

PURAC® Sanilac

Deliver mild, effective hand hygiene using far less alcohol



- ▶ Supports lower alcohol content
- ▶ Dual antibacterial & antiviral functionality
- ▶ Lactic acid BPR approved in the EU
- ▶ Safe, non-toxic alternative to traditional biocides
- ▶ Biobased & readily biodegradable

The coronavirus pandemic has heightened public focus on the importance of hand hygiene. Health and governmental authorities worldwide stress the potential of conscientious hygienic practices, like those recommended by the World Health Organization, to slow the spread of COVID-19.

Disinfectant products that provide a convenient means of sanitization when handwashing is not possible are critical for protecting against viral threats. But given the need for frequent hand cleansing to avoid infection, many disinfecting hand rubs are too harsh and drying to the skin. There is a need in the market for solutions that deliver both antimicrobial efficacy and gentleness.

Many disinfectant hand rubs and sprays use high levels (>70%) of alcohol to deliver disinfectant properties and rapid evaporation. These high levels of ethanol dry out the skin with frequent use. Furthermore, with alcohol supplies running short due to dramatically increased demand, solutions that enable less dependence on the use of alcohol could help meet the urgent needs of the market.

Ethanol content of 40% is generally sufficient to achieve quick evaporation, but too low to provide proper disinfection of the hands. When combined with lactic acid, however, 40% ethanol will eliminate germs, evaporate quickly and have a milder effect on the skin. Such a solution could nearly double the amount of hand sanitizer produced.

Registrations

Lactic acid is registered under **BPR** PT1 for human hygiene purposes.

In the US, lactic acid is only **EPA** registered for cleaning purposes and for manufacturing use only. For use in human hygiene applications, the formulation itself needs to be registered at the FDA. Corbion does not have such a registration in place.

The following formulations are not registered under BPR product registration, although a temporary approval can be requested per country in crisis situations such as those currently underway when using an approved substance.

Formulators should seek advice from their country's registration authorities.



Example formulation: Hand Sanitizing Gel

PHASE	INGREDIENTS	INCI	WT%	FUNCTION
A	Keltrol® CG-SFT ¹	Xanthan Gum	0.5	Thickener
	Glycerin	Glycerin	2.00	Humectant
B	Demi Water	Water	q.s. to 100	
C	Ethanol 99+%	Ethanol Absolut 99+%	40	Solvent & Active
	PURAC® Sanilac 80 ²	Lactic Acid (and) Water	1.88	Antimicrobial active
	pH adjuster	pH adjuster	q.s. to pH 3.5	pH regulator

- ▶ Lower alcohol content
- ▶ Antibacterial & antiviral claim
- ▶ Lactic Acid BPR Approved for PT1, 2, 3, and 4

Manufacturing procedure

Mix the ingredients of part A and premix until a homogenous mixture is obtained. Add part A to part B and mix by using an overhead stirrer at 500-600 RPM or higher if necessary. When fully mixed and a gel is obtained, add part C slowly under stirring. Adjust the pH if necessary to pH 3.5-4.0.

When a hand spray is preferred, the thickener can be omitted without compromising efficacy.

Product characteristics

Appearance: Transparent Liquid Gel
Viscosity: 250-300 cP
pH: 3.5-4.0

Suppliers

¹ CP Kelco | ² Corbion

Efficacy data: sanitizer

Formula pH 3.5	EN1276 (Gr-/Gr+)	EN1275 C. albicans	EN14476 Enveloped viruses	EN14476 Corona virus*
Sanitizer 1.88% PURAC Sanilac 80				

EN1276 and EN1275:

1 min contact time, 80% solution, dirty conditions, > log 5 reduction

EN14476: 1 min contact time, 80% solution, dirty conditions, > log 4 reduction

*Tested at Bluetest Laboratories. Mouse coronavirus as human surrogate.

- Enveloped virus: H1N1 Influenza A virus ATCC VR1469
- Enveloped virus: Human herpes-1 virus ATCC VR733
- Enveloped virus: Feline Immunodeficiency virus CRFK cells, human HIV surrogate
- Enveloped virus: Duck hepatitis B virus, human Hepatitis B surrogate

Example formulation: Handsoap

INGREDIENTS	INCI	WT%	FUNCTION
Texapon ALS Benz ¹	Ammonium Lauryl Sulfate	14.54	Surfactant
Stepanol DCFAS-N ²	Sodium cocosulfate	5.49	Surfactant
PURAC® Sanilac 80 ³	L-Lactic acid (and) Aqua	3.12	Antibacterial
Propanediol	Propanediol	0.51	Humectant
EDTA	Tetrasodium ethylenediaminetetraacetate	0.20	Chelating agent
pH adjuster	pH adjuster	q.s. 4	pH adjuster
Water	Aqua	q.s. 100	

- ▶ Antibacterial & antiviral claim
- ▶ Safe solution
- ▶ Lactic Acid BPR Approved for PT1, 2, 3, and 4

Manufacturing procedure

Mix all ingredients until dissolved. Measure the pH and adjust if necessary. Maintain a preferred formulation pH of 3.5 - 4.0. Chelating agents can boost antimicrobial performance. Usage of Sanilac at 1.5 - 3% is required to achieve kill against a broad range microbes. Sodium coco sulfate can be replaced by sodium lauryl sulfate with equal efficacy, although the resulting formulation will be less mild.

Product characteristics

Appearance: Clear liquid
Viscosity: 300 cps

Suppliers

¹ BASF | ² Stepan | ³ Corbion

Efficacy data: Handsoap

Formula pH 4	EN1276 (Gr-/Gr+)	EN1275 C. albicans	EN14476 Enveloped viruses	EN14476 Corona virus*
Handsoap 3% PURAC Sanilac 80				

*Tested at Bluetest Laboratories. Mouse coronavirus as human surrogate.

EN1276 and EN1275:

1 min contact time, 80% solution, dirty conditions, > log 5 reduction

EN14476: 1 min contact time, 50% solution, dirty conditions, > log 4 reduction



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For the home and I&I industry, Corbion offers Lactic Acid and Lactic Acid derivatives. Corbion's products are highly effective and yet readily biodegradable therefore an ideal choice for environmentally safer and more sustainable scale removers and disinfectants. Corbion operates 10 production plants, in the USA, the Netherlands, Spain, Brazil and Thailand, and markets its products through a worldwide network of sales offices and distributors.