



## Technical Data Sheet

### XIAMETER™ PMX-0246 Cyclohexasiloxane

INCI NAME: Cyclohexasiloxane (and) Cyclopentasiloxane

#### Features & Benefits

- Volatile carrier
- Compatible with a wide range of cosmetic ingredients
- Low surface tension
- Imparts silky feel to the skin
- Excellent spreading
- Leaves no oily residue or build up
- Detackification
- Non-greasy

#### Applications

- A base fluid in a number of personal care products, with excellent spreading and lubrication properties and unique volatility characteristics.
- Can be used in antiperspirants, skin creams, lotions and stick products, bath oils, suntan and shaving products, make-up.
- In cleansing products XIAMETER™ PMX-0246 Cyclohexasiloxane lifts and removes dirt without a stinging sensation

#### Typical Properties

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

Property	Unit	Result
Appearance		Colorless liquid
Specific gravity at 25°C (77°F)		0.96
Viscosity at 25°C (77°F)	mm <sup>2</sup> .s <sup>-1</sup>	6.8
Refractive index at 25°C (77°F)		1.402
Surface tension at 25°C (77°F)	mN/m	18.8
Flash point – closed cup	°C (°F)	93 (199)
Freeze point	°C (°F)	< -40 (< -40)
Boiling point at 760 mm Hg	°C (°F)	245 (473)
Water content	ppm	250
Cyclotetrasiloxane (D4) content	%	< 0.1

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## Description

XIAMETER PMX-0246 Cyclohexasiloxane is a blend of volatile polydimethylcyclasiloxane composed of cyclopentasiloxane and cyclohexasiloxane.

The product is clear, tasteless, essentially odorless and non-greasy and non-stinging.

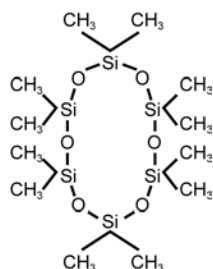


Figure 1.  
Cyclohexasiloxane (D6)

## How To Use

XIAMETER PMX-0246 Cyclohexasiloxane may be used alone or blended with other cosmetic fluids to provide a fluid base for a variety of cosmetic ingredients.

It features good solubility in most anhydrous alcohols and in many cosmetic solvents.

XIAMETER PMX-0246 Cyclohexasiloxane is a volatile fluid with appreciable vapor pressure at ambient temperature.

Note that the pentamer component (D5) evaporates at a faster rate than the hexamer component (D6).

By using blends of cyclomethicones this difference in volatility can be used to vary the residence time of the silicone on the skin.

Unlike other volatile carriers used in the personal care industry, volatile silicone fluids do not cool the skin when they evaporate. This is a consequence of their unusually low heat of vaporization.

Table 1 gives the heat required to vaporize one gram of each of the indicated materials.

Table 1: Heat of vaporization

Fluid	Heat of vaporization (25°C/77°F) (kJ/kg)
XIAMETER™ PMX-0244 Cyclotetrasiloxane	172
XIAMETER™ PMX-0245 Cyclopentasiloxane	157
XIAMETER™ PMX-0246 Cyclohexasiloxane	147
XIAMETER™ PMX-0344 Cyclosiloxane Blend	168
XIAMETER™ PMX-0345 Cyclosiloxane Blend	155

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## How To Use (Cont.)

Table 1: Heat of vaporization (Cont.)

Fluid	Heat of vaporization (25°C/77°F)
Water	2257
Ethanol	840
XIAMETER™ PMX-200 Silicone Fluid 0.65 cSt	192

## 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](http://WWW.CONSUMER.DOW.COM), OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Care should be taken when handling volatile fluids at temperatures 10°C (508°F) below the quoted flash point.

As with any flammable material, containers should be kept tightly closed and away from heat, sparks, open flames and other sources of ignition.

## Usable Life and Storage

Product should be stored at or below 25°C (77°F) in original, unopened containers.

## 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.

For further information, please see our website, [www.consumer.dow.com](http://www.consumer.dow.com) or consult your local Dow representative.

## Compatibility

Results from heating the ingredients to approximately 80°C (176°F) (care has to be taken as silicone fluid is above its flash point). All other results obtained at 25°C (77°F).

Type of material	
Water	I <sup>1</sup>
Ethanol (200 proof)	C
Glycerine	I
Octyl methoxy cinnamate	C

<sup>1</sup>C: compatible all ratios;

I: Incompatible all ratios.

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## Compatibility (Cont.)

<b>Waxes</b>	
Stearyl alcohol	C
Beeswax	C
Paraffin wax	C
Myristyl myristate	C
Stearic acid	C
<b>Hydrocarbons</b>	
Mineral oil	C
Petrolatum	C
Isododecane	C
Isopar H	C
Polydecene	C
<b>Oils</b>	
Almond oil	C
Castor oil	I
Jojoba oil	C
Soybean oil	C
Sunflower oil	C
<b>Esters</b>	
Isopropyl myristate	C
Isopropyl palmitate	C
Octyl palmitate	C
C12-C15 Alcohol benzoate	C
Capric/caprylic triglycerides	C
Octyldodecanol	C
Oleyl alcohol	C
<b>Silicones</b>	
Dimethicone, 350 mm <sup>2</sup> s <sup>1</sup>	C
Pheyl trimethicone	C
Stearyl dimethicone	C
Cetyl dimethicone	C

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