see **Table 3**).

This document provides a list of disinfectants available in Canada, the United States, the European Union (EU), the United Kingdom (UK) and Ireland (IE) that can be used in the disinfection of vehicles, buildings and equipment to control pathogens causing the reportable diseases listed in Canada. In some cases, this effectiveness was estimated based on established efficacy against similar viruses and, in other cases, it was tested by an independent laboratory and the report and its results were communicated to us.

This document is divided into four sections. The first section "**Section I. Reference Table"** consists of five summary tables. **Table 4**, "**Summary of Contact Information**," provides useful information and contact information for each disinfectant. **Tables 5, 6, and 7** identify the effectiveness of disinfectants, registered and not registered in Canada, and chemical compounds against specific reportable diseases. **Table 8**, **"Summary of disinfectants according to their types of use, their compatibility with propylene glycol and their corrosiveness",** identifies products by their indications for use, their compatibility to be mixed with propylene glycol at below freezing temperatures and corrosivity during use.

The second section of the document **" Section II. Commercial Product Data Sheets ",** contains information about manufacturers and distributors, the efficacy list against listed diseases, technical information on the product such as its chemical composition, recommended dilution, contact time, application rate and, if available, details on its use in combination with propylene glycol which would be useful when using disinfectants in sub-freezing temperatures (0 °C).

In the third section, **"Section III. Biocide Chemical Compounds"**, are the compounds which, when disinfectants approved by Health Canada are not available or their use is contraindicated, may be considered for use because their effectiveness has been proven. Finally, **"Section IV. Unregistered Products"** presents effective products that are not registered in Canada.

Whenever possible, the *Équipe québécoise de santé porcine* (EQSP) recommends that products registered with Health Canada with a DIN be used in priority.

Table 3. Characteristics of disinfectants

Category	Alcohol	Aldehydes	Biguanides	Halogen hypochlorites	Iodine compound halogens	Oxidizing agents	Phenols	QUATs*
Examples	• Isopropyl alcohol • Ethanol	• Formaldehyde • Glutaraldehyde • Gluquat 300* • Intra Multi-Des* • Spectragen	• Chlorhexidine • Hibitane • LC-Kleen-P • Virosan	• BruTab 6S • CDIFF • Diffix + • Bleach • Zochlor	• Povidone (topical) • FAM 30	• Prevail AHP • MS Megades Oxy • Virkon	• BioPhene Spray (Biocide) • BioSentry	• BTC 885 NEUTRAL • Penquat FD • Synergize • Virocid
Mechanism of action	• Precipitates proteins • Denatures lipids	• Denatures proteins • Alkylates nucleic acids	• Modifies membrane permeability	• Denatures proteins	• Denatures proteins	• Denatures proteins and lipids	• Denatures proteins • Modifies the permeability of the cell wall	• Denatures proteins • Binds the phospholipids of the cell membrane
Advantages	• Fast acting • Leaves no residue	• Broad spectrum	• Broad spectrum	• Broad spectrum • Short contact time • Low cost	• Storage stable • Relatively safe	• Broad spectrum	• Effective with organic matter • Non-corrosive • Storage stable	• Storage stable • Non-irritating • Effective at high temperatures and pH 9-10
Disadvantages	• Rapid evaporation	• Carcinogenic • Irritating to mucous membranes and tissues • Use in well ventilated areas	• Limited pH action (5-7) • Toxic to fish • Environmental concern	• Inactivated by sunlight • Frequent application • Corrodes metals • Irritant	• Inactivated by QUATs • Frequent application • Corrosive • Stains fabric and surfaces	• Damage to some metals	• May cause skin and eye irritation	
Precautions	Flammable	Carcinogenic		Never mix with acid			Toxic especially for cats and pigs	
Vegetative bacteria	Effective	Effective	Effective	Effective	Effective	Effective	Effective	Effective Gram (+) Limited Gram (-)
Mycobacterias	Effective	Effective	Variable	Effective	Limited	Effective	Variable	Variable
Enveloped virus	Effective	Effective	Limited	Effective	Effective	Effective	Effective	Variable
Non-enveloped virus	Variable	Effective	Limited	Effective	Limited	Effective	Variable	Ineffective
Spores	Ineffective	Effective	Ineffective	Variable	Limited	Variable	Ineffective	Ineffective
Fungi	Effective	Effective	Limited	Effective	Effective	Variable	Variable	Variable
With organic matter	Reduced	Reduced	?	Rapidly reduced	Rapidly reduced	Variable	Effective	Inactivated
Effective with hard water	?	Reduced	?	Effective	?	?	Effective	Inactivated

Adapted from: CFSPH, 2008. Characteristics of Selected Disinfectants, Iowa State University, **www.cfsph.iastate.edu**.

*Compounded with quaternary ammonium (QUATs).

Section 1. Reference Table

Table 4. Contact information

Name of distributor	Disinfectant products	Address	Contact	Telephone	Email
BASF	**Aseptrol S10-Tab**	100 MILVERTON DRIVE MISSISSAUGA ON L5R 4H1 CANADA			
Biotek Disinfectants	**Tek-Trol Disinfectant Cleaner Concentrate**	100 TIGAN ST WINOOSKI VT 05404 USA	Ian Englefield	Tel: 1-800-795-9222	ianenglefield@abccompounding.com
Ceva Santé Animale	**Germisyl** **GermXtra** **Parvosyl Detergent Disinfectant Pump**	1040 FOUNTAIN ST. N. CAMBRIDGE ON N3E 5M1 CANADA	Dre Anne Lemay	Tel: 1-800-510-8864 Cell: 613-266-1847	anne.lemay@ceva.com
Choisy Laboratoires/ Kersia Canada	**BruTab 6S**	390 SAINT-LAURENT BLVD. EAST LOUISEVILLE QC J5V 1H8 CANADA	Mark Hodgson	Tel: 514-630-3309, ext 263 Cell: 732-492-8665	mark.hodgson@kersia-group.com
Clearon Corp	**Clearon EZ Bleach Disinfectant Tablets**	95 MACCORKLE AVENUE, SW SOUTH CHARLESTON WV 25303 USA	Soraya Katoozian	Tel: 304-746-3000 Cell: 224-622-6248	soraya.katoozian@clearon.com
Contec inc.	**Peridox EDS**[1] **Peridox RTU** **Sporicidin Brand Disinfectant and Towelettes**	2680 NEW CUT ROAD SPARTANBURG SC 29303 USA	Stephen Leung	Tel: 1-800-289-5762 Cell: 864-640-3513	sleung@contecinc.com
DCL Nutrition et Santé Animale	**Virocid**	6340 CHOQUETTE SAINT-HYACINTHE QUEBEC J2S 8L1 CANADA	Miguel Delisle	Tel: 450-773-0770 Tel: 450-773-9491 Cell: 514-245-5545	mdelisle@dcl.ag
Dustbane Products Ltd.	**Disinfex** **Unitab**	25 PICKERING PL OTTAWA ON K1G 5P4 CANADA	Martin Lalonde	Cell: 514-236-0529	mlalonde@dustbane.ca

Name of distributor	Disinfectant products	Address	Contact	Telephone	Email
Ecolab	**Oxonia Active**	5105 TOMKEN ROAD MISSISSAUGA ON L4W 2X5 CANADA	Jason Koerth	Cell: 269-207-3773	Jason.koerth@ecolab.com
Evans Vanodine International	**FAM 30**[1] **GPC8**[1] **Vanodox Formula**[1]	BRIERLEY ROAD, WALTON SUMMIT, PRESTON, LANCASHIRE, PR5 8AH UNITED KINGDOM	Peter Thompson	Tel: +44 1772 322200	pthompson@evansvanodine.co.uk
Huvepharma	**Vulkan Max**[1]	275 SLATER STREET, SUITE 900 OTTAWA ON K1P 5H9 CANADA	Chris Wilson	Tel: 1-888-384-7927	chris.wilson@huvepharma.ca
ICP Group	**Benefect Botanical Disinfectant - Wipes** **Benefect Decon 30 Dis.**	555 BAY STREET NORTH HAMILTON ON L8L 1H1 CANADA	Mark Robertson	Cell: 647-290-7878	mrobertson@icpgroup.com
Maxill	**DIFFIX+ Disinfectant Tablets**	80 ELM STREET ST. THOMAS ON N5R 6C8 CANADA	Tanya Kobylka	Tel: 519-631-3388 Dir.: 1-800-268-8633, ext. 244	tanyak@maxill.com
MS Schippers Canada	**MS Megades Kiemkill** **MS Megades Oxy**	120-27211 HIGHWAY 12 LACOMBE COUNTY AB T4L 0E3 CANADA	Claude Morin	Tel: 1-866-995-7771 Cell: 819-820-4436	c.morin@schippers.ca
Nafico Distribution	**Intra Multi-Des GA**	950, RUE DE LA CONCORDE, 103 LEVIS QC G6W 8A8 CANADA	Jean Fortin	Tel: 418-834-4888 Cell: 418-925-8905	jfortin@nafico.ca
Ogena Solutions	**Prevail Animal Premise – Wipes** **Disinfectant Cleaner**	442 MILLEN RD., UNIT 6 STONEY CREEK ON L8E 6H2 CANADA	Chris Vanderkooy	Tel: 1-855-900-8822 Cell: 519-546-3017	cvanderkooy@ogenasolutions.com

Name of distributor	Disinfectant products	Address	Contact	Telephone	Email
Precision Chemical Technologies	**Bio Elimination** **BTC 885 Neutral Disinfectant Cleaner - 128**	220 SAULTEAUX CRES WINNIPEG MB R3J 3W3 CANADA	Tim Kennedy	Tel. 833-434-241 Cell. : 431-335-6496	tim.kennedy@prechem.ca
Riches Associates	**256 Century Q** **CDIFF Disinfectant Tablets**	133 WENDLER TERRACE OTTAWA ON K1E 3T5 CANADA	Michel Leger	Tel: 613-720-4314 Cell: 514-755-4314	mleger@richesassociates.com
S.E.C. Repro inc.	**Spectragen**	86, RUE ROY ANGE-GARDIEN-DE-ROUVILLE QC JOE 1EO CANADA	Louis Bonneville	Tel: 450-293-0157 Dir: 450-293-0156 Cell: 450-776-0596	louis@secrepro.com
STERIS Canada ULC	**Coverage Plus NPD**[1] **LpH III se** **Spor-Klenz RTU Cold Sterilant**	375, BRITANNIA ROAD EAST, UNIT 2 MISSISSAUGA ON L4Z 1X9 CANADA	Sylvain Simard	Tel: 514-567-8127 Cell: 514-567-127	sylvain_simard@steris.com
Syndel International , inc.	**Halamid**[1]	#9, 4131 MOSTAR RD NANAIMO BC V9T 6A6 CANADA	Jean Baron	Tel: 1-800-962-0717 Tel: +33,442-694,099-66171.	B.jean@axcentive.com
Syrvet Canada	**BioSentry BioPhene Spray** **BioSentry BioPhene Disinfectant** **Neogen Viroxide Super** **Peraside A - Synergize**	207A DES ALOUETTES SAINT-ALPHONSE DE GRANBY QC J0E 2A0 CANADA	Réal Sauvage	Tel: 1-888-779-7838 Cell: 450-361-1504	realsauvage@syrvetcanada.ca
Vétoquinol N.-A. inc.	**BioSentry 904 Disinfectant** **BioVX**[1] **Clinicide** **Hyperox** **Virkon**	2000 GEORGES ROAD LAVALTRIE QC J5T 3S5 CANADA	Annick Lafrance	Tel: 1-800-565-0497 Cell: 514-884-6217	annick.lafrance@vetoquinol.com
West Penetone inc.	**Penquat FD**	10900 SECANT STREET MONTREAL QC H1J 1S5 CANADA	Laurie Bélanger	Tel: 1-800-361-8927 Cell: 438 864-8265	lbelanger@westpenetone.com

Name of distributor	Disinfectant products	Address	Contact	Telephone	Email
Wood Wyant Sani Marc	**Clorox Bleach Germ. Wipes** **Clorox Hydrogen Peroxide Disinfectant Wipes** **Clorox VersaSure Disinfectant Wipes** **Zochlor Dis. Tab 55%**	9585 IGNACE BROSSARD QC J4Y 2P3 CANADA	Nicolas Vallière	Tel: 450-659-7777 Cell: 438-340-0374 Dir: 450-680-9700, ext 2766	nicolas.valliere@sanimarc.com

[1]Product not registered in Canada

Table 5. Summary of the efficacy of unregistered disinfectants in Canada

Disinfectant product	ASF	CSF	Foot-and-mouth disease	Pseudorabies/ Aujeszky's disease	Swine vesicular disease	Vesicular stomatitis	Rabies	Anthrax	Brucellosis	Tuberculosis
256 Century Q				✔		☑	✔			
Aseptrol S10-Tab			✔	✔			☑		☑	✔
Benefect Botanical Disinfectant							☑		☑	✔
Benefect Decon 30 Disinfectant	✔		✔		☑		☑		☑	
Bio Elimination		☑		✔	☑	☑	✔			
BioMers							☑	✔ *	☑	✔
Biosentry 904 Disinfectant				✔		✔	☑			
Biosentry Biophene Disinfectant	✔			✔		✔	☑		✔	
Biosentry Biophene Spray	✔						☑		☑	✔
BruTab 6S	✔	✔		✔	✔		☑		☑	✔
BTC 885 Neutral Disinfectant - 128		☑		✔	☑	☑	✔			
Clorox Bleach Wipes							☑		☑	✔
Clorox Hydrogen Peroxide Wipes							☑		☑	✔
Clorox VersaSure Wipes		☑					☑			✔
CDiff Disinfectant Tablets	✔	✔		✔	✔		☑		☑	✔
Clearon EZ Bleach Disinfectant Tablets	✔	✔	☑	✔	✔		☑		☑	
Clinicide			☑	✔	☑		✔			
Diffix+ Disinfectant Tablets	✔	✔		✔	✔		☑		☑	✔

Disinfectant product	ASF	CSF	Foot-and-mouth disease	Pseudorabies/ Aujeszky's disease	Swine vesicular disease	Vesicular stomatitis	Rabies	Anthrax	Brucellosis	Tuberculosis
Disinfex		☑			☑		☑			
Germisyl			☑	✔	☑	☑	☑			
GermXtra							☑			
Hyperox		✔	✔	✔	✔		☑	✔ *	✔	
Intra Multi-Des GA	✔			✔			☑	✔ *	✔	
LpH III se	✔						☑		☑	✔
MS Megades Kiemkill	✔	✔	✔				☑		☑	
MS Megades Oxy	✔	✔	✔	✔	✔		☑		☑	✔
Neogen Viroxide Super	✔		✔	✔	✔		☑	☑	☑	
Oxonia Active			✔	☑	☑	☑	☑	☑	☑	✔
Parvosyl Disinfectant		☑	☑		☑		✔			☑
Penquat FD				✔			☑			
Peraside A				✔		✔	☑		☑	
Peridox RTU			☑		☑		☑	☑	☑	✔
Prevail Animal Premise	✔		✔	✔	✔		☑		☑	☑
Spectragen	✔	✔				☑		☑	✔	✔
Sporicidin Brand Disinfectant			☑	☑	☑	☑	☑		☑	✔
Spor-Klenz RTU Cold Sterilant							☑	☑	☑	✔
Synergize		☑				✔	☑		☑	
Tek-Trol Disinfectant Cleaner Concentrate	✔			✔			☑		☑	✔
Unitab	✔						☑		☑	
Virkon	✔	✔	✔	✔	✔	✔	✔	✔	✔	
Virocid	✔	✔	✔	✔	✔	✔	☑	✔	✔	✔
Zochlor Disinfectant T	✔						☑		☑	

✔ **:** Effective

☑ **: Tested against a substitute organism** (for example: bactericide for brucellosis or virucide for rabies).

* : Action against bacteria in a vegetative state, **non sporicidal.**

Table 6. Summary of the efficacy of biocide chemical compounds

Compounds	ASF	CSF	Foot-and-mouth disease	Aujeszky's disease/ Pseudorabies	Swine vesicular disease	Vesicular stomatitis	Rabies	Anthrax	Brucellosis	Tuberculosis
Acetic acid			✔							
Citric acid	✔		✔							
Bromomethane								✔		
Ethanol							✔		✔	
Formaldehyde								✔	✔	
Glutaraldehyde								✔	✔	
Sodium hydroxide	✔		✔					✔	✔	
Calcium hypochlorite								✔		
Sodium hypochlorite	✔	✔	✔					✔	✔	
Metham-sodium								✔		
Ortho-phenylphenol	✔									
Calcium oxide	✔								✔	
Ethylene oxide								✔		
Sodium persulphate								✔		
Ozone								✔		

✔ **: Effective.**

☑ **: Tested against a substitute organism**, bactericide for brucellosis or virucide for rabies

Table 7. Summary of the efficacy of <u>unregistered</u> disinfectants in Canada

Disinfectant product	ASF	CSF	Foot-and-mouth disease	Aujeszky's disease/ Pseudorabies	Swine vesicular disease	Vesicular stomatitis	Rabies	Anthrax	Brucellosis	Tuberculosis
BioVX	✔	✔	✔	✔	✔		☑	✔ *	✔	
Coverage Plus NPD				✔		☑	☑			
FAM 30	✔		✔	✔	✔		☑	✔ *	✔	☑
GPC 8	✔	✔	✔	✔			☑	✔ *	✔	
Halamid	✔	✔	✔	✔	✔	☑	☑	✔ *	✔	✔
Peridox EDS								✔		✔
Vanodox Formula			✔		✔		☑		☑	
Vulkan Max	✔						☑		☑	

✔ **:** Effective

☑ **: Tested against a substitute organism,** bactericide for brucellosis or virucide for rabies

* : Action against bacteria in a vegetative state, **<u>non sporicidal.</u>**

Table 8. Summary of disinfectants according to their types of use, their compatibility with propylene glycol and their corrosiveness

Disinfectant product	Agriculture	Equipment	Surfaces	Wipes	Compatibility with propylene glycol	Corrosiveness
256 Century Q	1	2	3		×	i
Aseptrol S10-Tab			3		×	i
Benefect Botanical Disinfectant			3	4	×	
Benefect Decon 30 Disinfectant			3		×	
Bio Elimination	1	2	3			i
BioMers		2				
Biosentry 904 Disinfectant	1		3			i
Biosentry Biophene Disinfectant	1		3			i
Biosentry Biophene Spray	1	2	3		×	i
BruTab 6S	1	2	3		×	i
BTC 885 Neutral Disinfectant - 128	1	2	3			i
CDiff Disifectant Tablets	1	2	3		×	i
Clearon EZ Bleach Disinfectant Tablets	1	2	3		×	i
Clinicide			3			
Clorox Bleach Germicidal Wipes	1		3	4	×	
Clorox Hydrogen Peroxide Dis. Wipes	1		3	4	×	
Clorox VersaSure Disinfectant Wipes	1		3	4	×	
Diffix+ Disinfectant Tablets		2	3		×	i
Disinfex			3			
Germisyl	1		3			i
GermXtra			3			
Hyperox	1	2	3			i
Intra Multi-Des GA	1	2	3			i
LpH III se		2	3			i
MS Megades Kiemkill	1	2	3		×	i
MS Megades Oxy	1	2	3			i
Neogen Viroxide Super	1	2	3			
Oxonia Active	1	2	3			

Disinfectant product	Agriculture	Equipment	Surfaces	Wipes	Compatibility with propylene glycol	Corrosiveness
Parvosyl Disinfectant			3			
Penquat FD	1	2	3		5	
Peraside A	1	2	3			i
Peridox RTU		2	3		5	
Prevail Animal Premise	1	2	3	4	5	i
Spectragen	1	2	3		5	i
Sporicidin Brand Disinfectant	1	2	3	4		
Spor-Klenz RTU Cold Sterilant		2	3		×	i
Synergize	1	2	3			i
Tek-Trol Disinfectant Cleaner Concentrate	1	2	3			i
Unitab			3		×	i
Virkon	1	2	3		5	
Virocid	1	2	3		5	i
Zochlor Disinfectant T		2	3		×	

1 Agriculture: Approved use in agriculture for disinfection of animal production sites

2 Equipment: Approved use for disinfection of tools and vehicles

3 Surfaces: Approved use for disinfection of hard non-porous surfaces

4 Wipes: Available in wet wipes

5 Propylene glycol: Tested effective in dilution with propylene glycol according to its protocol

× Propylene glycol: Use with propylene glycol is not recommended

i Corrosivity: Possible corrosive effect when used

Important note about the use of propylene glycol with a disinfectant

1. When mixing, as the case may be, use the following procedure:
    a. ***Liquid disinfectants:*** Always dilute propylene glycol with water before adding the disinfectant at the rate required, unless otherwise indicated by the company.
    b. ***Powder disinfectants:*** Always dilute the disinfectant in water before adding propylene glycol to ensure a good dilution of the product.
2. For certain products, the manufacturer does not recommend the use of a propylene glycol concentrations above a certain level. In this case, the information is provided to you in a data sheet. An elevated concentration of propylene glycol could destabilize the prepared solution.
3. Propylene glycol increases the viscosity of the solution and some pump types may have difficulty pumping more viscous solutions.
4. Propylene glycol does not necessarily prevent freezing of disinfectant solutions at very low temperatures since the concentration of propylene glycol required is very high or if the solutions are left at sub-freezing temperatures for long periods. The following additional measures may be used to prevent the freezing of disinfectant solutions:
    a. Store the sprayers in heated buildings.
    b. Use sprayers that can heat the disinfectant solution.
    c. Use a portable heater to warm the sprayer.
    d. Maintain the continuous circulation of the disinfectant solution in the pump.

For the solutions described above, use pure U.S.P. or food-grade propylene glycol. Propylene glycol improves fogging by breaking the solution drops into smaller particles, allowing them to better distribute and cover the sprayed surface. It is water soluble and safe for human use. It is also biodegradable. In the United States, propylene glycol is on the GRAS (Generally Recognized as Safe) product list as an emulsifier and common food additive.

Note: *Never use automotive antifreeze or ethynyl glycol, which are known to be toxic to humans and animals!*

Section II. Commercial Product Data Sheets

Example: Commercial product data sheet

1 **Product name:** *Commercial name of product*

2 **DIN:** *Drug identification number with Health Canada*

3 **Manufacturer:** *Name and contact information* **Distributor:** *Name and contact information*

Website: *Manufacturer* ***Website:*** *Distributor*

4 Contact: *Commercial contact for product*

Telephone: ***Cell:***

Direct: ***Email:***

Effective against the causative agent of: *Virus or bacteria* 5 6 **Type of study, dilution and contact time:**

ASF *African swine fever*	☐	
CSF *Classical swine fever*	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: *Source of information*

6 Description of efficacy details and recommendations for use and reference

5 ✔ : **Efficacy**

☑ : **Tested against a substitute organism** (for example: bactericide for brucellosis or virucide for rabies)

* : Action against bacteria in a vegetative state, non sporicidal

7 **Class:** *Classification of disinfectant according to its chemical components*

8 **Type of product:** *Presentation of product*

Active ingredient(s)	Concentration (%)
Ingredient 1	0.00%
Ingredient 2	0.00%

9 **Application rate:** *Quantity of products recommended*

10 **Protocol combined with propylene glycol:** *If any*

Product name: 265 Century Q
DIN: 02436310

Manufacturer: MULTI-CLEAN
600 CARDIGAN ROAD
SHOREVIEW MN 55126
UNITED STATES
Website: https://multi-clean.com/

Distributor: RICHES ASSOCIATES
133 WENDLER TERRACE
OTTAWA ON K1E 3T5
CANADA
Website: https://www.richesassociates.com/

Contact: Michel Leger
Telephone: 613-720-4314
Cell: 514-755-4314
Direct:
Email: mleger@richesassociates.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Claim on Canadian label, 1:256 (4 ml/L) 10 minutes
Swine vesicular disease	☐	
Vesicular stomatitis	☑	Virucide, claim against *Vacciniavirus*, 1:256 (4 ml/L), 10 minutes
Rabies	✔	Claim on Canadian label, 1:256 (4 ml/L) 10 minutes
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: Canadian label

Class: Quaternary ammonium **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Benzalkonium chloride	6.76
Didecyl dimethyl ammonium chloride	10.14

Application rate: Not available **Protocol combined with propylene glycol:** Not recommended

Product name*:* Aseptrol S10-Tab
DIN: 02248352

Manufacturer: BASF CANADA INC.
100 MILVERTON DRIVE
MISSISSAUGA ON L5R 4H1
CANADA
Website: https://www.basf.com/ca/fr.html

Distributor: BASF CATALYSTS, LLC
Website: https://catalysts.basf.com/

Contact:
Telephone: 1-800-962-7831
Direct:
Cell:
Email:

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	✔	Approved in US , EPA*, 200 ppm, 30 minutes
Aujeszky's disease/Pseudorabies	✔	Approved in US , EPA*(VR-135), 200 ppm, 5 minutes
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Approved in US EPA*, 200 ppm, 5 minutes

Reference: *EPA registration number: 70060-19.

Class: Oxidizers

Type of product: Tablets

Active ingredient(s)	Concentration (%)
Sodium chloride	20.8
Sodium dichloroisocyanurate	7.0

Application rate: Not available

Protocol combined with propylene glycol: Not recommended

Dilution and concentration table for Aseptrol S10-Tab tablets

1.5 g* Tablets Dilution of disinfectant (ppm)	Quantity of tablets	Litres of water
25	1	4
100	1	1
200	2	1

* Wait 10 minutes for the 1.5-gram tablet to dissolve completely

6 g Tablets Dilution of disinfectant (ppm)	Quantity of tablets	Litres of water
25	1	16
100	1	4
200	1	2

* Wait 15 minutes for the 6-gram tablet to dissolve completely

Product name: Benefect Botanical Disinfectant 3 4

DIN: 02242474 **Wipes DIN**: 02352111

Manufacturer: SENSIBLE LIFE PRODUCTS LTD
555 BAY STREET
NORTH HAMILTON ON L8L 1H1
CANADA
Website: https://www.icpgroup.com/

Distributor: ICP GROUP
555 BAY STREET,
NORTH HAMILTON ON L8L 1H1
CANADA
Website: https://benefect.com/ca/

Contact: Mark Robertson
Telephone: 1-800-909-2813 ***Cell:*** 647-290-7878
Direct: ***Email:*** mrobertson@icpgroup.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Claim on Canadian label, without dilution, 5 minutes.

Class: Phenols - detergent **Type of product:** Liquid

Active ingredient(s)	Concentration (%)	Wipes
Thymol	0.23%	0.05%

Application rate: 4 litres/100 m^2 (or 1,000 ft^2) **Protocol combined with propylene glycol:** Not recommended

Product name: Benefect Botanical Decon 30 Disinfectant
DIN: 02415046

Manufacturer: SENSIBLE LIFE PRODUCTS LTD
555 BAY STREET
NORTH HAMILTON ON L8L 1H1
CANADA
Website: https://www.icpgroup.com/

Distributors: ICP GROUP
555 BAY STREET,
NORTH HAMILTON ON L8L 1H1
CANADA
Website: https://benefect.com/ca/

Contact: Mark Robertson

Telephone: 1-800-909-2813
Direct:
Cell: 647-290-7878
Email: mrobertson@icpgroup.com

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Approved in US for emergency exemption**, non-porous surfaces, ready to use, 15 minutes
CSF	☐	
Foot-and-mouth disease	✔	Approved in US for emergency exemption**, non-porous surfaces, ready to use, 15 minutes
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☑	Approved in US EPA* for *Picornaviridae*
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	☐	

Reference:
* Registered product Benefect® Botanical Daily Cleaner Disinfectant Spray, EPA registration number: 84683-3.
** FIFRA section 18 Emergency Exemption Label (Rev. 10/27/21).

Class: Phenols - detergent

Type of product: Liquid

Active ingredient(s)	**Concentration (%)**
Thymol	0.05%

Application rate: 4 litres/100 m^2 (or 1,000 ft^2)

Protocol combined with propylene glycol: Not recommended

Product name: Bio Elimination
DIN: 02477467

Manufacturer: PRECISION CHEMICAL TECHNOLOGIES
220 SAULTEAUX CRES
WINNIPEG MB R3J 3W3
CANADA
Website: https://prechemtech.com/

Distributor: PRECISION CHEMICAL TECHNOLOGIES
220 SAULTEAUX CRES
WINNIPEG MB R3J 3W3
CANADA
Website: https://prechemtech.com/

Contact: Tim Kennedy
Telephone: 833-434-2414
Cell: 431-335-6496
Fax:
Email: tim.kennedy@prechem.ca

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☑	Approved in US EPA* bovine viral diarrhea- BVDV
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Approved in US EPA*(VR-135), 1: 256 (8 ml/L), 10 minutes
Swine vesicular disease	☑	Approved in US EPA* for *Picornaviridae*
Vesicular stomatitis	☑	Approved in US EPA* for *Vacciniavirus*
Rabies	✔	Approved in US EPA*, 1:256 (8 ml/L), 10 minutes
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: *BTC registered product 885 NDC-128, EPA registration number: 1839-166.

Class: Quaternary ammonium **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Octyl decyl dimethyl ammonium chloride	3.25
Benzalkonium chloride	4.34
Dioctyl dimethyl ammonium chloride	1.62
Didecyl dimethyl ammonium chloride	1.62

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Product name: BioMers
DIN: 02210711

2

Manufacturer: MIDRYLIUM LABORATORIES INC.
5000-M DUFFERIN STREET
TORONTO ON M3H 5T5
CANADA
Website: https://www.micrylium.com/en-CA

Distributor: CDMV
2999, BOUL. CHOQUETTE
SAINT-HYACINTHE QC J2S 7C2
CANADA

Contact: Dean Swift
Telephone: 416-667-7040
Cell:
Fax:
Email: swift@micrylium.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	✔	*Bacillus subtilis* ATCC 6633 vegetative bacteria claim, without dilution, 2 hours. Non-sporicidal
Brucellosis	☑	Bactericide
Tuberculosis	✔	Efficient claim without dilution, 1 minute

Reference: Canadian label

Class: Alcohol and biguanide **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Anhydrous alcohol	70.50
Chlrohexidine gluconate	0.20

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Product name: BioSentry 904 Disinfectant
DIN: 02319756

Manufacturer: NEOGEN CORPORATION
1-4 SANDFIELD INDUSTRIAL PARK, DODGSON STREET ROCHDALE LANCASHIRE OL16 5SJ
UNITED KINGDOM
Website: https://www.neogen.com/

Distributor: VETOQUINOL N.-A. INC.
2000 GEORGES ROAD
LAVALTRIE QC J5T 3S5
CANADA
Website: https://www.vetoquinol.ca/

Contact: Annick Lafrance
Telephone: 1-888-565-0497
Cell: 514-884-62171
Fax: 450-515-1554
Email: annick.lafrance@vetoquinol.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Approved in US EPA*(VR-135), 1:256 (4 ml/L), 10 minutes
Swine vesicular disease	☐	
Vesicular stomatitis	✔	Approved in the US EPA* (Indiana), 1:256 (4 ml/L), 10 minutes
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: *EPA registration number: 61282-53.

Class: Quaternary ammonium **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Benzalkonium chloride	6.2
Benzalkonium chloride	7.6
Didecyl dimethylammonium chloride	9.2

Application rate: 1 litre per 186 m^2 **Protocol combined with propylene glycol:** No study conducted

Product name*:* BioSentry BioPhene Disinfectant
DIN: 02478692

Manufacturer: NEOGEN CORPORATION
1-4 SANDFIELD INDUSTRIAL PARK, DODGSON STREET ROCHDALE LANCASHIRE OL16 5SJ
UNITED KINGDOM
Website: https://www.neogen.com/

Distributor: SYRVET CANADA
207A DES ALOUETTES
SAINT-ALPHONSE DE GRANBY QC J0E 2A0
CANADA
Website: https://www.syrvetcanada.ca/

Contact: Réal Sauvage
Telephone: 1-888-779-7838
Cell: 450-361-1504
Fax: 450-361-1505
Email: realsauvage@syrvetcanada.ca

Effective against the causative agent of: / **Type of study, dilution and contact time:**

ASF	✔	Qualified by Health Canada[1] (> 3% O-phenylphenol), 1:128, 30 minutes
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Approved in US EPA*, 1:256, 10 minutes
Swine vesicular disease	☐	
Vesicular stomatitis	✔	Approved in US EPA*, 1:256, 10 minutes
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	✔	Approved in US EPA*, *Brucella abortus*, 1:256 (0.4%), 10 minutes
Tuberculosis	☐	

Reference:
* EPA registration number: 61282-53.
[1] CFIA, 2021.

Class: Phenol

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Clorophene	9.97
O-phenylphenol	7.92
P-tert-pentylphenol	1.95

Application rate: 0.5 litres of solution for 1,000 ft^2 (or 100 m^2)

Protocol combined with propylene glycol: No study conducted

Product name*:* BioSentry BioPhene Spray Disinfectant
Included in the "List of Designated Biocides" by Health Canada (EPA 498- 134-66171)

Manufacturer: NEOGEN CORPORATION
1-4 SANDFIELD INDUSTRIAL PARK, DODGSON STREET ROCHDALE LANCASHIRE OL16 5SJ
UNITED KINGDOM
Website: https://www.neogen.com/

Distributor: SYRVET CANADA
207A DES ALOUETTES
SAINT-ALPHONSE DE GRANBY QC J0E 2A0
CANADA
Website: https://www.syrvetcanada.ca/

Contact: Réal Sauvage
Telephone: 1-888-779-7838
Cell: 450-361-1504
Fax: 450-361-1505
Email: realsauvage@syrvetcanada.ca

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	OIE[1] registered, 3%, 30 minutes,
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Approved in US EPA*

Reference:
*EPA registration number: 498-134-66171.
[1]https://www.oie.int/fileadmin/Home/eng/Animal_Health_in_the_World/docs/pdf/Disease_cards/AFRICAN_SWINE_FEVER.pdf

Class: Phenols

Type of product: Aerosol

Active ingredient(s)	Concentration (%)
O-phenylphenol	0.10
Ethanol	63.2

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Product name: BruTab 6S
DIN: 02456788

Manufacturer: BRULIN & COMPANY INC.
2920 DR ANDREW J BROWN AVENUE
INDIANAPOLIS IN 46206
UNITED STATES
Website: https://www.brulin.com/

Distributor: CHOISY LABORATOIRES/KERSIA CANADA
390 SAINT-LAURENT BLVD. EAST
LOUISEVILLE QC J5V 1H8
CANADA
Website: https://www.kersia-group.com/

Contact: Mark Hodgson
Telephone: 514-630-3309, ext 263
Cell: 732-492-8665
Email: mark.hodgson@kersia-group.com

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Registered with Health Canada[1], claim in US EPA* 1,076 ppm, 30 minutes
CSF	✔	Claim on label in US EPA*, 1,076 ppm, 30 minutes
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Claim on label in US EPA* (ATCC VR-135), 1076 ppm, 10 minutes
Swine vesicular disease	✔	Claim on label in US EPA*, 1,076, 30 minutes
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Claim on label in US *(ATCC 35743), 5,382 ppm, 4 minutes

Reference:

* Product registered in the United States Klorsept. EPA registration number: 71847-6.

[1] CFIA, 2021.

Class: Halogen hypochlorites

Type of product: Effervescent disinfectant tablets

Active ingredient(s)	**Concentration (%)**
Sodium dichloroisocyanurate	50% p/p

Application rate: Not available

Protocol combined with propylene glycol: Not recommended

Dilution and concentration table for BruTab 6S tablets

3.3 g Tablets Dilution of disinfectant (ppm)	Quantity of tablets	Litres of water
500	1	2
1,000	1	1
4,000	4	1
5,000	5	1

13.1 g Tablets Dilution of disinfectant (ppm)	Quantity of tablets	Litres of water
1,000	1	4
2,000	1	2
4,000	2	2
5,000	5	4

Product name*:* BTC 885 NEUTRAL DISINFECTANT CLEANER - 128
DIN: 02241240

Manufacturer: PRECISION CHEMICAL TECHNOLOGIES
220 SAULTEAUX CRESCENT
WINNIPEG MB R3J 3W3
Website: https://prechemtech.com/

Distributor: PRECISION CHEMICAL TECHNOLOGIES
220 SAULTEAUX CRESCENT
WINNIPEG MB R3J 3W3
Website: https://prechemtech.com/

Contact: Tim Kennedy
Telephone: 833-434-2414
Cell: 431-335-6496
Fax:
Email: tim.kennedy@prechem.ca

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☑	Approved in US EPA* against bovine viral diarrhea
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Approved in US EPA*(VR-135), 1: 256 (8 ml/L), 10 minutes
Swine vesicular disease	☑	Approved in US EPA* for *Picornaviridae*
Vesicular stomatitis	☑	Approved in US EPA* for *Vacciniavirus*
Rabies	✔	Approved in US EPA*, 1:256 (8 ml/L), 10 minutes
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: * BTC registered product 885 NDC-128, EPA registration number: 1839-166.

Class: Quaternary ammonium **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Octyl decyl dimethyl ammonium chloride	3.25
Benzalkonium chloride	4.34
Dioctyl dimethyl ammonium chloride	1.62
Didecyl dimethyl ammonium chloride	1.62

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Product name: CDIFF Disinfectant Tablets
DIN: 02468743

Manufacturer: TOTAL SOLUTIONS
MILWAUKEE WI 53224
UNITED STATES

Website: https://www.athea.com/

Distributor: RICHES ASSOCIATES
133 WENDLER TERRACE
OTTAWA ON K1E 3T5
CANADA
Website: https://www.richesassociates.com/

Contact: Michel Leger
Telephone: 613-720-4314
Cell: 514-755-4314
Email: mleger@richesassociates.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	Registered with Health Canada[1], claim on US label EPA*, 1,076, 30 minutes
CSF	✔	Claim on label in US EPA*, 1,076, 30 minutes
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Claim on label in US EPA*, 1,076, 10 minutes
Swine vesicular disease	✔	Claim on label in US EPA*, 1,076, 30 minutes
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Claim on label in US EPA*, 5,382, 4 minutes

Reference:

* Klorkleen registered product 2, EPA registration number: 71847-7.

[1] CFIA, 2021.

Class: Halogen hypochlorites **Type of product:** Effervescent disinfectant tablets

Active ingredient(s)	Concentration (%)
Sodium dichloroisocyanurate	50% p/p

Application rate: Not available **Protocol combined with propylene glycol:** Not recommended

Dilution table according to the concentration of CDIFF Disinfectant Tablets

Dilution rate of tablets 3.3 g (ppm)	Quantity of tablets	Litres of water
538	1	2
1,076	1	1
2,153	2	1
4,306	4	1
5,382	5	1

Dilution rate of tablets 13.1 g (ppm)	Quantity of tablets	Gallons of water
538	1	2
1,076	1	1
2,153	2	1
4,306	4	1
5,382	5	1

Product name: Clearon EZ Bleach Disinfectant Tablets
Included in the "List of Designated Biocides" by Health Canada (EPA 69470-37)

Manufacturer: CLEARON CORP
95 MACCORKLE AVENUE, SW
SOUTH CHARLESTON WV 25303
UNITED STATES
Website: http://www.clearon.com/

Distributor: CLEARON CORP
95 MACCORKLE AVENUE, SW
SOUTH CHARLESTON WV 25303
UNITED STATES
Website: https://www.clearon.com/

Contact: Soraya Katoozian
Telephone: 304-746-3000
Direct: 331-431-4321
Cell: 224622-6248
Email: soraya.katoozian@clearon.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	Approved in US EPA*, 1,076 ppm, 30 minutes
CSF	✔	Approved in US EPA*, 1,076 ppm, 30 minutes
Foot-and-mouth disease	☑	Approved in US EPA* for Poliovirus type 1, 1,076 ppm, 10 minutes
Aujeszky's disease/Pseudorabies	✔	Approved in US EPA*, 1,076 ppm, 10 minutes
Swine vesicular disease	✔	Approved in US EPA*, 1,076 ppm, 30 minutes
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	☐	

Reference: *EPA registration number: 69470-37

Class: Halogen hypochlorites **Type of product:** Effervescent disinfectant tablets

Active ingredient(s)	Concentration (%)
Sodium dichloroisocyanurate	48.21% p/p

Application rate: Not available **Protocol combined with propylene glycol:** Not recommended

Dilution table according to the concentration of Clearon EZ bleach Disinfectant Tablets

Dilution rate (ppm)	Quantity of tablets	Litres of water
538	1	2
1,076	1	1
2,153	2	1
4,306	4	1
5,382	5	1

Product name*:* Clinicide
DIN: 01918060

3

Manufacturer: BIMEDA-MTC ANIMAL HEALTH INC.
420 TOMKEN ROAD
MISSISSAUGA ON N3C 2W4
CANADA
Website: https://www.bimedacanada.com/

Distributor: VETOQUINOL N.-A. INC.
2000, CHEMIN GEORGES
LAVALTRIE QC J5T 3S5
CANADA
Website: https://www.vetoquinol.ca/

Contact: Annick Lafrance
Telephone: 1-888-565-0497
Cell: 514-884-62171
Fax: 450-515-1554
Email: annick.lafrance@vetoquinol.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☑	Canadian claim against feline *Picornavirus*
Aujeszky's disease/Pseudorabies	✔	Canadian claim, 0.8% (8 ml/ 1 L of water), 10 minutes
Swine vesicular disease	☑	Canadian claim against feline *Picornavirus*
Vesicular stomatitis	☐	
Rabies	✔	Canadian claim, 0.8% (8 ml/ 1 L of water), 10 minutes
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: Canadian label

Class: Quaternary ammonium

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Benzalkonium chloride	3.07
Didecyl dimethyl ammonium chloride	4.61

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Product name: Clorox Healthcare Bleach Germicidal Wipes 1 3 4
DIN: 02465671

Manufacturer: THE CLOROX COMPANY CANADA
150 BISCAYNE CRESCENT
BRAMPTON ON L6W 4V3
CANADA
Website: https://www.cloroxpro.ca/

Distributor: WOOD WYANT
9585 IGNACE
BROSSARD QC J4Y 2P3
CANADA
Website: https://www.sanimarc.com/

Contact: Nicolas Vallière
Telephone: 450-659-7777
Direct: 450-680-9700, ext 2766
Cell: 438-340-0374
Email: nicolas.valliere@sanimarc.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Claim in US EPA* in US EPA* *Mycobacterium bovis*, 3 minutes

References: https://www.cloroxpro.com/products/clorox-healthcare/versasure-cleaner-disinfectant-wipes/ *EPA reg. 67619-12.

Class: Halogen hypochlorites **Type of product:** Wipes

Active ingredient(s)	Concentration (%)
Sodium hypochlorite	0.55% p/p

Application rate: Wipe the surface until it is wet.

Protocol combined with propylene glycol: Not recommended

1 3 4

Product name: Clorox Healthcare Hydrogen Peroxide Cleaner Disinfectant Wipes
DIN: 02406225

Manufacturer: THE CLOROX COMPANY CANADA
150 BISCAYNE CRESCENT
BRAMPTON ON L6W 4V3
CANADA
Website: https://www.cloroxpro.ca/

Distributor: WOOD WYANT
9585 IGNACE
BROSSARD QC J4Y 2P3
CANADA
Website: https://www.sanimarc.com/

Contact: Nicolas Vallière
Telephone: 450-659-7777
Direct: 450-680-9700, ext 2766
Cell: 438-340-0374
Email: nicolas.valliere@sanimarc.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Claim in US EPA*, *Mycobacterium bovis*, 5 minutes

References: https://www.cloroxpro.com/resource-center/clorox-healthcare-hydrogen-peroxide-disinfecting-cleaner-wipes-technical-info/ EPA reg. 67619-25

Class: Oxidizer **Type of product:** Wipes

Active ingredient(s)	Concentration (%)
Hydrogen peroxide	1.4% p/p

Application rate: Wipe the surface until it is wet.

Protocol combined with propylene glycol: Not recommended

1 3 4

Product name*:* Clorox Healthcare Verasure Alcohol-Free Cleaner Disinfectant Wipes
DIN: 02473151

Manufacturer: THE CLOROX COMPANY CANADA
150 BISCAYNE CRESCENT
BRAMPTON ON L6W 4V3
CANADA
Website: https://www.cloroxpro.ca/

Distributor: WOOD WYANT
9585 IGNACE
BROSSARD QC J4Y 2P3
CANADA

Website: https://www.sanimarc.com/

Contact: Nicolas Vallière
Telephone: 450-659-7777
Direct: 450-680-9700, ext 2766
Cell: 438-340-0374
Email: nicolas.valliere@sanimarc.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☑	Claim in US against the bovine viral diarrhea virus – BVDV, 30 seconds
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	✔	Claim in US EPA*, *Mycobacterium bovis*, 2 minutes

References: https://www.cloroxpro.com/products/clorox-healthcare/versasure-cleaner-disinfectant-wipes/ EPA reg. 67619-37

Class: Quaternary ammonium **Type of product:** Wipes

Active ingredient(s)	Concentration (%)
Alkyl dimethyl ethylbenzyl ammonium chloride	0.25% p/p
Benzalkonium chloride	0.25% p/p

Application rate: Wipe the surface until it is wet.

Protocol combined with propylene glycol: Not recommended

Product name: DIFFIX+ Disinfectant Tablets
DIN: 02505630

2 3 1

Manufacturer: MAXILL
80 ELM STREET
ST. THOMAS ON N5R 6C8
CANADA
Website: https://www.maxill.com/

Distributor: MAXILL
80 ELM STREET
ST. THOMAS ON N5R 6C8
CANADA
Website: https://www.maxill.com/

Contact: Tanya Kobylka
Telephone: 519-631-3388
Direct: 1-800-268-8633 ext 244
Cell:
Email: tanyak@maxill.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	Registered product* US approved (ASFV), 1,076 ppm, 30 minutes
CSF	✔	Registered product* US approved (CSFV), 1,076 ppm, 30 minutes
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Registered product* US approved (ATCC VR-135), 1,076 ppm, 10 minutes
Swine vesicular disease	✔	Registered product* US approved (ATCC VR-158), 1,076 ppm, 30 minutes
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Claim on Canadian label, 5,000 ppm, 4 minutes

References: *Product approved in the United States: Klorkleen 2, EPA registration number: 71847-7.

Class: Halogen hypochlorites **Type of product:** Effervescent disinfectant tablets

Active ingredient(s)	Concentration (%)
Sodium dichloroisocyanurate	50.00% p/p

Application rate: 12 litres of solution for 1,000 ft^2 (or 100 m^2) **Protocol combined with propylene glycol:** Not recommended

Dilution table according to the concentration of Diffix + Disinfectant Tablets 13.1 g

Dilution rate (ppm)	Quantity of tablets	Litres of water
500	1	8
1,000	1	4
2,000	1	2
4,000	2	2
5,000	4	3

Product name: Disinfex
DIN: 02505320

Manufacturer: DUSTBANE PRODUCTS LTD.
25 PICKERING PL
OTTAWA ON K1G 5P4
CANADA
Website: https://www.dustbane.ca/

Distributor: DUSTBANE PRODUCTS LTD.
25 PICKERING PL
OTTAWA ON K1G 5P4
CANADA
Website: https://www.dustbane.ca/

Contact: Martin Lalonde

Telephone: ***Cell:*** 514-236-0529
Direct: Email: mlalonde@dustbane.ca

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☑	Canadian claim against bovine viral diarrhea virus – BVDV (ATCC VR-1422), without dilution, 1 minute
Foot-and-mouth disease	☑	Canadian claim against *Poliovirus* Type 1 (ATCC VR-1562), without dilution, 5 minutes
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☑	Canadian claim against *Poliovirus* Type 1 (ATCC VR-1562), without dilution, 5 minutes
Vesicular stomatitis	☐	
Rabies	☑	Virucide, no dilution, 2 minutes
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: Canadian label

Class: Quaternary ammonium **Type of product:** Liquid

Active ingredient(s)	**Concentration (%)**
Alkyl dimethyl ethylbenzyl ammonium chloride	0.15% p/p
Benzalkonium chloride	0.15% p/p

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Product name*:* Germisyl
DIN: 02276976

Manufacturer: GERMIPHENE CORPORATION
1379 COLBORNE STREET E.
BRANTFORD ON N3T 5M1
CANADA
Website: https://germiphene.com/

Distributor: CEVA SANTÉ ANIMALE
1040 FOUNTAIN ST. N.
CAMBRIDGE ON N3E 5M1
CANADA
Website: https://www.ceva-canada.ca/

Contact: Dre Anne Lemay
Telephone: 1-888-510-8864
Fax: 519-560-9576
Cell: 613-266-1847
Email: anne.lemay@ceva.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☑	Claim on Canadian label against *Picornaviridae*, 0.4% (4 ml/1 L of water), 10 minutes
Aujeszky's disease/Pseudorabies	✔	Claim on Canadian, 0.4% (4 ml/ 1 L of water), 10 minutes
Swine vesicular disease	☑	Claim on Canadian label against *Picornaviridae*, 0.4% (4 ml/1 L of water), 10 minutes
Vesicular stomatitis	☑	Claim on Canadian label against *Vacciniavirus*, 0.4% (4 ml/1 L of water), 10 minutes
Rabies	✔	Claim on Canadian label against *Rhabdoviridae*, 0.4% (4 ml/1 L of water), 10 minutes
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: Canadian label

Class: Quaternary ammonium

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Benzalkonium chloride	6.14
Didecyl dimethyl ammonium chloride	9.22

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Product name*:* GermXtra 3
DIN: 02239248

Manufacturer:
GERMIPHENE CORPORATION
1379 COLBORNE STREET E.
BRANTFORD ON N3T 5M1
CANADA
Website: https://germiphene.com/

Distributor:
CEVA SANTÉ ANIMALE
1040 FOUNTAIN ST. N.
CAMBRIDGE ON N3E 5M1
CANADA
Website: https://www.ceva-canada.ca/

Contact: Dre Anne Lemay
Telephone: 800-510-8864
Cell: 613-266-1847
Fax: 519-560-9576
Email: anne.lemay@ceva.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	✔	Claim on Canadian label against *Rhabdoviridae*, 0.4% (4 ml/1 L of water), 10 minutes
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: Canadian label

Class: Alcohol and quaternary ammonium

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Anhydrous alcohol	79.00
Benzalkonium chloride	0.20
O-phenylphenol	0.10

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Product name: Hyperox
DIN: 02240361

Manufacturer: LANXESS
KENNEDYPL. 1, 50679 KÖLN
COLOGNE GERMANY

Website: https://lanxess.com/

Distributor: VETOQUINOL N.-A. INC.
2000, CHEMIN GEORGES
LAVALTRIE QC J5T 3S5
CANADA
Website: https://www.vetoquinol.ca/

Contact: Annick Lafrance

Telephone: 1-888-565-0497
Cell: 514-884-62171
Fax: 450-515-1554
Email: annick.lafrance@vetoquinol.com

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	☐	
CSF	✔	Tested at CVL UK (13), approved DEFRA*, 1:100, 30 minutes[1]
Foot-and-mouth disease	✔	Approved in the UK DEFRA*, 1:150, 30 minutes[1]
Aujeszky's disease/Pseudorabies	✔	Tested at CNEVA France (17), approved DEFRA*, 1:500, 30 minutes[1]
Swine vesicular disease	✔	Approved in UK DEFRA*, 1:50, 30 minutes[1]
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	✔	Approved at IR[2], 1:179, 30 minutes in vegetative forms[1]
Brucellosis	✔	Approved at IR[2], 1:49, 30 minutes[1]
Tuberculosis	☐	

References:
* http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList_SI.
[1] (#) of references of Lanxess studies.
[2] https://assets.gov.ie/123544/ac808129-24b1-40da-a2d5-fd0f4850fada.pdf.

Class: Oxidizing agent

Type of product: Liquid

Active ingredient(s)	**Concentration (%)**
Peracetic acid	5.0
Hydrogen peroxide	25.0

Application rate: 30 L of solution/100 m^2 (or 1,000 ft^2)

Protocol combined with propylene glycol: No study conducted

Hyperox dilution table

Dilution of disinfectant	Quantity of Hyperox (ml)	Litres of water
1:50	10	0.5
1:100	10	1
1:150	10	1.5
1:500	10	5

Product name: Intra Multi-Des GA
DIN: 02449242

Manufacturer: INTRACARE
VOLTAWEG 4 - 5466 AZ
VEGHEL THE NETHERLANDS

Website: https://www.intracare.nl/

Distributor: NAFICO DISTRIBUTION
950, RUE DE LA CONCORDE, SUITE 103
LÉVIS QC G6W 8A8
CANADA
Website: http://nafico.ca/

Contact: Jean Fortin
Telephone: 418-834-4888
Direct:
Cell: 418-925-8905
Email: jfortin@nafico.ca

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	EU claim, tested by CISA, EU reference laboratory, Spain, (EN 14675), 0.25% (1:400), 30 minutes
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	EU claim, tested by Chelab Silliker, Italy (EN 14675), 1.5% (1.5 L/100 L of water), 15 minutes
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide – claim against *Enterovirus* bovine type 1 (ECBO) 0.75%, 30 minutes
Anthrax	✔	IR[1] approved, 1:49, 30 minutes in vegetative forms, non sporicidal. Glutaraldehyde sporicidal report 2%, pH 8, 15 minutes[2]
Brucellosis	✔	IR[1] approved, 1:49 (2 %), 30 minutes
Tuberculosis	☐	

References:
IntraCare reference studies.
[1] https://assets.gov.ie/123544/ac808129-24b1-40da-a2d5-fd0f4850fada.pdf.
[2] Spotts Whitney, E. *et al,* 2003. Inactivation of Bacillus anthracis Spores. Emerging Infectious Diseases, Vol. 9, No. 6, June.

Class: Quaternary ammonium and aldehyde

Type of product: Liquid

Active ingredient(s)	**Concentration (%)**
Benzalkonium chloride	14.8
Didecyl dimethyl ammonium chloride	9.9
Glutaraldehyde	12.3

Application rate: 12 litres of solution for 1,000 ft^2 (or 100 m^2)

Protocol combined with propylene glycol: No study conducted

Product name: LpH III se

DIN: 02470454

Manufacturer: STERIS CORPORATION
7501 PAGE AVENUE
ST. LOUIS MO 63133
UNITED STATES
Website: https ://www.steris.com/

Distributor: STERIS CANADA ULC
375, BRITANNIA ROAD EAST, UNIT 2
MISSISSAUGA ON L4Z 1X9
CANADA
Website: http://www.sterislifesciences.com/

Contact: Sylvain Simard
Telephone: 514-567-8127
Cell: 514-567-8127
Direct:
Email: sylvain_simard@steris.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	Approved by Health Canada[1], 1:128 (0.8%), 30 minutes
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Claim on Canadian label, 1:128, 10 minutes, 20°C

References:

[1] CFIA, 2021.

Class: Phenol

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Chlorophene	13.0
O-phenylphenol	6.0

Application rate: 12 litres of solution for 1,000 ft^2 (or 100 m^2)

Protocol combined with propylene glycol: No study conducted

Product name: MS Megades Kiemkill
DIN: 02437546

Manufacturer: THE SCHIPPERS GROUP
SMARAGDWEG 60, 5527 LB
HAPERT NETHERLANDS

Website: https://www.schippers.eu/

Distributor: MS SCHIPPERS CANADA
120-27211 HIGHWAY 12
LACOMBE COUNTY AB T4L 0E3
CANADA
Website: https://www.schippers.ca/fr/

Contact: Claude Morin
Telephone: 1-866-995-7771
Cell: 819-820-4436
Fax: 866-995-7772
Email: c.morin@schippers.ca

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	✔	Approved in UK DEFRA*, 1:999 (0.1%), 30 minutes
Aujeszky's disease/Pseudorabies	✔	EU claim
Swine vesicular disease	✔	EU claim
Vesicular stomatitis	☐	
Rabies	☑	Virucide – tested against *Enterovirus bovine* type 1 (ECBO)
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	☐	

References: * http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList_SI.

Class: Oxidizing agent **Type of product:** Powder

Active ingredient(s)	Concentration (%)
Sodium dichloroisocyanurate	2.5
Potassium peroxymonosulfate	45

Application rate: Sufficient quantity to keep surfaces wet during exposure time

Protocol combined with propylene glycol: Not recommended

Product name: MS Megades Oxy
DIN: 02473739

Manufacturer: THE SCHIPPERS GROUP
SMARAGDWEG 60, 5527 LB
HAPERT NETHERLANDS

Website: https://www.schippers.eu/

Distributor: MS SCHIPPERS CANADA
120-27211 HIGHWAY 12
LACOMBE COUNTY AB T4L 0E3
CANADA
Website: https://www.schippers.ca/fr/

Contact: Claude Morin
Telephone: 1-866-995-7771 ***Cell:*** 819-820-4436
Fax: 866-995-7772 ***Email:*** c.morin@schippers.ca

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	EU claim, 1:128 (0.4%), 30 minutes
CSF	✔	EU claim
Foot-and-mouth disease	✔	Approved in the UK DEFRA*, 1:399 (0.25%), 30 minutes
Aujeszky's disease/Pseudorabies	✔	EU claim
Swine vesicular disease	✔	Approved in the UK DEFRA*, 1:11 (10%), 30 minutes
Vesicular stomatitis	☐	
Rabies	☑	Virucide – tested against *Enterovirus bovine* type 1 (ECBO)
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	✔	Approved in UK DEFRA*, 1:1, 30 minutes

References: * http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList_SI.

Class: Oxidizing agent **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Peracetic acid	2.4
Hydrogen peroxide	7.8

Application rate: Sufficient quantity to keep surfaces wet during exposure time

Protocol combined with propylene glycol: No study conducted

Product name: Neogen Viroxide Super
DIN: 02525100

Manufacturer: NEOGEN CORPORATION
1-4 SANDFIELD INDUSTRIAL PARK, DODGSON STREET ROCHDALE LANCASHIRE OL16 5SJ
UNITED KINGDOM
Website: https://www.neogen.com/

Distributor: SYRVET CANADA
207A DES ALOUETTES
SAINT-ALPHONSE DE GRANBY QC J0E 2A0
CANADA
Website: https://www.syrvetcanada.ca/

Contact: Réal Sauvage
Telephone: 1-888-779-7838
Cell: 450-361-1504
Fax: 450-361-1505
Email: realsauvage@syrvetcanada.ca

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	Tested at Eurofins[1], 1:800 (0.125%), 30 minutes
CSF	☐	
Foot-and-mouth disease	✔	Approved by UK DEFRA*, 1:1300 (0.077%), 50 g per 65 litres, 30 minutes
Aujeszky's disease/Pseudorabies	✔	Claim against the Pseudorabies virus ATCC VR-135, 1:100, 30 minutes
Swine vesicular disease	✔	Approved by UK DEFRA*, 1:100 (1%), 100 g per 10 litres, 30 minutes
Vesicular stomatitis	☐	
Rabies	☑	Virucide tested against *Vacciniavirus*[1]
Anthrax	☑	Sporicidal claim against *Bacillus subtilis* 1:10, 30 minutes[1]
Brucellosis	☑	Bactericide[1]
Tuberculosis	☐	

Reference:
* http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList_SI.
[1] Neogen Viroxide Super Official test results 2021. Jo Rowbotham, NEOGEN Corporation, +44 (0) 1706 344 797.

Class: Oxidizing agent

Type of product: Powder

Active ingredient(s)	Concentration (%)
Pentapotassium sulfate	50.00
Sodium chloride	1.50

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Product name: Oxonia Active

Included in the "List of Designated Biocides" by Health Canada (EPA 1677-129)

Manufacturer: ECOLAB
5105 TOMKEN ROAD
MISSISSAUGA ON L4W 2X5
CANADA
Website: https://fr-ca.ecolab.com/

Distributor: ECOLAB
5105 TOMKEN ROAD
MISSISSAUGA ON L4W 2X5
CANADA
Website: https://fr-ca.ecolab.com/

Contact: Jason Koerth

Telephone:
Cell: 269-207-3773

Fax:
Email: Jason.koerth@ecolab.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	✔	Approved in US* 0.4% (4 ml/L), 10 minutes
Aujeszky's disease/Pseudorabies	☑	Tested against *Vacciniavirus* ATCC VR-119, 2.3% (23 ml/L), 3 minutes
Swine vesicular disease	☑	Tested against Poliovirus Type 1, 2.3% (23 ml/L), 10 minutes
Vesicular stomatitis	☑	Tested against *Vacciniavirus* ATCC VR-119, 2.3% (2 ml/L), 3 minutes
Rabies	☑	Tested against *Vacciniavirus* ATCC VR-119, 2.3% (23 ml/L), 3 minutes
Anthrax	☑	Approved in US *Bacillus subtilis* spores 5% (50 ml/L), 6 hours, 20°C or 20 minutes at 50°C
Brucellosis	☑	Bactericide*, 2.3% (23 ml/L), 3 minutes
Tuberculosis	✔	Approved in US*, 2.3% (23 ml/L), 10 minutes

Reference: *EPA registration number: 1677-129.

Class: Oxidizing agent **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Hydrogen peroxide	27.50
Peracetic acid	5.80

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Product name*:* Parvosyl Detergent Disinfectant Pump
DIN: 02358530

Manufacturer: GERMIPHENE CORPORATION
1379 COLBORNE STREET E.
BRANTFORD ON N3T 5M1
CANADA
Website: https://germiphene.com/

Distributor: CEVA SANTÉ ANIMALE
1040 FOUNTAIN ST. N.
OAKVILLE ON N3E 5M1
CANADA
Website: https://www.ceva-canada.ca/

Contact: Dre Anne Lemay
Telephone: 800-510-8864
Cell: 613-266-1847
Fax: 519-560-9576
Email: anne.lemay@ceva.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☑	Tested against bovine viral diarrhea virus – BVDV, without dilution, 10 minutes
Foot-and-mouth disease	☑	Tested on *Poliovirus* type 1, without dilution, 10 minutes
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☑	Tested on *Poliovirus* type 1, without dilution, 10 minutes
Vesicular stomatitis	☐	
Rabies	✔	Approved by Health Canada without dilution for 10 minutes
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☑	Approved by Health Canada against *Mycobacterium terrae* without dilution, 5 minutes

Reference: Canadian label

Class: Quaternary ammonium

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Benzalkonium chloride	0.105
Didecyl dimethyl ammonium chloride	0.105

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Product name: Penquat FD
DIN: 02350009

1 2 3 5

Manufacturer: WEST PENETONE INC.
10900 SECANT STREET
MONTREAL QC H1J 1S5
CANADA
Website: https://westpenetone.com/

Distributor: WEST PENETONE INC.
10900 SECANT STREET
MONTREAL QC H1J 1S5
CANADA
Website: https://westpenetone.com/

Contact: Laurie Bélanger

Telephone: 1-800-361-8927
Cell: 438 864-8265
Fax:
Email: lbelanger@westpenetone.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Claim on US label EPA*, tested at ATS Labs[1] (ATCC VR-135), 0.7% (7 ml/L), 10 minutes
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

Reference: * EPA registration number: 10190-14. [1]For the Penquat FD study had the experimental name "Penetone XF-7117".

Class: Quaternary ammonium **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Octyl decyl dimethyl ammonium chloride	3.25
Benzalkonium chloride	4.34
Didecyl dimethyl ammonium chloride	1.63
Dioctyl dimethyl ammonium chloride	1.63

Application rate: 10.0 litres of solution for 1,000 ft^2 (or 100 m^2) **Protocol combined with propylene glycol:** Compatible

DILUTION OF PENQUAT FD with PROPYLENE GLYCOL FOR WINTER USE

It is possible to mix Penquat FD with propylene glycol to disinfect surfaces at low temperatures.

Step 1: Prepare a 1 litre solution of Penquat FD at the necessary concentration, according to the temperature.

Step 2: Add the quantity of propylene glycol.

Table indicating the quantities of Penquat FD and propylene glycol to add based on the exterior temperature

Quantity of Penquat FD in ml	Add water	Volume of propylene glycol	Temperature (°F)
9.0	1.0 litre	112.0 ml	-3°C
10.0		250.0 ml	-8°C
12.0		429.0 ml	-14°C
14.0		667.0 ml	-22°C
16.0		1 litre	-34°C
20.0		1.5 litres	-48°C

Source: Discover our complete program for cleaning and disinfecting vehicles for the transportation of animals. West Penetone inc. 10900, rue Secant, Montréal (Québec) H1J 1S5, Canada (www.westpenetone.com).

Product name: Peraside A
DIN: 02463474

Manufacturer: NEOGEN CORPORATION
1-4 SANDFIELD INDUSTRIAL PARK, DODGSON STREET ROCHDALE LANCASHIRE OL16 5SJ
UNITED KINGDOM
Website: https://www.neogen.com/

Distributor: SYRVET CANADA
207A DES ALOUETTES
SAINT-ALPHONSE DE GRANBY QC J0E 2A0
CANADA
Website: https://www.neogen.com/

Contact: Réal Sauvage
Telephone: 1-888-779-7838
Cell: 450-361-1504
Fax: 450-361-1505
Email: realsauvage@syrvetcanada.ca

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Claim on label in US EPA*, 3% (30 ml/L), 10 minutes
Swine vesicular disease	☐	
Vesicular stomatitis	✔	Claim on label in US EPA*, 3% (30 ml/L), 10 minutes
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	☐	

Reference: * EPA registration number: 66171-103.

Class: Oxidizing agent **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Acetic acid	7.0
Peroxyacetic acid	5.9
Hydrogen peroxide	27.3

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Product name: Peridox RTU 2 3 5

DIN: 02456834

Manufacturer: CONTEC INC.
2680 NEW CUT ROAD
SPARTANBURG SC 29303
UNITED STATES
Site Web : https://www.contecinc.com/ca/

Distributor: CONTEC INC.
2680 NEW CUT ROAD
SPARTANBURG SC 29303
UNITED STATES
Website: https://www.contecinc.com/ca/

Contact: Stephen Leung
Telephone: 1-800-289-5762 ***Cell:*** 864-640-3513
Fax: ***Email:*** sleung@contecinc.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☑	Tested on *Poliovirus* type 1, without dilution, 2 minutes
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☑	Tested on *Poliovirus* type 1, without dilution, 2 minutes
Vesicular stomatitis	☐	
Rabies	☑	Virucide, no dilution, 2 minutes
Anthrax	☑	Tested against *Bacillus subtilis* spores without dilution 25 minutes
Brucellosis	☑	Bactericide, no dilution, 2 minutes
Tuberculosis	✔	Claim on label in US EPA*, pure, 5 minutes

References: * EPA registration number: 8383-13.

Class: Oxidizing agent **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Acetic acid	4.90
Peracetic acid	0.23
Hydrogen peroxide	4.40

Application rate: Not available **Protocol combined with propylene glycol:** Compatible

Product name: Prevail Animal Premise Disinfectant Cleaner

Concentrate DIN: 02436809 **Ready to use (RTU) DIN:** 02436795 **Wipes DIN**: 02436787

Manufacturer: VIROX TECHNOLOGIES INC.
2770 COVENTRY ROAD
OAKVILLE ON L6H 6R1
CANADA
Website: https://www.viroxanimalhealth.com/

Distributor: OGENA SOLUTIONS
442 MILLEN RD., UNIT 6
STONEY CREEK ON L8E 6H2
CANADA
Website: https://ogenasolutions.com/

Contact: Chris Vanderkooy
Telephone: 1-855-900-8822 ***Cell:*** 519-546-3017
Fax: 905-664-2511 ***Email:*** cvanderkooy@ogenasolutions.com

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Approved by Health Canada (BA71V), 1:40, 5 minutes and EPA* approved
CSF	☐	
Foot-and-mouth disease	✔	Approved by Health Canada, tested by the NCFAD of the CFIA[1], 1:40, 5 minutes on a dry surface and EPA* approved
Aujeszky's disease/Pseudorabies	✔	Approved by Heath Canada and in the US EPA*, 1:40, 5 minutes
Swine vesicular disease	✔	Approved by Health Canada, tested by the NCFAD of the CFIA[1], 1:40, 5 minutes on a dry surface; 1:20, 10 minutes on a wet surface.
Vesicular stomatitis	☐	
Rabies	☑	Virucide[2] tested against porcine parvovirus, 1:40, 5 minutes
Anthrax	☐	
Brucellosis	☑	Bactericide[2], 1:40, 5 minutes
Tuberculosis	☑	Claim against *Mycobacterium terrae*, 1:40, 5 minutes

References:

[1] Hole, K., *et al.* 2016 Efficacy of accelerated hydrogen peroxide® disinfectant on foot-and-mouth disease virus, swine vesicular disease virus and Senecavirus A. Journal of Applied Microbiology ISSN 1364-5072.

[2] Canadian label

* Approved product Accel (Concentrate) Disinfectant Cleaner, EPA registration number 74559-4.

Class: Oxidizing agent **Type of product:** Liquid

Active ingredient(s)	**Concentration (%)**	**Ready to use (RTU)**	**Wipes**
Hydrogen peroxide	7%	0.5%	0.5%

Application rate: 12 litres of solution/1,000 ft^2 (or 100 m^2) **Protocol combined with propylene glycol:** Compatible

Dilution table according to the concentration of Prevail Animal Premise Disinfectant Cleaner Concentrate

Dilution rate of disinfectant	ml product/1 L of water
1:16	64
1:40	25
1:64	16

Dilution of Prevail Animal Premise Disinfectant Cleaner Concentrate with PROPYLENE GLYCOL FOR WINTER USE

The freezing point of the Prevail Animal Premise Disinfectant is reduced using propylene glycol with water as a diluent.

Step 1: Dilute the Prevail Animal Premise Disinfectant Concentrate at a dilution rate of 1:40.

Step 2: Apply the solution on surfaces to disinfect and leave a contact time according to the temperature.

Table of the effect of adding propylene glycol to Prevail Animal Premise Disinfectant Cleaner Concentrate for 4 litres of solution

Dilution rate of disinfectant	Quantity of Prevail	Quantity of water[1] (ratio)	Propylene glycol (ratio)	Temperature	Contact time
1:40	100 ml	2800 ml (70.0%)	1200 ml (30%)	-14.3°C	60 minutes
1:40	100 ml	3200 ml (20%)	800 ml (20%)	-8°C	40 minutes
1:40	100 ml	3400 ml (85%)	600 ml (15%)	-6.6°C	30 minutes

[1] **Note:** The use of salt water (or any saline source) is not recommended.

Source: Prevail Concentrate-Cold Weather Disinfection Procedure, PRE002 (09/03/2020).

Product name*:* Spectragen
DIN: 02461935

Manufacturer: SYNTHÈSE ÉLEVAGE
11 RUE MARIE CURIE
35137 PLEUMELEUC
FRANCE
Website: https://www.syntheseelevage.com/

Distributor: S.E.C. REPRO INC.
86 ROY ANGE-GARDIEN-DE-ROUVILLE ST
QUÉBEC QC JOE 1EO
CANADA
Website: https://secrepro.com/

Contact: Louis Bonneville
***Telephone*:** 450-293-0157
Direct: 450-293-0156
Cell: 450-776-0596
Email: louis@secrepro.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	EU claim (EN 14675), 0.80%, 30 minutes, lightly soiled[1]
CSF	☐	
Foot-and-mouth disease	✔	EU claim, 0.50 %, 4°C, 30 minutes, average soiled[1]
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide, Canadian claim, tested against *Enterovirus* bovine type 1 - ECBO, 6%, 30 minutes
Anthrax	☐	
Brucellosis	☑	Bactericide, Canadian claim, tested again *Pseudomona aeruginosa* 0.2%, 30 minutes
Tuberculosis	✔	EU claim (EN 14204), 1,2 %, 30 minutes, 10°C, lightly soiled[1]

Reference: [1] Study conducted by the company Synthèse élevage.

Class: Quaternary ammonium and aldehyde **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Benzalkonium chloride	18.96
Didecyl dimethyl ammonium chloride	6.63
Glutaraldehyde	16.11

Application rate: 20 litres of solution for 1,000 ft^2 (or 100 m^2) **Protocol combined with propylene glycol:** Compatible

Table showing the effect of adding monopropylene glycol for a 1% solution of Spectragen

Monopropylene glycol (%)	Temperature
15.0	-5°C
25.0	-10°C
35.0	-15°C
40.0	-20°C
45.0	-27°C

Product name: Sporicidin Brand Disinfectant

DIN: 02203316 **Wipes DIN**: 02203294

Manufacturer: CONTEC INC.
2680 NEW CUT ROAD
SPARTANBURG SC 29303
UNITED STATES
Website: https://www.contecinc.com/ca/

Distributor: CONTEC INC.
2680 NEW CUT ROAD
SPARTANBURG SC 29303
UNITED STATES
Website: https://www.contecinc.com/ca/

Contact: Stephen Leung
Telephone: 1-800-289-5762 ***Cell:*** 864-640-3513
Fax: ***Email:*** sleung@contecinc.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☑	Tested in US* *Poliovirus* type 1, without dilution, 10 minutes
Aujeszky's disease/Pseudorabies	☑	Tested in US* *Vacciniavirus*, without dilution, 10 minutes
Swine vesicular disease	☑	Tested in US* *Poliovirus* type 1, without dilution, 10 minutes
Vesicular stomatitis	☑	Tested in US* *Vacciniavirus*, without dilution, 10 minutes
Rabies	☑	Virucide, US claim*, without dilution, 10 minutes
Anthrax	☐	
Brucellosis	☑	Bactericide, US claim*, without dilution, 10 minutes
Tuberculosis	✔	Claim on label in US EPA*, pure, 10 minutes

References: * EPA registration number: 8383-3.

Class: Phenols **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Phenol	1.56
Sodium phenolate	0.06

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Product name: Spor-Klenz RTU Cold Sterilant

DIN: 02352206

Manufacturer: STERIS CORPORATION
7501 PAGE AVENUE
ST. LOUIS MO 63133
UNITES STATES
Website: https ://www.steris.com/

Distributor: STERIS CANADA ULC
375 BRITANNIA ROAD EAST, UNIT 2
MISSISSAUGA ON L4Z 1X9
CANADA
Website: http:// www.sterislifesciences.com/

Contact: Sylvain Simard
Telephone: 514-567-8127 ***Cell:*** 514-567-8127
Direct: ***Email:*** sylvain_simard@steris.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide, US claim*, without dilution, 10 minutes, 20°C
Anthrax	☑	EPA* *Bacillus subtilis* sporicidal claim, without dilution, 2 hours, 20°C
Brucellosis	☑	Bactericide, US claim*, without dilution, 10 minutes, 20°C
Tuberculosis	✔	EPA* claim, without dilution, 10 minutes, 20°C

References: * EPA registration number: 1043-119.

Class: Oxidizer **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Hydrogen peroxide	1.00
Peroxyacetic acid	0.08

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Product name: Synergize
DIN: 02260336

Manufacturer: NEOGEN CORPORATION
1-4 SANDFIELD INDUSTRIAL PARK, DODGSON STREET ROCHDALE LANCASHIRE OL16 5SJ
UNITED KINGDOM
Website: https://www.neogen.com/

Distributor: SYRVET CANADA
207A DES ALOUETTES
SAINT-ALPHONSE DE GRANBY QC J0E 2A0
CANADA
Website: https://www.syrvetcanada.ca/

Contact: Réal Sauvage
Telephone: 1-888-779-7838
Cell: 450-361-1504
Fax: 450-361-1505
Email: realsauvage@syrvetcanada.ca

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	☐	
CSF	☑	Tested against bovine viral diarrhea virus – BVDV (ATCC VR-1422), 0.4% (4 ml/L), 10 minutes
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	✔	Approved in the US EPA*, ATCC VR-158, 0.4% (4 ml/L), 10 minutes
Rabies	☑	Virucide, tested against porcine* *Parvovirus,* 0.4% (4 ml/L), 10 minutes
Anthrax	☐	
Brucellosis	☑	Bactericide, Canadian claim, 0.4% (4 ml/L), 10 minutes
Tuberculosis	☐	

Reference: [1] Canadian label.
* EPA registration number: 66171-7.

Class: Quaternary ammonium and aldehyde

Type of product: Liquid

Active ingredient(s)	**Concentration (%)**
Benzalkonium chloride	26.00
Glutaral	7.00

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Product name: Tek-Trol Disinfectant Cleaner Concentrate

DIN: 02239409

Manufacturer: A.B.C. COMPOUNDING CO. INC.
2600 DOGWOOD DR
CONYERS GEORGIA 30013
UNITED STATES
Site Web : https://abccompounding.com/

Distributor: BIOTEK DISINFECTANTS
100 TIGAN ST
WINOOSKI VT 05404
UNITED STATES
Site Web : https://biotek.abccompounding.com/

Contact: Ian Englefield
Telephone: 1-800-795-9222 ***Cell:***
Fax: **Email:** ianenglefield@abccompounding.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	Registered with Health Canada[1] (> 3% O-phenylphenol), 1:128 (0.8%), 30 minutes
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	EPA* label claim 1:256 (0.4%), 10 minutes
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide, 0.4% (4 ml/L), 10 minutes
Anthrax	☐	
Brucellosis	☑	Bactericide, 0.4% (4 ml/L), 10 minutes
Tuberculosis	✔	EPA* label claim 1:256 (0.4%), 10 minutes at 20°C

References:
* EPA registration number: 3862- 177.
[1] CFIA, 2021.

Class: Phenols **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Clorophene	10.80
O-phenylphenol	12.10
P-tert-pentylphenol	4.10

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Product name: Unitab
DIN: 02470381

Manufacturer:
DUSTBANE PRODUCTS LTD.
25 PICKERING PL
OTTAWA ON K1G 5P4
CANADA
Website: https://www.dustbane.ca/

Distributor:
DUSTBANE PRODUCTS LTD.
25 PICKERING PL
OTTAWA ON K1G 5P4
CANADA
Website: https://www.dustbane.ca/

Contact: Martin Lalonde

Telephone:
Cell: 514-236-0529

Fax:
Email***:*** mlalonde@dustbane.ca

Effective against the causative agent of: / **Type of study, dilution and contact time:**

ASF	✔	Registered with Health Canada[1], 1,076 ppm (0.1%), 30 minutes
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	☐	

Reference:
[1] CFIA, 2021.

Class: Halogen hypochlorites

Type of product: Tablets

Active ingredient(s)	Concentration (%)
Sodium dichloroisocyanurate	50% p/p

Application rate: Not available

Protocol combined with propylene glycol: Not recommended

Dilution table according to the concentration of Unitab Disinfectant & Sanitizing Tablets 6.55 g

Dilution rate (ppm)	Quantity of tablets	Litres of water
500	1	4
1,000	1	2
2,000	1	1
4,000	2	1
5,000	5	2

Product name: Virkon

Powder DIN: 02125021 **Tablets DIN**: 02253917

Manufacturer: LANXESS
KENNEDYPL. 1, 50679 KÖLN
COLOGNE GERMANY

Website: https://lanxess.com/

Distributor: VETOQUINOL N.-A. INC.
2000 GEORGES WAY
LAVALTRIE QC J5T 3S5
CANADA
Website: https://www.vetoquinol.ca/

Contact: Annick Lafrance
Telephone: 1-888-565-0497
Cell: 514-884-62171
Fax: 450-515-1554
Email: annick.lafrance@vetoquinol.com

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Registered with Health Canada[1], tested by CISA for ASF, EU reference laboratory, Spain EU(183), 1:800, 30 minutes and EPA* 1:100, 15 minutes
CSF	✔	Tested by an independent laboratory (170), 1:150, 30 minutes and EPA* 1:100, 10 minutes
Foot-and-mouth disease	✔	Tested by an independent laboratory (276) and EPA* 1:100, 10 minutes
Aujeszky's disease/Pseudorabies	✔	Study conducted by NAHL, NZ (34) and MicroBioTest inc. US, ATCC VR-135 (71) and EPA* 1:100 (1%), 10 minutes
Swine vesicular disease	✔	DEFRA approved (1) 1:200, 10 minutes and EPA* 1:100, 10 minutes
Vesicular stomatitis	✔	Study by ALG Laboratory, US, ATCC VR-158, (354), 1:200, 10 minutes and EPA* 1:100, 10 minutes
Rabies	✔	Study conducted by Central Veterinary Laboratory, UK (16), 1:600, 25 minutes
Anthrax	✔	IR[2] approved, 1:100, 30 minutes in vegetative forms
Brucellosis	✔	Studies conducted by ViroMed, US, *B. abortus* (ATCC4315), 1:100, 10 minutes
Tuberculosis	☐	

References: [1]CFIA, 2021. [2]https://assets.gov.ie/123544/ac808129-24b1-40da-a2d5-fd0f4850fada.pdf. (#) of reference from Lanxess studies.
*EPA registration number: 39967-137.

Class: Oxidizing agent **Type of product:** Powder/Tablets

Active ingredient(s)	**Virkon**	**Virkon tablets**
Potassium peroxymonosulfate	21.40%	21.4%

Application rate: 25L of solution/100 m^2 (or 1,000 ft^2) **Protocol combined with propylene glycol:** Max 20.0% of propylene glycol

Dilution table according to the concentration of Vikron and Virkon tablets

	Dilution rate of disinfectant		
Quantity of water	**1:100 (1%)**	**1:200 (0.5%)**	**1:400 (0.25%)**
1 litre	10 g (2 tablets)	5 g (1 tablet)	2.5 g (0.5 tablet)
50 litres	500 g (100 tablets)	250 g (50 tablets)	125 g (25 tablets)
300 litres	3 kg (1,800 tablets)	1.5 kg (900 tablets)	0.75 kg (450 tablets)

DILUTION OF VIRKON WITH PROPYLENE GLYCOL FOR WINTER USE

The freezing point of 1.0% Virkon solution can be reduced if this solution is mixed with propylene glycol.

Step 1: Propylene glycol is mixed with water.

Step 2: The propylene glycol and water mixture is mixed with Virkon.

The table below indicates the concentrations of propylene glycol to use depending on the temperature and life of the final solution.

Table indicating the propylene glycol rate to add to the disinfectant solution for truck washing.

Virkon			
Solvents	**Final concentration of Virkon in the solution**	**Temperature**	**Recommended maximum lifetime of solution**
Water: 100.0%	1.0%	-11°C	7 days
90.0% water: 10.0% propylene glycol	1.0%	-14°C	3 days
80.0% water: 20.0% propylene glycol	1.0%	-17°C	2 days

* The volume of Virkon concentrate is not generally taken into account in the total volume of the solution.

Source: Dupont Disinfectants, December 2013. Antec-International.

Product name: Virocid
DIN: 02239726

Manufacturer: CID LINES BELGIUM
WATERPOORSTRAAT, 2
8900 IEPER BELGIUM
Website: https://www.cidlines.com/en-INT

Distributor: DCL NUTRITION ET SANTÉ ANIMALE
6340 CHOQUETTE STREET
SAINT-HYACINTHE QC J2S 8L1 CANADA
Website: https://www.dclworld.ca/

Contact: Miguel Delisle
Telephone: 450-773-0770
Cell: 514-245-5545
Fax: 450-773-9491
Email: mdelisle@dcl.ag

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Registered with Health Canada[1], tested by CISA*L for ASF,* EU reference laboratory, Spain, 0.25% (1:400), 24 hours[1] and EPA* 1:200, 10 minutes
CSF	✔	Tested by a Belgium government laboratory[2], 0.25% (1:400), 15 minutes
Foot-and-mouth disease	✔	Tested at INRV, Belgium[2], 0.10% (1:1000), 10 minutes
Aujeszky's disease/Pseudorabies	✔	Tested at INRV, Belgium[2], 0.25% (1:400) 15 minutes and EPA* 1:400, 10 minutes
Swine vesicular disease	✔	Tested at CERVES, OIE reference, Italy[2] (EN 14675), 0.5% (1:200), 30 minutes
Vesicular stomatitis	✔	US claim EN 14675*, 0.5% (1:200)
Rabies	☑	Virucide
Anthrax	✔	Tested at VAR Belgium (AFNOR NFT72-190)[2], 0.5% (1:200), 5 minutes in vegetative forms. Glutaraldehyde reported sporicidal 2%, pH 8, 15 minutes
Brucellosis	✔	Tested at VAR Belgium (AFNOR NFT72-190), 0.5% (1:200), 5 minutes
Tuberculosis	✔	Study conducted by Eurofins Biolab[2] (EN 14204), 1% (1:100), 60 minutes

References: [1]CFIA, 2021.[2]Studies provided by CID Lines.
[2]Spotts Whitney, E. *et al,* 2003. Inactivation of Bacillus anthracis Spores. Emerging Infectious Diseases, Vol., No. 6, June.
*EPA registration number: 71355-1.

Class: Quaternary ammonium and aldehyde **Type of product:** Liquid

Active ingredient(s)	**Concentration (%)**
Alkyl dimethyl benzyl ammonium chloride	17.06
Glutaraldehyde	10.73
Didecylic dimethyl ammonium chloride	7.80

Application rate: 23.0 litres of solution for 100 m^2/1,000 ft^2 **Protocol combined with propylene glycol:** Compatible

DILUTION OF VIROCID WITH PROPYLENE GLYCOL FOR WINTER USE

Note: Always dilute the propylene glycol with water before adding Virocid at the required rate.

Step 1: Mix the propylene glycol with water at the appropriate concentration depending on temperature, as presented in the table below.

Volume (%)	Temperature (°C)	Temperature (°F)
0.0	0	32
5.0	-2	28
10.0	-3	27
15.0	-5	23
20.0	-7	19
25.0	-10	14
30.0	-13	9
35.0	-16	3
40.0	-21	-6
45.0	-27	-17
50.0	-34	-29
55.0	-42	-44
60.0	-51	-60

Step 2: Add Virocid at the appropriate rate

Example: At a temperature of -7°C, add propylene glycol at a rate of 20.0% with water (1 part propylene glycol with 4 parts water). For 1.0 L of solution, 200.0 ml of propylene glycol and 800.0 ml of water are needed. Then, to have a solution of disinfectant diluted to 0.25% or in a ratio of 1:400, it is necessary to mix 2.5 ml of Virocid in 997.5 ml of water-propylene glycol solution.

Source: Luc Ledoux, CID Lines January 2014 , CID LINES Belgium Waterpoorstraat, 2, 8900 Ieper, Belgium.

Product name: Zochlor Disinfectant Tab 55%
DIN: 00764914

Manufacturer: SANI MARC
42 DE L'ARTISAN STREET
VICTORIAVILLE QC G6P 7E3
CANADA
Website: https://www.sanimarc.com/

Distributor: WOOD WYANT
9585 IGNACE
BROSSARD QC J4Y 2P3
CANADA
Website: https://www.sanimarc.com/

Contact: Nicolas Vallière
Telephone: 450-659-7777
Direct: 450-680-9700, ext 2766
Cell: 438-340-0374
Email: nicolas.valliere@sanimarc.com

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Approved by Health Canada[1], 1,000 ppm (1 tablet/1 litre of water), 30 minutes
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucide
Anthrax	☐	
Brucellosis	☑	Bactericide
Tuberculosis	☐	

References:

[1] CFIA, 2021.

Class: Halogen hypochlorites

Type of product: Tablets

Active ingredient(s)	**Concentration (%)**
Sodium dichloroisocyanurate	55% p/p

Application rate: Not available

Protocol combined with propylene glycol: Not recommended

Section III. Biocide Chemical Compounds

Name of chemical compound*:* **Acetic acid**

Examples of trade names: vinegar

Effective against the causative agent of:		Type of study, dilution and contact time:
ASF	☐	
CSF	☐	
Foot-and-mouth disease	✔	Approved in US as an emergency exemption*, 0.5%, 10 minutes wet contact
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

References:

* FIFRA section 18 Emergency Exemption Label (Rev. 8/30/18).

Class: Oxidizing agent

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Acetic acid (CH_3COOH)	4 - 100%

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Dilution table according to concentration of acetic acid <u>for a 0.5% solution</u>

Concentration of product(%)	ml product/1 litre of water
4	143
8	286
80-85	6.3-6
100	5

Name of chemical compound*:* Citric acid

Examples of trade names: CLR, Alaska Désinfectant Multi-Surfaces, GC 2, Selectrocide 12G, Alphasol Disinfectant

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Approved in anhydrous form in US for emergency exemption*, 3%, 15 minutes wet contact on non-porous surfaces, 30 minutes on porous surfaces. Reported effective 3%, 30 minutes[1]
CSF	☐	
Foot-and-mouth disease	✔	Approved in anhydrous form in US for emergency exemption*, 3%, 15 minutes wet contact on non-porous surfaces, 30 minutes on porous surfaces
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

References:

* FIFRA section 18 Emergency Exemption Label (Rev. 2/11/19).

[1] Juszkiewicz et al. Effectiveness of Chemical Compounds Used against African Swine Fever Virus in Commercial Available Disinfectants. Pathogens 2020, 9, 878; doi:10.3390/pathogens9110878.

Class: Oxidizing agent **Type of product:** Powder and liquid

Active ingredient(s)	**Concentration (%)**
Citric aid ($C_6H_8O_7$)	100%

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Name of chemical compound*:* **Bromomethane**

Common names: Methyl bromide, Methyl Bromide (Matheson Tri-Gas)

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	Sporicide, EPA[1] approved by fumigation 212 mg/L of methyl bromide, 36 hours, no drying of surface
Brucellosis	☐	
Tuberculosis	☐	

References:

[1] EPA,2015. Technical BRIEF, Surface Decontamination Methodologies for a Wide-Area *Bacillus anthracis* Incident, July.

Class: Organobromine compound **Type of product:** Gas

Active ingredient(s)	**Concentration (%)**
Methyl bromide (CH_3Br)	100%

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Name of chemical compound*:* **Ethanol**

Examples of trade names: Generic

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	☐	
Brucellosis	✔	Reported effective 2.5%, 60 minutes[1]
Tuberculosis	☐	

References:

[1] https://www.cfsph.iastate.edu/Factsheets/pdfs/brucellosis.pdf.

Class: Alcohol

Type of product: Liquid

Active ingredient(s)	**Concentration (%)**
Ethanol (C_2H_5OH)	100.00%

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Name of chemical compound: Formaldehyde

Common names: Parasite-S, BM Chemical Autoclave solution, Professional Preference Formaldehyde, Profilm Fumigant Concentrate Solution

Effective against the causative agent of:		Type of study, dilution and contact time:
ASF	☐	OIE[4] approved, 0.30%, 30 minutes
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	Sporicide, CFIA approved 5% (formol at 10-12.5%) by diluting 1 ml/L of formol at 37%, minimum 30 minutes for equipment 2 hours for buildings[1]. Reported sporicidal 4%, PH 8, 2 hours[2]
Brucellosis	✔	2% solution, 60 minutes[3]
Tuberculosis	☐	

References:

[1] CFIA, 2013. Manuel de procédures pour la fièvre charbonneuse. Annexe 2 : Nettoyage et désinfection des lieux et du matériel contaminés.

[2] Spotts Whitney, E. *et al,* 2003. Inactivation of Bacillus anthracis Spores. Emerging Infectious Diseases, Vol. 9, No. 6, June.

[3] https://www.cfsph.iastate.edu/Factsheets/pdfs/brucellosis.pdf.

[4] OIE, 2019. African Swine fever technical card. https://www.oie.int/app/uploads/2021/03/oie-african-swine-fever-technical-disease-card.pdf.

Class: Aldehydes

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Formaldehyde (CH_2O)	20-37 %

Application rate: 50 litres per square metre

Protocol combined with propylene glycol: No study conducted

Name of chemical compound: Glutaraldehyde

Common names: Glutaral, SteriKleen, BM 28 Plus, Gluterate

Effective against the causative agent of:		Type of study, dilution and contact time:
ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	Sporicide, CFIA approved, 4%, pH 8 – 8.5[1], 2 hours[2]
Brucellosis	✔	2% solution, 60 minutes[3]
Tuberculosis	☐	

References:

[1] CFIA, 2013. Manuel de procédures pour la fièvre charbonneuse. Annexe 2 : Nettoyage et désinfection des lieux et du matériel contaminés.

[2] Whitney, E. *et al,* 2003. Inactivation of Bacillus anthracis Spores. Emerging Infectious Diseases, Vol. 9, No. 6, June.

[3] https://www.cfsph.iastate.edu/Factsheets/pdfs/brucellosis.pdf.

Class: Aldehydes

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Gutaraldehyde (C_5H_8O)	2%

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Name of chemical compound: Sodium hydroxide

Common name: Caustic soda

Effective against the causative agent of:		Type of study, dilution and contact time:
ASF	✔	OIE 0.8%, 30 minutes[1]. Juszkiewicz *et al.,* 2020[2], 2%, 30 minutes
CSF	☐	
Foot-and-mouth disease	✔	Reported effective 2%, 10 minutes[3]
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	CFIA approved sporicidal pH 1.5%[6]. Reported sporicidal 5%, 1.5 hours[7]
Brucellosis	✔	Reported effective in smooth *Brucella melitensis*, 10%, 20 minutes[4] and 60 minutes[5]
Tuberculosis	☐	

References:

1 https://www.oie.int/fileadmin/Home/eng/Animal_Health_in_the_World/docs/pdf/Disease_cards/AFRICAN_SWINE_FEVER.pdf.

2 Juszkiewicz et al. Effectiveness of Chemical Compounds Used against African Swine Fever Virus in Commercial Available Disinfectants. Pathogens 2020, 9, 878; doi:10.3390/pathogens9110878.

3 Bieker J., 2006. Chemical Inactivation of Viruses. Abstract of dissertation, Kansas State University.

4 Wang et al., 2015. In vitro evaluation of six chemical agents on smooth *Brucella melitensis* strain. Annals of Clinical Microbiology and Antimicrobials 14:16.

5 https://www.cfsph.iastate.edu/Factsheets/pdfs/brucellosis.pdf.

6 CFIA, 2013. Manuel de procédures pour la fièvre charbonneuse. Annexe 2 : Nettoyage et désinfection des lieux et du matériel contaminés.

7 Spotts Whitney, E. *et al,* 2003. Inactivation of Bacillus anthracis Spores. Emerging Infectious Diseases, Vol. 9, No. 6, June.

Class: Oxidizing agent **Type of product:** Tablets

Active ingredient(s)	Concentration (%)
Sodium hydroxide (NaOH)	100%

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Name of chemical compound: **Calcium hypochlorite**

Common names: Unstabilized chlorine, chlorine powder

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	Sporicide reported 20 ppm Cl_2 available; pH 8.0, 20ºC, 5 minutes[1]
Brucellosis	☐	
Tuberculosis	☐	

References:

[1]Spotts Whitney, E. *et al,* 2003. Inactivation of *Bacillus anthracis* Spores. Emerging Infectious Diseases, Vol. 9, No. 6, June.

Class: Halogen hypochlorites **Type of product:** Tablets and powder

Active ingredient(s)	**Concentration (%)**
Calcium hypochlorite $Ca(ClO)_2$	100%

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Name of chemical compound: Sodium hypochlorite

Examples of trade names: Bleach, pH-Amended Ultra Clorox® Germicidal Bleach

Effective against the causative agent of:		Type of study, dilution and contact time:
ASF	✔	Reported effective 1% (of NaClO), 30 minutes[1], approved in the US as an emergency exemption*, 0.3%, 15 minutes wet contact on non-porous surfaces, 30 minutes on porous surfaces
CSF	✔	Approved in the US as an emergency exemption*, 0.3%, 15 minutes wet contact on non-porous surfaces, 30 minutes on porous surfaces
Foot-and-mouth disease	✔	Reported effective 10% (of NaClO), 10 minutes, approved in the US as an emergency exemption*, 0.3%, 15 minutes wet contact on non-porous surfaces, 30 minutes on porous surfaces
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	CFIA reported sporicidal, 6,000 ppm[2] and acetic acid for a pH 7 solution, 1 hour[3,7]
Brucellosis	✔	Reported effective in smooth *Brucella melitensis,* 0.2 g/L, 20 minutes[4] and 1 hour[5]
Tuberculosis	☐	

References

* FIFRA section 18 Emergency Exemption Label (Rev. 8/30/18).

[1] Juszkiewicz *et al*. Effectiveness of Chemical Compounds Used against African Swine Fever Virus in Commercial Available Disinfectants. Pathogens 2020, 9, 878; doi:10.3390/pathogens9110878.

[2] USA, EPA, 2011.Comparative Efficacy of Sporicidal Technologies for the Decontamination of *Bacillus anthracis*, *Bacillus atrophaeus*, and *Clostridium difficile* Spores on Building Materials EPA 600/R-14/405.

[3] Spotts Whitney, E. *et al,* 2003. Inactivation of Bacillus anthracis Spores. Emerging Infectious Diseases, Vol. 9, No. 6, June.

[4] Wang et al., 2015. In vitro evaluation of six chemical agents on smooth *Brucella melitensis* strain. Annals of Clinical Microbi. and Antimicrob. 14:16

[5] https://www.cfsph.iastate.edu/Factsheets/pdfs/brucellosis.pdf.

[6] Bieker J., 2006. Chemical Inactivation of Viruses. Abstract of dissertation, Kansas State University.

[7] Wood, J.P. *et al.,* 2011. Optimizing acidified bleach solutions to improve sporicidal efficacy on building materials. Applied Microbiology 53, 668–672.

Class: Halogen hypochlorites **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Sodium hypochlorite	5.25-12.5% and more

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Name of chemical compound*:* Sodium hypochlorite

Name of chemical compound: Metham-sodium

Common names: Metam Concentrate (Buckman Laboratories inc.), VAPAM® HL

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	EPA* tested sporicidal 7 days contact time, 7 days aeration, humidity between 50-80%
Brucellosis	☐	
Tuberculosis	☐	

References: EPA, 2013. Technology Evaluation Report. Decontamination of Soil Contaminated with *Bacillus anthracis* Spores, August

Class: Organosulfur compound **Type of product:** Liquid

Active ingredient(s)	**Concentration (%)**
Sodium N-methyl (dithiocarbonate) ($C_2H_4NNaS_2$)	42.5%

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Name of chemical compound*:* **Ortho-phenylphenol**

Common names: Prospray, O-phenylphenol

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Registered with Health Canada[1] 3% (1:32), 30 minutes
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	☐	
Brucellosis	☐	
Tuberculosis	☐	

References:

[1] CFIA, 2021.

Class: Phenols

Type of product: Liquid

Active ingredient(s)	**Concentration (%)**
2-phenylphenol	Varies by product

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Name of chemical compound*:* **Calcium oxide**

Common names: quicklime, burnt lime

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Registered with Health Canada[1], 1,000 ppm (1 tablet/1 litre of water), 30 minutes
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	☐	
Brucellosis	✔	20% fresh suspension[2], 60 minutes
Tuberculosis	☐	

References:

[1] CFIA, 2021.

[2] https://www.cfsph.iastate.edu/Factsheets/pdfs/brucellosis.pdf.

Class: Oxidizing agent **Type of product:** Powder

Active ingredient(s)	**Concentration (%)**
Calcium oxide	100%

Application rate: Not available **Protocol combined with propylene glycol:** No study conducted

Name of chemical compound: Ethylene oxide

Examples of trade names: 100% ethylene oxide, 3M Steri-Gas, AN 7916 Anprolene

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	For gas sterilization exposed to constant boiling of HCL at 20°C for 30 minutes before exposure to ethylene oxide at room temperature for 1 hour[1.] Tested with *Bacillus atrophaeus.*
Brucellosis	☐	
Tuberculosis	☐	

References:

[1] Spotts Whitney, E. *et al,* 2003. Inactivation of Bacillus anthracis Spores. Emerging Infectious Diseases, Vol. 9, No. 6, June.

Class: Oxidizing agent **Type of product:** Liquid

Active ingredient(s)	**Concentration (%)**
Ethylene oxide (C_2H_4O)	97-100 %

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Name of chemical compound: **Sodium persulphate**

Examples of trade names: Peroxydisulfate, Klozur (Evonik)

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	Study conducted by the EPA in the US[1], activated with hydrogen peroxide at 8%, 0.5 Molar, 4 applications 3 days; 1 Molar, 4 applications 3 days
Brucellosis	☐	
Tuberculosis	☐	

References:

[1] EPA, 2015. Decontamination of Outdoor Materials Contaminated with Anthrax Using Sodium Persulfate or Chloropicrin, 600/R-15/101 July.

Class: Oxidizing agent

Type of product: Powder

Active ingredient(s)	**Concentration (%)**
Sodium persulphate ($Na_2S_2O_8$)	100%

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Name of chemical compound: Ozone

Examples of trade names: Ozone gas

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	12,00 ppm, 85% relative humidity, 1 hour, depends on materials[1]
Brucellosis	☐	
Tuberculosis	☐	

References:

[1] Wood JP, *et al.,* (2020) The use of ozone gas for the inactivation of Bacillus anthracis and Bacillus subtilis spores on building materials. PLoS ONE 15 (5): e0233291. https://doi.org/10.1371/journal.pone.0233291.

Class: Oxidizing agent

Type of product: Gas

Active ingredient(s)	**Concentration (%)**
Ozone (O_3)	2%

Application rate: Not available

Protocol combined with propylene glycol: No study conducted

Section IV. Non-Registered Products

Product name: BioVX
DIN: Not available

Manufacturer: LANXESS
KENNEDYPL. 1, 50679 KÖLN
COLOGNE GERMANY

Website: https://lanxess.com/

Distributor: VETOQUINOL N.-A. INC.
2000, CHEMIN GEORGES
LAVALTRIE QC J5T 3S5
CANADA
Website: https://www.vetoquinol.ca/

Contact: Annick Lafrance

Telephone: 1-888-565-0497
Cell: 514-884-62171
Fax: 450-515-1554
Email: annick.lafrance@vetoquinol.com

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Field trial[1], 1:40 (2.5 %), 120 minutes
CSF	✔	UK claim (EN 14675)[1], 1:400 (0.25%), 30 minutes
Foot-and-mouth disease	✔	Approved by UK DEFRA*, 1:1200 (0.08%), 30 minutes
Aujeszky's disease/Pseudorabies	✔	UK claim (EN 14675)[1], 1:400 (0.25%), 30 minutes
Swine vesicular disease	✔	Approved by UK DEFRA*, 1:100 (1%), 30 minutes
Vesicular stomatitis	☐	
Rabies	☑	Virucide, tested against *Bovine Enterovirus* type 1, 0.5% (5 ml/L), 30 minutes
Anthrax	✔	IR[2] approved, 1:100 (1%), 30 minutes in vegetative forms
Brucellosis	✔	IR[2] approved, 1:100 (1%), 30 minutes
Tuberculosis	☐	

References:

* http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList_SI.

[1] BioxVx 20 Data Sheet September 2017 www.biolinklimited.co.uk.

[2] https://assets.gov.ie/123544/ac808129-24b1-40da-a2d5-fd0f4850fada.pdf.

Class: Oxidizing agent

Type of product: Powder

Active ingredient(s)	**Concentration (%)**
Pentapotassium bis(peroxymonosulfate) bis(sulfate)	50.0% (w/w)

Application rate: 30L of solution/100 m^2 (or 1,000 ft^2)

Protocol combined with propylene glycol: No study conducted

Product name: Coverage Plus NPD

EPA Reg. No. 6836-139-1043

Manufacturer: STERIS CORPORATION
7501 PAGE AVENUE
ST. LOUIS MO 63133
USA

Website: https://www.steris.com/

Distributor: STERIS CANADA ULC
375, BRITANNIA ROAD EAST, UNIT 2
MISSISSAUGA ON L4Z 1X9
CANADA

Website: http://www.sterislifesciences.com/

Contact: Sylvain Simard
Telephone: 514-567-8127 ***Cell:*** 514-567-8127
Direct: Email***:*** sylvain_simard@steris.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	✔	Claim on US label EPA*, 0.4% (4 ml/L of water), 10 minutes
Swine vesicular disease	☐	
Vesicular stomatitis	☑	Tested against *Vacciniavirus*, 0.4% (4 ml/L of water), 10 minutes
Rabies	☑	Virucide, 0.4% (4 ml/L of water), 10 minutes
Anthrax	☐	
Brucellosis	☑	Bactericide, 0.4% (4 ml/L of water), 10 minutes
Tuberculosis	☐	

Reference: * EPA registration number: 6836-139-1043

Class: Quaternary ammonium **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Benzalkonium chloride	6.14
Didecyl dimethyl ammonium chloride	2.76
Dioctyl dimethyl ammonium chloride	1.84
Octyl decyl dimethyl ammonium chloride	4.60

Application rate: 12 litres of solution for 1,000 ft^2 (or 100 m^2) **Protocol combined with propylene glycol:** No study conducted

Product name: FAM 30 (R62, V18, Biocid 30, Rapicid, MIRA 30, Virudine Plus, Total Farm Disinfectant, Combat 2, Farmsan, Osmodex Plus, Bimodex)
DIN: Not available

Manufacturer: EVANS VANODINE INTERNATIONAL
BRIERLEY ROAD, WALTON SUMMIT, PRESTON,
LANCASHIRE PR5 8AH UNITED KINGDOM
Website: https://www.evansvanodine.co.uk/

Distributor:

Contact: Peter Thompson
Telephone:
Direct: +44 1772 322200

Cell:
Email*:* pthompson@evansvanodine.co.uk

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	✔	Approved in UK DEFRA*, 1:50, 30 minutes and Onderstepoort Veterinary Institute, South Africa 1:200, 30 minutes
CSF	☐	
Foot-and-mouth disease	✔	Approved in UK DEFRA*, 1:550, 30 minutes in 1% bovine serum
Aujeszky's disease/Pseudorabies	✔	Approved in UK DEFRA*, study conducted by the company (EN 14675), 1:200, 30 minutes
Swine vesicular disease	✔	Approved in UK DEFRA*, 1:100, 30 minutes in 1% bovine serum
Vesicular stomatitis	☐	
Rabies	☑	Virucide, 1:100, 30 minutes
Anthrax	✔	IR[2] approved, 1:49, 30 minutes in vegetative forms
Brucellosis	✔	IR[2] approved, 1:49, 30 minutes
Tuberculosis	☑	Approved in UK DEFRA*, study conducted by the company using *Mycobacterium fortuitum* 1:20, 60 minutes

References:
* http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList_SI.
[1] Evans Vanodine Microbiological profile FAM 30, 2019.
[2] https://assets.gov.ie/94106/472951ca-1bcc-4758-b5f7-df4adb645040.pdf.

Class: Iodinated halogen **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Alcohol	24.2
Sulphuric acid	9.55
Phosphoric acid	9.54
Iodine	2.84

Application rate: 12 litres of solution for 1,000 ft^2 (or 100 m^2)

Protocol combined with propylene glycol: No study conducted

Dilution table according to the FAM 30 concentration

Dilution rate (ppm)	Quantity of FAM 30 (ml)	Litres of water
1:20	100	2
1:50	100	5
1:100	100	10
1:200	100	20
1:550	100	55

Product name: GPC 8
DIN: Not available

Manufacturer: EVANS VANODINE INTERNATIONAL
BRIERLEY ROAD, WALTON SUMMIT, PRESTON,
LANCASHIRE PR5 8AH UNITED KINGDOM
Website: https://www.evansvanodine.co.uk/

Distributor:

Contact: Peter Thompson
Telephone:
Direct: +44 1772 322200

Cell:
Email*:* pthompson@evansvanodine.co.uk

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	Approved in UK DEFRA*, 1:50, 30 minutes. Tested at Onderstepoort Veterinary Institute, South Africa 1:200, 30 minutes[1]
CSF	✔	Approved in UK DEFRA*(study conducted by the company), 1:100, 30 minutes[1]
Foot-and-mouth disease	✔	Approved in UK DEFRA*(DEFRA), 1:80, 30 minutes in 1% bovine serum, EN 14675, 1:200, 30 minutes, little dirt[1]
Aujeszky's disease/Pseudorabies	✔	Approved in UK DEFRA*(study conducted by the company), 1:250, 30 minutes[1]
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucidal, tested against *Porcine Parvovirus*, 1:100, 30 minutes
Anthrax	✔	IR[2] approved, 1:49, 30 minutes in vegetative forms. Glutaraldehyde sporicidal reported 2%, pH 8, 15 minutes[3]
Brucellosis	✔	IR[2] approved, 1:44 (2.3%), 30 minutes
Tuberculosis	☐	

References:
*http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList_SI.
[1]Evans Vanodine Microbiological profile GPC 8, 2019.
[2]https://assets.gov.ie/123544/ac808129-24b1-40da-a2d5-fd0f4850fada.pdf.
[3]Spotts Whitney, E. *et al,* 2003. Inactivation of Bacillus anthracis Spores. Emerging Infectious Diseases, Vol. 9, No. 6, June.

Class: Glutaraldehyde and quaternary ammonium **Type of product:** Liquid

Active ingredient(s)	**Concentration (%)**
Glutaraldehyde	10.0-15.0
Didecyl dimethyl ammonium chloride	3.0-5.0
Phosphoric acid	0.1-1.0

Application rate: 12 litres of solution for 1,000 ft^2 (or 100 m^2) **Protocol combined with propylene glycol:** No study conducted

Dilution table according to the concentration of GPC 8

Dilution rate (ppm)	Quantity of GPC8 (ml)	Litres of water
1:35	100	3.5
1:50	100	5
1:80	100	8
1:100	100	10
1:200	100	20

Product name: Halamid
DIN: Not available

Manufacturer: AXCENTIVE SARL
CHEMIN DE CHAMPOUSE
13320 BOUC BEL AIR
FRANCE
Website: https://www.axcentive.com/

Distributor: SYNDEL INTERNATIONAL INC.
#9, 4131 MOSTAR RD,
NANAIMO BC V9T 6A6
CANADA
Website: https://syndel.com/

Contact: Jean Baron
Telephone: 1-888-490-0717
Cell: +33 442 694 099
Fax:
Email: B.jean@axcentive.com

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	EU claim, tested by CISA, EU reference laboratory for ASF, Spain, (EN 14675), 1.0% (1:100), 30 minutes
CSF	✔	EU claim
Foot-and-mouth disease	✔	EU claim
Aujeszky's disease/Pseudorabies	✔	EU claim
Swine vesicular disease	✔	EU claim
Vesicular stomatitis	☑	Claim against *Vacciniavirus*, 1:100, 30 minutes
Rabies	☑	Virucidal, tested against Porcine Parvovirus, 1:100, 30 minutes
Anthrax	✔	EU claim
Brucellosis	✔	EU claim
Tuberculosis	✔	EU claim

References:
Axcentive SARL, 2015. Pig Farming disinfection. https://halamid.com/wp-content/uploads/2017/01/TB-Pig-farming-2015.pdf

Class: Oxidizing agent

Type of product: Powder

Active ingredient(s)	**Concentration (%)**
Sodium tosylchloramide	100% w/w

Application rate: 30L of solution/100 m^2 (or 1,000 ft^2)

Protocol combined with propylene glycol: No study conducted

Product name: Peridox with EDS

DIN: Not available, EPA Reg. No. 81073-2

Manufacturer: CONTEC INC.
2680 NEW CUT ROAD
SPARTANBURG SC 29303
USA
Website: https://www.contecinc.com/ca/

Distributor: CONTEC INC.
2680 NEW CUT ROAD
SPARTANBURG SC 29303
USA
Website: https://www.contecinc.com/ca/

Contact: Stephen Leung
Telephone: 1-800-289-5762 ***Cell:*** 864-640-3513
Fax: ***Email:*** sleung@contecinc.com

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☐	
Anthrax	✔	U.S. EPA label claim* effective as a sporicide agent on dry, pre-cleaned, hard, non-porous surfaces at 4% (1L of PERIDOX® concentrate to 5L of water), with the use of Electrostatic Decontamination System (EDS)[1].
Brucellosis	☐	
Tuberculosis	☐	

References:

* EPA registration number: 8383-13.

[1] Certified manufacturer training required on EDS processes and competency review for use.

Class: Oxidizing agent

Type of product: Liquid

Active ingredient(s)	Concentration (%)
Hydrogen peroxide	24.0
Peroxyacetic acid	1.20

Application rate: Not available

Protocol combined with propylene glycol: Compatible

Product name: Vanodox Formula
DIN: Not available

Manufacturer: EVANS VANODINE INTERNATIONAL
BRIERLEY ROAD, WALTON SUMMIT, PRESTON,
LANCASHIRE PR5 8AH
UNITED KINGDOM
Website: https://www.evansvanodine.co.uk/

Distributor:

Contact: Peter Thompson
Telephone:
Direct: +44 1772 322200

Cell:
Email***:*** pthompson@evansvanodine.co.uk

Effective against the causative agent of: **Type of study, dilution and contact time:**

ASF	☐	
CSF	☐	
Foot-and-mouth disease	✔	Approved in the UK DEFRA*, 1:800 (0.125%), 30 minutes[1]
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	✔	Approved in the UK DEFRA*(DEFRA), 1:25, 30 minutes[1]
Vesicular stomatitis	☐	
Rabies	☑	Virucidal, tested against *Bovine Enterovirus Type 1* (ECBO), 2% (2ml/L), 30 minutes
Anthrax	☐	
Brucellosis	☑	Bactericidal, tested against *Pseudomonas aeruginosa*, 0.6% (6ml/L), 30 minutes
Tuberculosis	☐	

References:

* http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList_SI.

[1] Evans Vanodine Microbiological profile Vanodox, 2020.

Class: Oxidizer **Type of product:** Liquid

Active ingredient(s)	Concentration (%)
Hydrogen peroxide	20-25
Acetic acid	10-15
Peracetic acid	5-10
Alcohol	1-3

Application rate: Not available

Propylene glycol combination protocol: No study conducted

Product name: Vulkan Max
DIN: Not available

Manufacturer: HUVEPHARMA
275 SLATER STREET, SUITE 900
OTTAWA ON K1P 5H9
CANADA
Website: https://huvepharma.com/

Distributor: HUVEPHARMA CANADA CORPORATION INC.
275 SLATER STREET, SUITE 900
OTTAWA ON K1P 5H9
CANADA
Website: https://huvepharma.com/

Contact: Chris Wilson
Telephone: 1-888-384-7927
Direct:
Cell:
Email: chris.wilson@huvepharma.ca

Effective against the causative agent of:		**Type of study, dilution and contact time:**
ASF	✔	EU claim, tested by CISA, EU reference laboratory for ASF, EN-14675: 0.2%, 10°C, 30 minutes.
CSF	☐	
Foot-and-mouth disease	☐	
Aujeszky's disease/Pseudorabies	☐	
Swine vesicular disease	☐	
Vesicular stomatitis	☐	
Rabies	☑	Virucidal, tested against Bovine *enterovirus* type 1 (ECBO)
Anthrax	☐	
Brucellosis	☑	Bactericidal, tested against *Pseudomonas aeruginosa*, EN 1656: 0.1%, 10°C, 30 minutes.
Tuberculosis	☐	

References: Foulon, Franck, Global Product Manager Hygiene, Huvepharma.

Class: Quaternary ammonium and aldehyde **Type of product:** Liquid

Active ingredient(s)	**Concentration (%)**
Didecyl dimethyl ammonium chloride	1.70
Alkyl dimethyl benzyl ammonium chloride	16.0
Glutaraldehyde	14.30

Application rate: 30.0 litres of solution per 100 m^2/1,000 ft^2 **Protocol combined with propylene glycol:** No study conducted