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TECHNICAL DATA SHEET

**Silwax® D02**  
Ethyl Methicone

**DESCRIPTION**

**Silwax® D02** is an alkyl methicone designed to have a dry after-feel similar to cyclomethicone in personal care applications, but is free of cyclic silicones. **Silwax D02** is a polymer under REACH and has a CAS number of 63148-54-9. **Silwax D02** has an INCI name of Ethyl Methicone.

**TYPICAL PROPERTIES**

<b>Appearance</b>	Clear Liquid
<b>Viscosity@ 25°C, cps</b>	8
<b>Active Content, %</b>	100
<b>Colour, Gardner</b>	< 1
<b>Solubility, (1%/10%):</b>	
- Water	- Insoluble/Insoluble
- Triglycerides	- Soluble/Soluble
- IPA	- Soluble/Soluble
- Mineral Oil	- Soluble/Soluble
- Cyclomethicone (D <sub>5</sub> )	- Soluble/Soluble
- 350 cps Silicone Fluid	- Soluble/Soluble

**USES AND APPLICATIONS**

**Silwax D02** provides a premium aesthetic and evaporative or dry after-feel in personal care formulations. **Silwax D02** is ideal for use as a replacement for cyclomethicone (D<sub>4</sub>, D<sub>5</sub> and D<sub>6</sub>), in applications including, but not limited to, antiperspirants, hair glossers, resins, moisturizers, lotions and pigmented products. Included alkyl functionality lends to increased compatibility in organic systems.

Blends of 1-5% **Silwax D02** with low viscosity esters and triglycerides provide premium aesthetics for applications where a less volatile, longer playtime is desired. Resulting blends are more compatible with silicones and also provide a cost-effective skin feel similar to using cyclomethicone in traditional formulations.

Evaporation studies conducted in a lab setting at various temperatures reveals that **Silwax D02** has a thin-film volatility approaching 2 cps silicone fluid. At skin temperature (37°F) **Silwax D02** is less volatile than D5 and slightly less volatile than 2 cps silicone oil, but more volatile than 5 cps silicone oil. Volatility comparisons between starting materials are depicted in Figure 1 of this TDS. Blends of **Silwax D02** with other ingredients can provide a tailored evaporation and skin aesthetic effect and formulation optimization should be examined for each intended application.

**SAFETY**

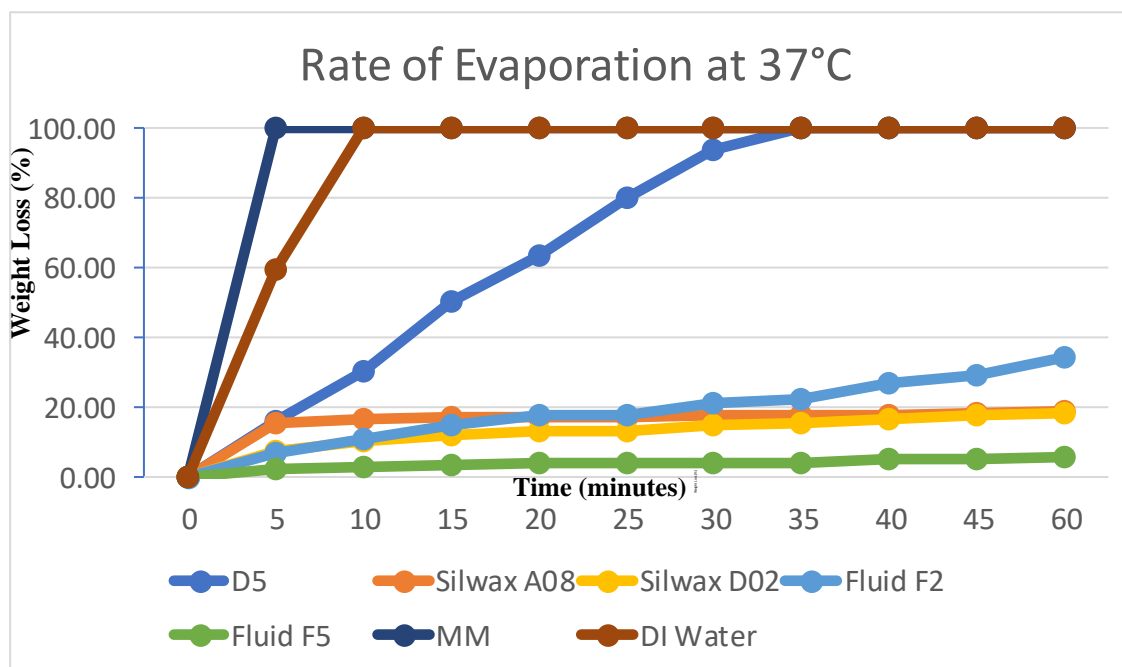
Before handling, read the Material Safety Data Sheet and container label for safe use, physical and health hazard information

**STORAGE AND SHELF LIFE**

When stored in the original, unopened containers between 10 and 40°C, **Silwax D02** has a shelf life of 36 months from date of manufacture.

**PACKAGING**

**Silwax D02** is available in 20 Kg and 190 Kg containers.



**Figure 1. Comparison of evaporation rates of raw materials at skin temperature.**

#### **PROCEDURE**

The data depicted in Figure 1 represents an attempt in the lab to characterize the real-world conditions on human skin for various ingredients in a thin film. A pipette was used to measure 0.300 grams of each test material, which was then applied to a filter paper in an aluminum dish. The diameter of the filter paper was 7 cm. Initial weights of the dish and paper and each 0.300g sample were measured. Each prepared samples was placed separately into a mechanical convection oven at a temperature of 37° C (approx. temp. of human body skin surface) and weighed and recorded every 5 minutes.

#### **LEGAL DISCLAIMER**

Siltech Corporation believes that the information in this technical data sheet is an accurate description of the typical uses of the product. Siltech Corporation, however, disclaims any liability for incidental or consequential damages, which may result from the use of the product that are beyond its control. Therefore, it is the user's responsibility to thoroughly test the product in their particular application to determine its performance, efficacy and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual property right.

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