



Alcohol-Based Hand Sanitizer in gel.

11 Formulations





Background

There is currently an outbreak of respiratory disease caused by a novel coronavirus that was first detected in Wuhan City, Hubei Province, China, and that has now spread globally, to include the United States. The virus has been named “SARS-CoV-2” and the disease it causes has been named “Coronavirus Disease 2019” (COVID-19). On January 31, 2020, the Department of Health and Human Services (HHS) issued a declaration of a public health emergency related to COVID-19 and mobilized the Operating Divisions of HHS.

Washing hands often with soap and water for at least 20 seconds is essential, especially after going to the bathroom; before eating; and after coughing, sneezing, or blowing one’s nose. If soap and water are not readily available, there is a recommendation for consumers to use an alcohol-based hand sanitizer. An important factor for the antimicrobial activity or degree of hydration, being ideal for an alcoholic solution of 70% (weight / volume), since there is a presence of approximately 30% of water, providing a protein denaturation with subsequent interference in the metabolism and division cellular microbial. In the absence of water, as proteins denature more slowly, explaining the fact that alcohol above or below the ideal concentration is not effective. Therefore, alcohol in the appropriate ranges represents an inexpensive antiseptic, extremely fast and effective in reducing the number of microorganisms found on the skin.





FORMULATION #1

Alcohol-Based Hand Sanitizer Gel #1	
Ethanol 96° GL	75,73g
Carbomer	1,00 g
NaOH 25% Solution*	pH 6,5 – 7,0
Water	q.s. to 100g
Glycerin	3,00g



* NaOH can be replaced by triethanolamine or AMP (Aminomethyl Propanol)



Guide to production

1. Add the water.
2. Add the carbomer without agitation*. Wait until complete hydration of the polymer.
3. Start stirring and mix for a few minutes. Make sure there is no agglomerated microgel particles in the formulation. If so, keep mixing until it complete disappeared.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.
6. Keep stirring and neutralize with NaOH solution. (pH must be between 6,0– 7,0)

* For small batches use the addition technique without stirring. For larger batches, add the carbomer under high agitation.

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #2

Alcohol-Based Hand Sanitizer Gel #2	
Ethanol 96° GL	75,73g
Aristoflex AVC	1,20 g
Water	q.s. to 100g
Glycerin	3,00g





Guide to production

1. Add the water.
2. Add the Aristoflex AVC without agitation*. Wait until complete hydration of the polymer.
3. Start stirring and mix for a few minutes. Make sure there is no agglomerated microgel particles in the formulation. If so, keep mixing until it complete disappeared.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.

* For small batches use the addition technique without stirring. For larger batches, add the Aristoflex AVC under high agitation.

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #3

Alcohol-Based Hand Sanitizer Gel #3	
Ethanol 96° GL	75,73g
Pemulen TR-1	1,00 g
NaOH 25% Solution*	pH 6,5 – 7,0
Water	q.s. to 100g
Glycerin	3,00g



* NaOH can be replaced by triethanolamine or AMP (Aminomethyl Propanol)



Guide to production

1. Add the water.
2. Add the Pemulen TR-1 without agitation*. Wait until complete hydration of the polymer.
3. Start stirring and mix for a few minutes. Make sure there is no agglomerated microgel particles in the formulation. If so, keep mixing until it complete disappeared.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.
6. Keep stirring and neutralize with NaOH solution. (pH must be between 6,0– 7,0)

* For small batches use the addition technique without stirring. For larger batches, add the Pemulen TR-1 under high agitation.

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #4

Alcohol-Based Hand Sanitizer Gel #4	
Ethanol 96° GL	75,73g
Pemulen EZ-4U	1,00 g
NaOH 25% Solution*	pH 6,5 – 7,0
Water	q.s. to 100g
Glycerin	3,00g



* NaOH can be replaced by triethanolamine or AMP (Aminomethyl Propanol)



Guide to production

1. Add the water.
2. Add the Pemulen EZ-4U without agitation*. Wait until complete hydration of the polymer.
3. Start stirring and mix for a few minutes. Make sure there is no agglomerated microgel particles in the formulation. If so, keep mixing until it complete disappeared.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.
6. Keep stirring and neutralize with NaOH solution. (pH must be between 6,0– 7,0)

* For small batches use the addition technique without stirring. For larger batches, add the Pemulen EZ-4U under high agitation.

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #5

Alcohol-Based Hand Sanitizer Gel #5	
Ethanol 96° GL	75,73g
Aculyn 33	10,00 g
NaOH 25% Solution*	pH 6,5 – 7,0
Water	q.s. to 100g
Glycerin	3,00g



* NaOH can be replaced by triethanolamine or AMP (Aminomethyl Propanol)



Guide to production

1. Add the water.
2. Add the Aculyn 33 under agitation.
3. Start stirring and mix for a few minutes.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.
6. Keep stirring and neutralize with NaOH solution. (pH must be between 6,0– 7,0)

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #6

Alcohol-Based Hand Sanitizer Gel #6	
Ethanol 96° GL	75,73g
Focus Gel Aqua	10,00 g
NaOH 25% Solution*	pH 6,5 – 7,0
Water	q.s. to 100g
Glycerin	3,00g



* NaOH can be replaced by triethanolamine or AMP (Aminomethyl Propanol)



Guide to production

1. Add the water.
2. Add the Focus Gel Aqua 33 under agitation.
3. Start stirring and mix for a few minutes.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.
6. Keep stirring and neutralize with NaOH solution. (pH must be between 6,0– 7,0)

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #7

Alcohol-Based Hand Sanitizer Gel #7	
Ethanol 96° GL	75,73g
Cellosize QP 100	1,00 g
Water	q.s. to 100g
Glycerin	3,00g





Guide to production

1. Add the water.
2. Heat the water (65 – 70° C) or (149 – 158°F)
3. Slowly Add the Hydroxyethylcellulose under agitation.
4. Start stirring and mix for a few minutes. Make sure there is no agglomerated microgel particles in the formulation. If so, keep mixing until it complete disappeared.
5. Add the alcohol under constant stirring.
6. Add glycerin under constant stirring.

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #8

Alcohol-Based Hand Sanitizer Gel #8	
Ethanol 96° GL	75,73g
Sepigel 305	1,50 g
Water	q.s. to 100g
Glycerin	3,00g





Guide to production

1. Add the water.
2. Add the Sepigel 305 under agitation.
3. Start stirring and mix for a few minutes.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

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HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #9

Alcohol-Based Hand Sanitizer Gel #9	
Ethanol 96° GL	75,73g
Sepimax Zen	1,00 g
Water	q.s. to 100g
Glycerin	3,00g





Guide to production

1. Add the water.
2. Slowly Add the Sepimax Zen under agitation.
3. Start stirring and mix for a few minutes. Make sure there is no agglomerated microgel particles in the formulation. If so, keep mixing until it complete disappeared.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

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HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #10

Alcohol-Based Hand Sanitizer Gel #10	
Ethanol 96° GL	75,73g
Aculyn 22	8,00 g
NaOH 25% Solution*	pH 6,5 – 7,0
Water	q.s. to 100g
Glycerin	3,00g



* NaOH can be replaced by triethanolamine or AMP (Aminomethyl Propanol)



Guide to production

1. Add the water.
2. Add the Aculyn 22 under agitation.
3. Start stirring and mix for a few minutes.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.
6. Keep stirring and neutralize with NaOH solution. (pH must be between 6,0– 7,0)

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



FORMULATION #11

Alcohol-Based Hand Sanitizer Gel #11	
Ethanol 96° GL	75,73g
Carbopol Aqua	8,00 g
NaOH 25% Solution*	pH 6,5 – 7,0
Water	q.s. to 100g
Glycerin	3,00g



* NaOH can be replaced by triethanolamine or AMP (Aminomethyl Propanol)



Guide to production

1. Add the water.
2. Add the Carbopol Aqua under agitation.
3. Start stirring and mix for a few minutes.
4. Add the alcohol under constant stirring.
5. Add glycerin under constant stirring.
6. Keep stirring and neutralize with NaOH solution. (pH must be between 6,0– 7,0)

PACKAGING AND STORAGE

In a suitable plastic container, store between 15-30C (59-86F)

WARNINGS

Do not use in children less than 2 months of age

Do not use on open skin wounds

INDICATIONS

Hand sanitizer to help reduce bacteria that potentially can cause disease. For use when soap and water are not available.

HOW TO USE

External use. Apply to skin antiseptis and disinfect surfaces and materials.



Reference

Formulário Nacional da Farmacopeia Brasileira, 2ª edição Rev. 02



Where to find

Where to find			
Raw materials	INCI	Suppliers	Supplier website
Aculyn 22	Acrylates/Steareth-20 Methacrylate Copolymer	Aqia	www.aqia.net
Aculyn 33	Acrylates copolymer	/ Aqia	www.aqia.net
Aristoflex AVC	Ammonium Acryloyldimethyltaurate/VP Copolymer	PIC Química	pic-web.com.br
Carbopol Aqua	Acrylates copolymer	Lubrizol	www.lubrizol.com
Carbopol ultrez 20	Acrylates/C10-30 Alkyl Acrylate Crosspolymer	Lubrizol	www.lubrizol.com
Cellosize QP 100MH	Hydroxyethylcellulose	Aqia	www.aqia.net
Focus Gel Aqua	Acrylates copolymer	Focus química	www.focusquimica.com
Pemulen EZ-4U	Acrylates/C10-30 Alkyl Acrylate Crosspolymer	Lubrizol	www.lubrizol.com
Pemulen TR-1	Acrylates/C10-30 Alkyl Acrylate Crosspolymer	Lubrizol	www.lubrizol.com
Sepigel 305	Polyacrylamide (and) C13-14 Isoparaffin (and) Laureth-7	Seppic	www.seppic.com
Sepimax Zen	Polyacrylate Crosspolymer-6	Seppic	www.seppic.com



Thank you!

Our website: www.icosmetologia.com.br

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