gentle touch hand sanitizer
formula # 11795-96-1
material # 954249

description
This 65% ethanol hand sanitizer contains a combination of a nature-based rheology modifiers and emollients to deliver an almost clear and viscous gel. The result is a shear-thinning formula for easy application with a smooth and gentle experience that also moisturizes.

ingredients
Natrosol™ 250 HHR CS hydroxyethylcellulose (HEC)
a nonionic thickener, with 60-65% alcohol compatibility, offers good salt tolerance and a lubricous skin feel. And, it is nature-derived (>54% natural origin by ISO 16128-2:2017).

Ceraphyl™ 31 ester
An emollient that reduces tackiness, boosts viscosity and enhances sensory properties. It is nature-based (lactic acid) and biodegradable. Imparting non-oily lubricity to hydroalcoholic product, this ester is best at neutral pH.

Lubrajel* Oil hydrogel
A clear, water-soluble, nature-derived emollient that imparts excellent lubricity and a silky feel. It is biodegradable and derived from responsibly-sourced palm oil.

typical properties
description: very slightly hazy gel
pH: 6.0-6.5
viscosity (Brookfield DV-I sp 5 @ 20 rpm, 20°C): 14,700 cP
stability information: This formula has passed 3 months at room temperature, 45°C and 5°C stability testing.

*Lubrajel is a registered trademark of United-Guardian, Inc.
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material # 954249

<table>
<thead>
<tr>
<th>ingredients (trade name</th>
<th>INCI)</th>
<th>% w/w</th>
<th>supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>phase a</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Deionized Water</td>
<td>Aqua (Water)</td>
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<tr>
<td>Natrosol™ 250 HHR CS HEC</td>
<td>Hydroxyethylcellulose</td>
<td>1.40</td>
<td>Ashland</td>
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<tr>
<td>Sodium Hydroxide (10% aqueous solution)</td>
<td>Sodium Hydroxide</td>
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<td>phase b</td>
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</tr>
<tr>
<td>Ethanol</td>
<td>Alcohol</td>
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<td>phase c</td>
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<tr>
<td>Lubrajel* Oil hydrogel</td>
<td>Glycerin (and) Glyceryl Acrylate/Acrylic Acid Copolymer (and) Propylene Glycol (and) PVM/MA Copolymer</td>
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<tr>
<td>Ceraphyl™ 31 ester</td>
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<tr>
<td>total</td>
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<td>100.00%</td>
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*trademark of a third party

procedure

1. Prepare phase A. Add Natrosol™ 250 HHR CS HEC to the aqueous phase and mix for about 5 minutes
2. Prepare phase B. Add 1/3 of the total amount of the ethanol and mix for about 5 minutes.
3. Increase the pH with NaOH to pH 8 and adjust mixing speed so that solution “turns over.”
4. Continue mixing until a smooth and very slightly hazy solution is obtained that is free of lumps.
5. Add the remaining alcohol slowly in small amounts. Mix until smooth solution between additions.
6. Add ingredients in phase C while continuing to mix.