Technical Data Sheet

**DOWSIL™ HV 496 Emulsion**

High molecular weight, silanol functional siloxane polymer emulsion, low cyclic siloxane content

### Features & Benefits

**Textiles**
- Natural to slick handle
- Improved tear strength on woven fabric
- Improved crease resistance
- Improved abrasion resistance
- Improved stretch recovery of knitted garments
- Fabric whiteness retention

**Leather**
- Excellent thermal stability
- Easy application
- Good slip characteristics, imparts greasy hand feel to leather surface
- Good abrasion resistance
- Excellent dilution stability
- High gloss/color intensity
- Good surface wetting characteristics

**Release**
- Excellent thermal stability
- Easy application
- Excellent dilution stability
- Good surface wetting characteristics

**Auto/Home Care**
- Excellent emulsion stability
- Easy application
- Good slip characteristics
- Good detergent resistance
- Excellent dilution stability
- High gloss/color intensity
- Good surface wetting characteristics

**Mineral Wool/Fiberglass Hydrophobing**
- Good water repellency
- Good compatibility with phenolic resin binder solutions
- Excellent dilution stability
Applications

- Can be used to provide an elastomeric finish on fabrics
- Enhances the performance of traditional crease resist resin systems
- Hand modifier in water-based top finishing formulations for leather treatment; also provides abrasion resistance and gloss
- Industrial release
- In aerosol spray starch products as ironing aid
- In hard surface cleaners to protect substrates
- In shoe polishes
- Hydrophobing agent for mineral wool products

Typical Properties
Specification Writers: These values are not intended for use in preparing specifications.

<table>
<thead>
<tr>
<th>Test1</th>
<th>Property</th>
<th>Unit</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTM 0176B</td>
<td>Appearance</td>
<td></td>
<td>Milky white</td>
</tr>
<tr>
<td>CTM 0007A</td>
<td>pH</td>
<td></td>
<td>6.5–8.5</td>
</tr>
<tr>
<td>CTM 0862</td>
<td>Non-volatile content</td>
<td>% w/w</td>
<td>38–42</td>
</tr>
<tr>
<td></td>
<td>Emulsion type</td>
<td></td>
<td>Slightly anionic</td>
</tr>
</tbody>
</table>

1. CTM: Corporate Test Method, copies of CTMs are available on request.

Description

DOWSIL™ HV 496 Emulsion contains a high molecular weight, reactive, polydimethylsiloxane polymer. The product is also low in cyclic siloxane content.

In textiles, DOWSIL HV 496 Emulsion can be used to enhance the performance of traditional crease resist resin systems. The slightly anionic character of the emulsion makes this material most suitable for application by padding. DOWSIL HV 496 Emulsion can be used in fabric finishing formulations with organic softeners or as the major component.

Formulations of DOWSIL HV 496 Emulsion are best applied on conventional padding equipment. Exhaustion is not possible due to the slightly anionic character of DOWSIL HV 496 Emulsion. The pad bath should be formulated to give a pick-up of 0.5 to 2.0% silicone based on the dried weight of the fabric. Adjusting the ratios of the specific components of the formulation will give a wide variety of handles and effects.

DOWSIL HV 496 Emulsion imparts good softness to treated fabrics, without causing any yellowing. The emulsion can be cross-linked to form an elastic finish, imparting stretch recovery to knitted goods.

DOWSIL HV 496 Emulsion can also be used as an ingredient in leather finishes to improve hand, abrasion resistance and gloss. Add 1% to 4% by weight of the DOWSIL HV 496 Emulsion to the aqueous phase of the desired mixture using low shear mixing.

DOWSIL HV 496 Emulsion is useful as mold release agent in the fabrication of rubber and plastic parts. Best performance is when used alone, in a diluted form to 1% to 5% by weight in water.
Description (Cont.)

DOWSIL HV 496 Emulsion imparts effective hydrophobicity at low add-on levels on mineral wool or fiberglass.

DOWSIL HV 496 Emulsion is useful in auto and home care polishes and as ironing aid in spray starch products. Incorporate at levels between 3.5% and 7.0% in the aqueous phase of any product with low shear mixing.

How To Use

Textiles

1. Scour goods in a non-ionic detergent and rinse thoroughly. Follow with an acid rinse using 2 g/1 of 80% acetic acid for 5 minutes. This will neutralize any alkali residues from previous processes that may cause pad bath instability and lead to oil spots on fabrics or gel on the rollers.

2. If crease resist resins or fillers are used, dilute in a separate tank in accordance with the manufacturer’s instructions. If hot, cool to below 30°C (86°F). Add to the mixing tank.

3. Pre-dilute the required amount of DOWSIL HV 496 Emulsion with approximately equal weight of cold water and add to the mixing tank.

4. If crease resist resin catalyst is used, pre-dilute with an equal weight of water and add to the mixing tank.

5. Top-up to final volume with cold water and adjust to pH 4.5–5.5 with 80% acetic acid.

<table>
<thead>
<tr>
<th></th>
<th>20–25°C (68–77°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquor temperature</td>
<td>4.5–5.5</td>
</tr>
<tr>
<td>Liquor pH</td>
<td>110–130°C (230–266°F)</td>
</tr>
<tr>
<td>Drying</td>
<td>30–70 seconds</td>
</tr>
<tr>
<td>Curing</td>
<td>Zone 1 110°C (30°F)</td>
</tr>
<tr>
<td></td>
<td>Zone 2 130°C (266°F)</td>
</tr>
<tr>
<td></td>
<td>Zone 3 150–190°C (302–374°F)</td>
</tr>
<tr>
<td></td>
<td>Other Zones 150–90°C (302–374°F)</td>
</tr>
<tr>
<td></td>
<td>Oven 4–5 minutes 150°C (302°F)</td>
</tr>
</tbody>
</table>

Specific times and temperatures will vary with fabrics and finishes.

Hydrophobing Mineral Wool

If used in a resin system, DOWSIL HV 496 Emulsion can be added in a prediluted form in water. Although this emulsion has good compatibility with some phenolic resins it may be necessary to mix it with the resin immediately before coating the substrate.

As a starting addition rate, it is recommended that DOWSIL HV 496 Emulsion is added at 0.2% (by weight) of the untreated mineral wool or fiberglass substrate.
How To Use (Cont.)

Other Applications

DOWSIL HV 496 Emulsion can be diluted to the desired actives content useful in the application by using water. Once diluted, the mixture should be used in a timely manner to minimize the potential for microbial contamination or stability issues to develop.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life And Storage

When stored at or below 40°C (104°F) in the original unopened containers, this product has a usable life of 18 months from the date of production.

Packaging Information

This product is available 20 kg pails, 200 kg drums and 1000 kg IBC.

Samples are available in 1 kg bottles.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Health And Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

Compared to DOWSIL™ HV 495 Emulsion, DOWSIL HV 496 Emulsion has low cyclics content, and the biocide is not a skin-sensitizer.

For further information, please see our website, www.consumer.dow.com or consult your local Dow representative.

http://www.consumer.dow.com

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