



Technical Data Sheet

XIAMETER™ PMX-3031 Fluid

INCI Name: Cyclopentasiloxane (and) Phenyl Trimethicone (and) Dimethiconol (and) C12-15 Alkyl Benzoate (and) Dimethicone Crosspolymer

Features & Benefits

- Silicone fluid blend
- Colorless

Composition

- Conditions hair
- Imparts soft, smooth and silky/velvety feel
- Excellent spreading
- Detackification
- Non-greasy, non-oily
- Enhances shine and gloss

Applications

- XIAMETER™ PMX 3031 Fluid is a silicone fluid for personal care applications, providing excellent aesthetic, spreading, easy rub-out, lubrication, and detackification properties. It is non-greasy.
- In hair care, silky hair serum/liquid, leave-on conditioner applications, it can provide conditioning benefits with a soft, smooth, silky/velvety and non-greasy/non-oily feel.
- It also can be used in skin, color cosmetic, antiperspirant/deodorant and shower applications.

Typical Properties

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

| Property | Unit | Result |
|--------------------------|------|--|
| Appearance | | Clear to slightly hazy, colorless liquid |
| Specific gravity at 25°C | | 0.96 |
| Viscosity at 25°C | cps | 950–1950 |

Description

XIAMETER™ PMX 3031 Fluid is a silicone fluid blend that is clear, colorless, non-greasy and non-oily. It can provide a soft, smooth, silky/velvety feel and conditioning effect for the hair along with detackification. (Refer to Figures 1–6.) Main applications are as a leave-on conditioner or hair serum/liquid. It also can be used for skin care applications for moisturization and a unique feel.

How To Use

XIAMETER PMX™ 3031 Fluid may be blended with other cosmetic fluids to provide a fluid base for a variety of cosmetic ingredients, such as vitamin E, sunscreen agents, etc.

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 CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Benzoates are used as preservatives in the formulation. Specific restrictions on finished consumer products may apply by regulatory bodies in different countries. Aspiration or inhalation of an aerosol of oily or fatty-type materials into the alveolar region of the lung can cause chemical pneumonitis, lipid pneumonia, and petroleum distillate pneumonitis; all terms that describe pulmonary (deep lung) tissue damage, edema, fibrosis, or other inflammatory changes in the lungs. Consult SEHSC Guidance for Aerosol Applications of Silicone-Based Materials when considering a consumer aerosol application.

Packaging Information

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, consumer.dow.com or consult your local Dow representative.

Test Result 1: Comparing the performance of cuticle coat in Table 1 (Prototype A, B and C) with the leading commercial hair cuticle coat in the market.

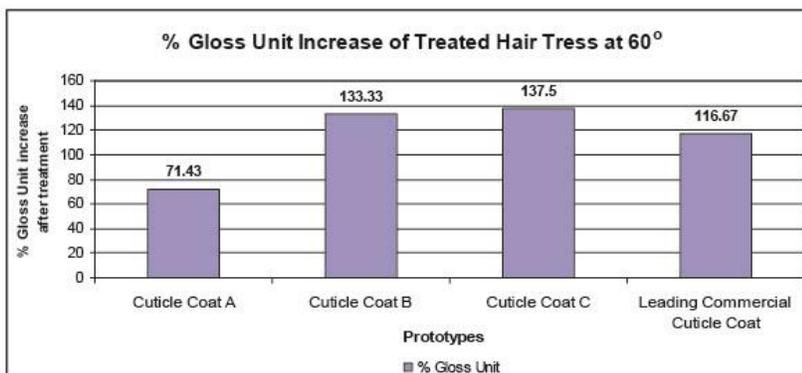


Figure 1: % Gloss unit increase after treatment with hair cuticle coats prototypes A, B, C, and leading commercial hair cuticle coat in the market. Micro Tri Gloss - Measure for Gloss unit at 60° Cuticle coat C performs the best in providing shine & gloss onto hair tress.

**Test Result 1
(Cont.)**

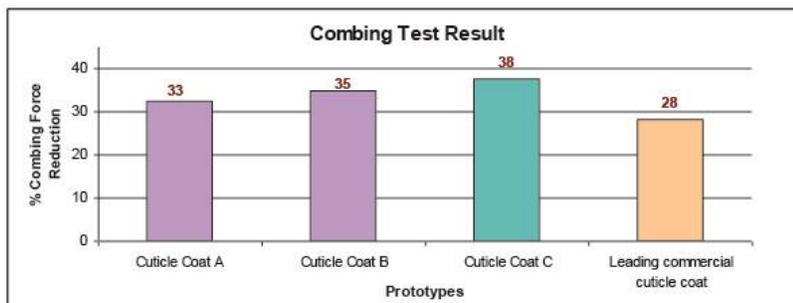


Figure 2: % Dry combing reduction of hair cuticle coat A, B, C and leading commercial cuticle coat in the market

Instron Combing machine Measuring the % dry combing force reduction of hair tresses comparing cuticle coat A, B, C and leading commercial cuticle coat. All the cuticle coat prototypes show better ease of combing performance than the leading commercial cuticle coat – especially Cuticle coat C, which contains XIAMETER™ PMX-3031 Fluid.

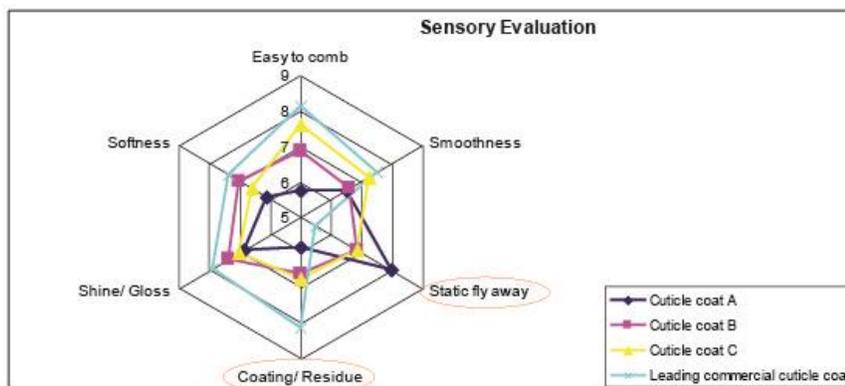


Figure 3: Sensory evaluation of hair cuticle coat A, B, C and leading commercial cuticle coat

Sensory evaluation The leading commercial cuticle coat shows less static fly away, but has a higher coating/residue on the hair when compared with other cuticle coat prototypes. All prototypes show a similar result for the other evaluation attributes.

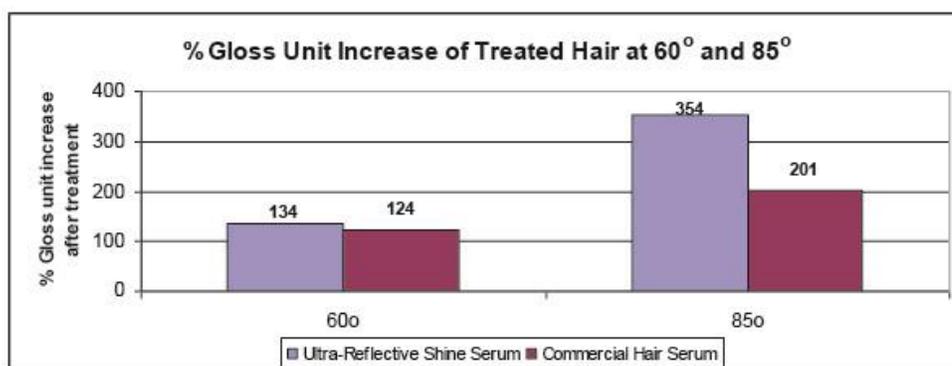


Figure 4: % Gloss unit increase after treatment with Ultra-Reflective Shine Serum and leading commercial hair serum in the market

Micro-Tri Gloss – Measure for Gloss unit at 60° and 85° Ultra-Reflective Shine Serum with XIAMETER™ PMX-3031 Fluid reduces the combing force up to 39% before treated and also shows better performance than the commercial hair serum.

**Test Result 2:
Comparing the
performance of
cuticle coat in
Table 2 (Ultra-
Reflective Shine
Serum) with the
leading
commercial hair
serum in the
market.**

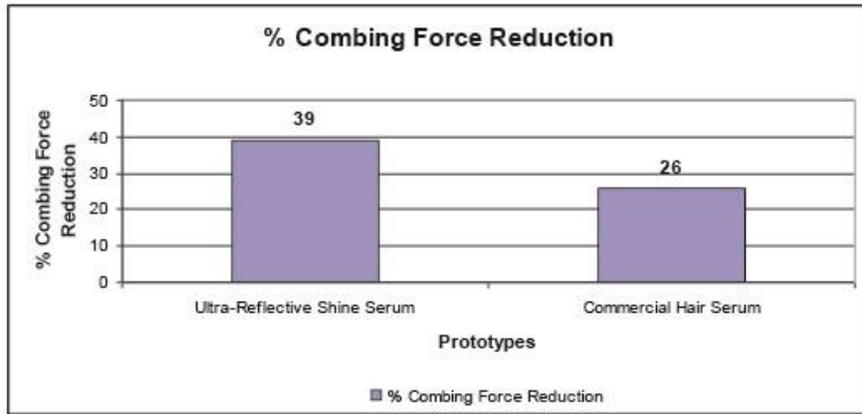


Figure 5: % Dry combing reduction of Ultra-Reflective Shine Serum and commercial cuticle coat in the market

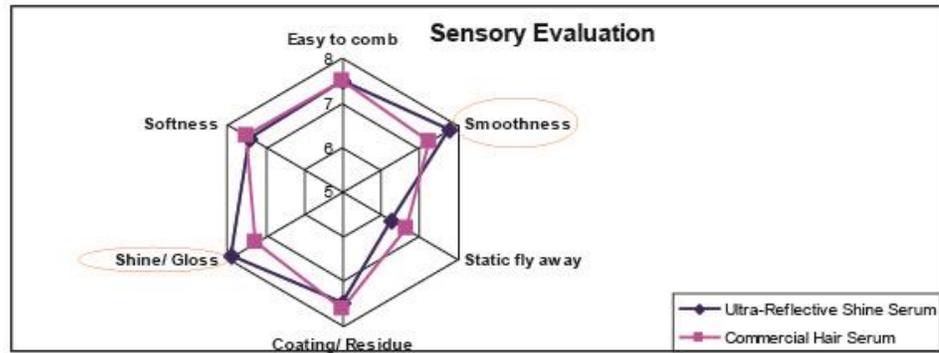


Figure 6: Sensory evaluation of Ultra-Reflective Shine Serum and leading commercial hair serum

Formulation: Table 1: Hair Cuticle Coat (A, B and C)

| Ingredient | Wt% | | | Trade Name/Supplier |
|---|-------|-------|-------|--|
| | A | B | C | |
| 1. Cyclopentasiloxane (and) Dimethiconol | 60.00 | 60.00 | - | XIAMETER™ PMX-1501 Fluid/Dow |
| 2. Cyclotetrasiloxane (and) Cyclopentasiloxane | 39.5 | 34.5 | - | XIAMETER™ PMX-0344 Cyclosiloxane Blend/Dow |
| 3. Phenyl Trimethicone | - | 5.0 | - | DOWSIL™ 556 Cosmetic Grade Fluid/Dow |
| 4. Cyclopentasiloxane (and) Phenyl Trimethicone (and) Dimethiconol (and) C12-15 Alkyl Benzoate (and) Dimethicone Crosspolymer | - | - | 99.5 | XIAMETER™ PMX-3031 Fluid/Dow |
| 5. Perfume | 0.5 | 0.5 | 0.5 | Blossom Bright 192/Givaudan |
| Reflective Index (at 25°C) | 1.398 | 1.402 | 1.406 | |

Procedure

- Mix all ingredients together until homogeneous.

Formulation: Table 2: Ultra-Reflective Shine Serum (formulation number 21334-44)

| Ingredient | Wt% | Trade Name/Supplier |
|---|------|---|
| 1. Cyclopentasiloxane (and) Dimethiconol (and) Dimethicone | 57.5 | XIAMETER™ PMX-3050 Fluid/Dow (no longer sold) |
| 2. Cyclopentasiloxane (and) Phenyl Trimethicone (and) Dimethiconol (and) C12-15 Alkyl Benzoate (and) Dimethicone Crosspolymer | 40.0 | XIAMETER™ PMX-3031 Fluid/Dow |
| 3. Bis-Hydroxy/Methoxy Amodimethicone | 2.0 | XIAMETER™ OFX-8087 Fluid/Dow (no longer sold) |
| 4. Perfume | 0.5 | XIAMETER™ PMX-3031 Fluid/Dow |
| 5. Dye | q.s | Blossom Bright 192/Givaudan |

Procedure

- Mix all ingredients together until homogeneous.

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Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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