

Glycolic Acid, 70%

Antimicrobial Properties and Benefits in Disinfection Applications

Product Information

Registered formulations with broad spectrum disinfectancy claims

Glycolic acid, containing 70% active ingredient, is a registered active ingredient in many parts of the world. It can be used as an active ingredient in formulating liquid, hard, non-porous surface disinfectants for household, industrial, institutional, or commercial premises. Glycolic acid may also be used in formulating disinfecting cleaners for use in agricultural premises and food processing facilities, and on food processing equipment. Local regulations and guidelines need to be followed at all times.

Antimicrobial Activity—Use Dilution Testing

Bacterial Studies

Test Description: Modified AOAC Official Method 955.14 and 964.02—Use Dilution Test Method, 15th ed. Stainless steel penicylinders were inoculated with the appropriate bacterium, dried, exposed to 7% glycolic acid for 10-min contact times at 20 °C (68 °F), immediately transferred to Lethen neutralizing broth, and incubated at 37 °C (98.6 °F) for 48 hr. Killing of all test organisms with 10 carriers (or with 60 carriers) is presumptive evidence of disinfecting action. The data for both Gram-positive and Gram-negative bacteria are presented below. Bactericidal activity (i.e., complete kill expressed as % reduction) was achieved in 10 min to gain a broad spectrum disinfectant claim.

Bacterium	ATCC No.	% Reduction
<i>Escherichia coli</i>	25922	>99.999
<i>Escherichia coli</i> 0157:H7	35150	>99.9999
<i>Listeria welshimeri</i>	35897	>99.9999
<i>Pseudomonas aeruginosa</i>	15442	>99.9999
<i>Salmonella choleraesuis</i>	10708	>99.9999
<i>Salmonella typhimurium</i>	6539	>99.9999

Viral Studies

Test Description: Viricidal Efficacy Test (EPA's DIS/TSS-7 Efficacy Data Requirements: Viricides). Sterile glass petri dishes were inoculated with the appropriate virus in 1% fetal bovine serum, dried, sprayed with 7% glycolic acid for 10-min contact times at 26°C (78.8 °F), scraped, detoxified using a Sephadex column, and enumerated by serial dilution onto the appropriate cell line. The product must demonstrate complete inactivation of the virus. Viricidal activity (i.e., complete inactivation expressed as % reduction) was achieved in 10 min with a 1% organic load present.

Virus	ATCC No.	% Reduction
Herpes simplex virus type 1	VR-733, strain F(1)	≥99.99
Influenza type A ₂	VR-544, strain Hong Kong	≥99.99
Rhinovirus type 37	VR-1147, strain 151-1	≥99.99

Glycolic Acid Antimicrobial Activity—Formulation Testing

Testing was done utilizing the Glyclean™ Hard Surface Cleaner formulation with a 5% glycolic acid active ingredient concentration. Testing was conducted to determine efficacy on hard, non-porous surfaces using the AOAC method 961.02 for germicidal sprays as disinfectants. This testing was conducted in the presence of a 5% fetal bovine serum organic load to allow for a one-step clean and disinfect claim. The data for both Gram-positive and Gram-negative bacteria, as well as several viral strains, are presented below. Bactericidal and viricidal activity (i.e., complete kill, expressed as % reduction) was achieved in 10 min.

Bacterium	ATCC No.	% Reduction
<i>Escherichia coli</i>	11229	>99.99
<i>Escherichia coli</i> O157:H7	43888	>99.999
<i>Pseudomonas aeruginosa</i>	15442	>99.9999
<i>Salmonella choleraesuis</i>	10708	>99.9999
<i>Staphylococcus aureus</i>	6538	>99.9999

Virus	ATCC No.	% Reduction
Herpes simplex virus type 1	VR-733, strain F(1)	≥99.99
Influenza type A ₂	VR-544, strain Hong Kong	≥99.99
Rhinovirus type 37	VR-1147, strain 151-1	≥99.9

Formulation

Glyclean™ Hard Surface Cleaner

Component	%
Glycolic Acid, 70%	7.3
Dipropylene glycol methyl ether (CAS No. 34590-94-8)	*
Alkene C 14-16 alpha sulfonated sodium salts (CAS No. 68439-57-6)	*
Sodium 1-octanesulfonate (CAS No. 5324-84-5)	*
Polyethyleneglycol mono ether (CAS No. 61827-42-7)	*
Xylenesulfonic acid sodium salt (CAS No. 1300-72-7)	*
Fragrances	*
Colorants	*

A dye/fragrance-free formula is also available upon request.

*Contact Chemours for further information.

This product qualifies for emerging viral pathogen claims per the EPA's 'Guidance to Registrants: Process for Making Claims Against Emerging Viral Pathogens not on EPA-Registered Disinfectant Labels' when used in accordance with the appropriate use directions indicated below.

This product meets the criteria to make claims against certain emerging viral pathogens from the following viral categories:

- Enveloped Viruses
- Large Non-Enveloped Viruses

For an emerging viral pathogen that is an following the directions for use for the following supporting organism(s) on the label:
Enveloped virus	Rhinovirus Type 37
Large Non-Enveloped Virus	Rhinovirus Type 37

Glyclean™ Hard Surface Cleaner has demonstrated effectiveness against viruses similar to SARS-CoV-2 on hard, non-porous surfaces. Therefore, Glyclean™ Hard Surface Cleaner can be used against SARS-CoV-2 when used in accordance with the directions for use against Rhinovirus Type 37 on hard, non-porous surfaces. Refer to the CDC website at <https://www.cdc.gov/coronavirus/2019-nCoV/index.html> for additional information.

Covid-19 is caused by SARS-CoV-2. Glyclean Hard Surface Cleaner kills similar viruses and therefore can be used against SARS-CoV-2 when used in accordance with the directions for use against Rhinovirus Type 37 on hard, non-porous surfaces. Refer to the CDC website at <https://www.cdc.gov/coronavirus/2019-nCoV/index.html> for additional information.

Benefits of Glycolic Acid in a Clean and Disinfect Formula

At the concentrations needed for disinfection, glycolic acid also provides excellent cleaning properties. Glycolic acid is highly effective on calcium- or magnesium-based soils or scales. The following glycolic acid properties make it an excellent foundation for a clean and disinfect formula:

- Readily biodegradable
- Compatible with a wide range of formulation components
- Easy with which to formulate
- Excellent rinsability
- Extremely low vapor pressure and not a VOC contributor
- Safe on a wide variety of surfaces
- Relatively safe end-user profile, especially at concentrations needed for disinfection

For more information, visit glycolicacid.chemours.com or call (800) 441-9593.

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