**MIRASIL® ADMH B100**

**Description**

C.T.F.A. / I.N.C.I. Name: C15-19 ALKANE (and) Propoxyltetramethylpiperidinyl Dimethicone  
CAS N° 64742-46-7 (and) 171543-65-0  
MIRASIL ADMH B100 is an alkane solution of a high viscosity hindered amine functionalised-polydimethylsiloxane, specially developed, and patented, for formulation to non-yellowing emulsions and micro emulsions.  
It's an eco-friendly silicone performance concentrate.

**Examples of applications**

MIRASIL ADMH B100 is a fluid stable in a wide range of cosmetic formulations.  
- **Hair Care:**  
  - Enable clear shampoo formulations and cold process manufacturing.  
  - Provides smooth, feel to dry hair.  
  - Eases wet and dry combing.  
  - Brings long lasting conditioning without build-up.  
  - Improves color depth and longevity when used in semi-permanent colour product.  
  - Protects hair from heat damage  
- **Skin Care:**  
  - Free radical scavenger  
- **Recommended use levels:**  
  - Hair care products: 0.5% - 5%  
  - Skin Care: 0.5% - 5%

**Characteristics**

- Appearance (Standard SH-1) ......................... Clear colourless to yellow liquid  
- Colour, (Standard SH-42), Hazen ................................................................. < 50  
- Turbidity (NTU) ................................................................. < 10  
- Odour........................................................................................................ Amine  
- Viscosity, at 25°C (Standard SH-13), mm2/s, approx .............................................. 2 000  
- Amine content (meq/100g) ................................................................................. 8-11  
- Refractive Index (Standard SH-9), 25°C, approx .............................................. 1.428  
- Flash point (closed cup, °C) ............................................................................. 124  
- Solid content, 150°C-1g-2h(Standard SH-6), %, approx................................. 84  
- Heavy metals (Standard SH-36), ppm Pb ....................................................... < 5  
- Octamethylcyclotetrasiloxane content (%) ...................................................... < 0.9  
- Density at 25°C (g/cm3) ............................................................................... 0.883
## Characteristics (cont')

### Solubility of MIRASIL ADMH B100 with various cosmetic ingredients

<table>
<thead>
<tr>
<th>TYPE OF MATERIAL</th>
<th>1/10*</th>
<th>1/1</th>
<th>10/1</th>
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<tbody>
<tr>
<td><strong>HYDROCARBONS</strong></td>
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<tr>
<td>Mineral oil</td>
<td>I</td>
<td>I</td>
<td>I</td>
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<tr>
<td>Isododecane</td>
<td>S</td>
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<tr>
<td><strong>ALCOHOLS &amp; GLYCOLS</strong></td>
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<tr>
<td>Ethanol</td>
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<tr>
<td>Glycerol</td>
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<tr>
<td>Propylene glycol</td>
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<tr>
<td>Octyl dodecanol</td>
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<tr>
<td><strong>OILS</strong></td>
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<tr>
<td>Jojoba oil</td>
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<td>Almond oil</td>
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<td>Castor oil</td>
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<tr>
<td>Wheat germ oil</td>
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<td><strong>ESTERS</strong></td>
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<tr>
<td>Isopropyl myristate</td>
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<tr>
<td>Isopropyl palmitate</td>
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<tr>
<td>Caprylic triglycerides</td>
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<td><strong>SUNSCREENS</strong></td>
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<td>Butyl methoxydibenzoylmethane</td>
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<tr>
<td>Octyl methoxyccinnamate</td>
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<td>S</td>
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<tr>
<td>Oxybenzone</td>
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<tr>
<td><strong>SILICONES</strong></td>
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<tr>
<td>MIRASIL CM5 (Cyclopentasiloxane)</td>
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<tr>
<td>MIRASIL PTM (Phenyl Trimethicone)</td>
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<td>MIRASIL DM 350 (Dimethicone medium viscosity)</td>
<td>S</td>
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<tr>
<td>MIRASIL C-DML (Cyclopentasiloxane (and) Dimethiconol)</td>
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</tbody>
</table>

* = 10% of MIRASIL ADMH B100 and 90% of tested material  
S = Soluble  
I = Completely or partially insoluble
**Performance Data**

**Free radical scavenger**

The aim of this study is to evaluate the antioxidant properties of a cosmetic raw material by means of its anti-radicals features.

Antiradical activity assay is based on the reduction of 1,1-diphenyl-2-picrylhydrazyl (DPPH). Due to the presence of an odd electron, it gives a strong absorption maximum at 515 nm.

**Protocol**

Experimental protocol required the determination and the quantification of antioxidant activity of tested sample by means of evaluation of its scavenging properties against synthetic radical DPPH.

Tested samples were added to cups containing a DPPH solution and the solution absorbance variation at 515 nm was measured during 5 minutes.

**Results**

For each tested sample concentration, reduced DPPH concentration after monitored period was calculated. These quantities were plotted with sample concentrations and EC50 parameter was calculated (EC50 is the sample concentration which reduces by 50% the initial DPPH concentration).

Anti-Radical Power ARP (ARP) was calculated too as the inverse of EC50, expressed in %.

![Graph](image)

The Ferrin Reducing Antioxidant (FRAP) parameter is a direct measure of the total reductive power of a matrix and an indirect index of the capability of the product to protect against the oxidative damage.

![Graph](image)
Performance Data

Conclusion
Experimental data show that tested product has a scavenging activity against synthetic radical DPPH at all of tested concentrations and with a dose-dependence feature. The product added to a base cream maintains its activity that is proportional to its final concentration.
Experimental data show that tested product has a reducing activity against the used oxidant agent at all of tested concentrations and with a dose dependence feature. The product added to a base cream maintains its activity that is proportional to its final concentration.

Packaging

MIRASIL ADMH B100 is available in:
- 4 drums 180 kg / Pal. 720 kg
SPECIAL PACKAGING (on request):
- 16 Jerrican 30I 25 kg / Pal. 400 kg

Storage and shelf life

When stored in its original unopened packaging, at a temperature between +2°C and +30°C, MIRASIL ADMH B100 may be stored for up to 12 months from the date of manufacture clearly marked on the packaging.

Beyond this date, Bluestar Silicones no longer guarantees that the product meets the sales specifications.

Safety

Please consult the Safety Data Sheet of MIRASIL ADMH B100.

Warning to the users

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