



A Subsidiary of PETRONAS Chemicals Group

# Silicones for Personal Care

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# Personal Care Product Range

Volatile Fluids

Dimethicones

Phenyl Modified Fluids

Polymer Fluid Blends

Dimethicone Copolyols

Silicone Crosspolymers

Silicone Emulsions

Silicone Resins

# Volatile Fluids

- **Volatile on skin**
- **Upon evaporation, impart soft, dry velvety feel, no residue or build up**
- **Make up:** Volatile carrier in pigment dispersions
- **Aerosol:** Replacement for organic solvent
  - Reduce Stickiness
  - Non clogging of nozzles
  - No cooling effect on evaporation
- **Stick:** Non tacky, apply without drag
- **Sunscreen:** Solvent for actives, and dispersing aid for micronized oxides
- **Emulsions:** Soft, smooth feel and pleasant application with a unique skin feel

# Volatile Fluids Cyclics

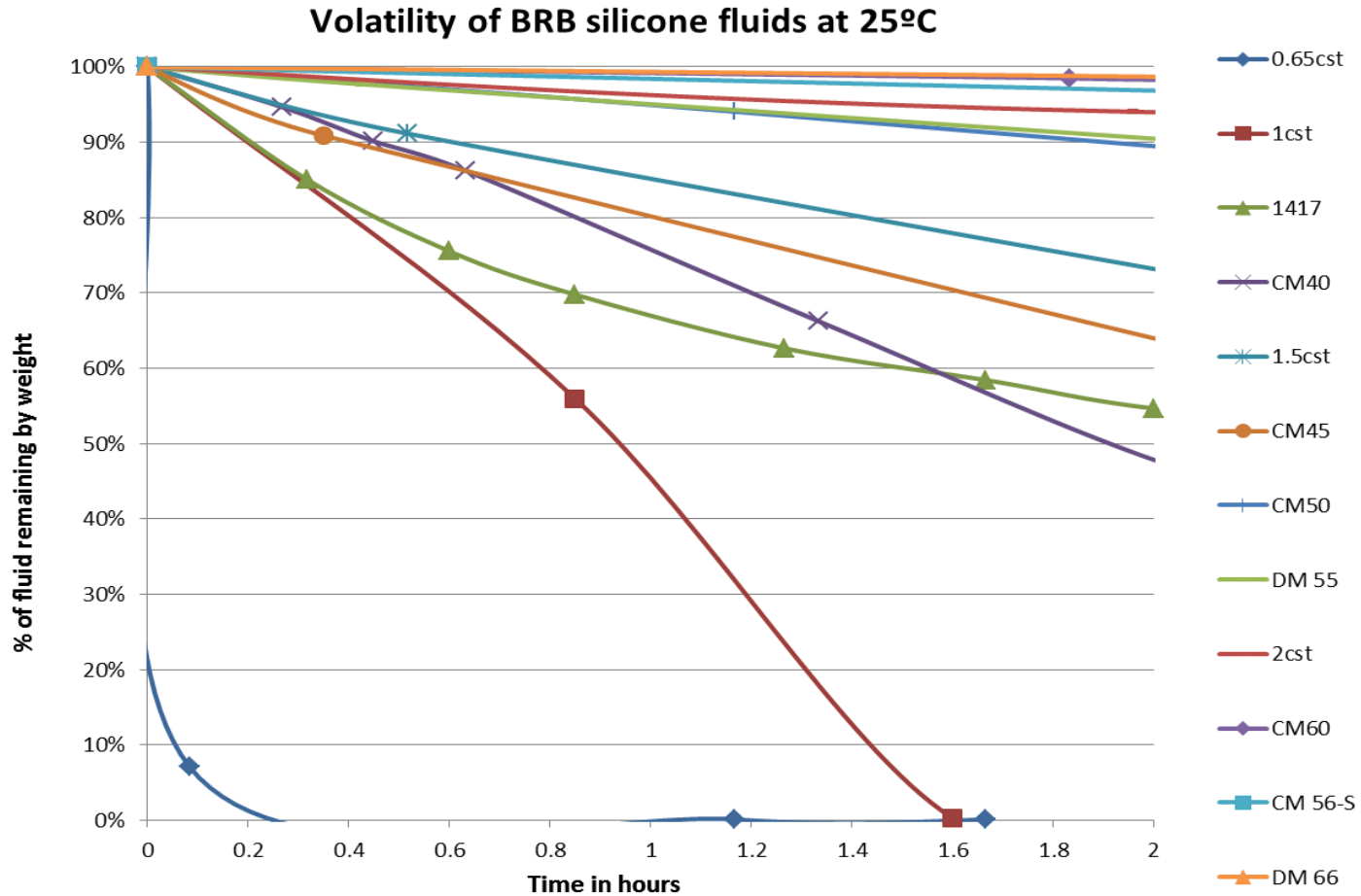
- **BRB CM 40** - **Cyclotetrasiloxane**
- **BRB CM 50** - **Cyclopentasiloxane**
- **BRB CM 50 High Purity** - **Cyclopentasiloxane**
- **BRB CM 60** - **Cyclohexasiloxane**
- **BRB CM 45** - **Cyclotetrasiloxane (and) Cyclopentasiloxane**
- **BRB CM 45-S** - **Cyclotetrasiloxane (and) Cyclopentasiloxane**
- **BRB CM 56-S** - **Cyclopentasiloxane (and) Cyclohexasiloxane**

# Volatile Fluids Linears

- **DM 0.65** - Disiloxane
- **DM 1** - Trisiloxane
- **DM 1.5** - Dimethicone
- **BRB 1417** - Dimethicone (and) trisiloxane
- **DM 2** - Dimethicone
  
- **DM 55** - Dimethicone (alternative to Cyclopentasiloxane)
- **DM 66** - Dimethicone (alternative to Cyclopentasiloxane (and) Cyclohexasiloxane)

# Volatile Fluids

## Evaporation Characteristics



# Dimethicones

**BRB DM Fluid** - Dimethicone 5 to 100.000 cSt

- Outstanding emolliency and soft feel
- Non Volatile
- Excellent spreadability
- Low viscosity dimethicones (5 – 20 cSt): miscible in organic ingredients  
Skin Care, Antiperspirant & Deodorants, Sun Care, Hair Care and Color Cosmetics
- Middle viscosity dimethicones (50 – 1.000 cSt): as oil additive  
Skin Care, Antiperspirant & Deodorants, Sun Care, Hair Care and Color Cosmetics
- High viscosity dimethicones (60.000 – 100.000 cSt):  
Exceptional conditioning agents in Hair Care products

# Gum blends

- BRB 1735 Cyclopentasiloxane (and) Cyclotetrasiloxane (and) Dimethiconol
- BRB 1744, 1755 Cyclotetrasiloxane (and) Cyclopentasiloxane (and) Dimethiconol
- BRB 1834, 1934 Cyclopentasiloxane (and) Dimethiconol
- BRB 1844 Cyclopentasiloxane (and) Dimethicone
- BRB 1736,1740,1860 Dimethicone (and) Dimethiconol
- BRB 1859 C11-13 Isoparaffin (and) Dimethicone
- BRB 1861 C11-13 Isoparaffin (and) Dimethiconol (and) Isohexadecane (and) Dimethicone
  
- Custom made on request
- Applications Body & Skin Care, Antiperspirant & Deodorants, Sunscreen Products, Color Cosmetics and Hair Care



# Gum blends

- Impart emollience to skin, providing lubricious and silky feel
- Give spreadability to any kind of formula
- Provide a breathable non-comedogenic protection barrier
- Improve substantivity on surface, helping to fix other actives
- Long lasting effect
- Water resistance supply on skin and hair, with non-occlusive film
- Yield shine and high conditioning effect on hair



# Phenyl Modified Fluid

- **BRB PTM 20** - Phenyl Trimethicone
- High refractive Index which imparts gloss
- Good solubility or compatibility with many organic ingredients
- Excellent emolliency and reduced tackiness
- Widely used in Color Cosmetics, Hair Care, Skin Care and Sunscreens

# Dimethicone Copolyols

- **BRB 523** - PEG/PPG-18/18 Dimethicone
  - **BRB 526** - PEG-12 Dimethicone
  - **BRB 6373** - Cyclopentasiloxane (and) PEG/PPG-18/18 Dimethicone
  - **BRB 6341** - PEG-10 Dimethicone
  - **BRB 423** - Cetyl PEG/PPG-10/1 Dimethicone
- 
- Acts as wetting agent, emulsifier
  - Compatible with a wide range of cosmetic ingredients
  - Hair Care: Conditioning agent and superior non-oily feel
  - Skin Care & Color Cosmetics : Create non-comedogenic light feel emulsions with elegant sensory

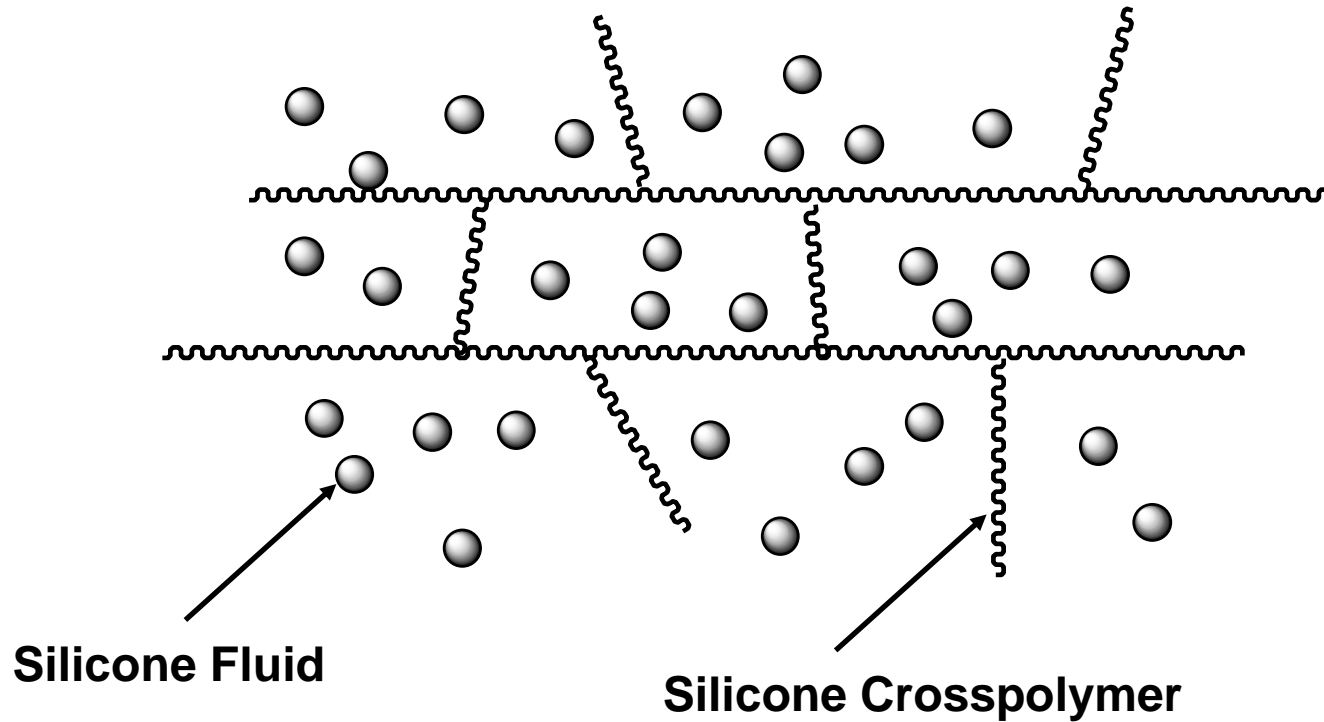


**BRB 523****BRB 526****BRB 6341****BRB 6373****BRB 423**

<b>INCI Name</b>	PEG/PPG-18/18 Dimethicone	PEG-12 Dimethicone	PEG-10 Dimethicone	Cyclopentasiloxane (and) PEG/PPG-18/18 Dimethicone	Cetyl PEG/PPG-10/1 Dimethicone
<b>Emulsion</b>	Co-emulsifier W/Si	Emulsifier Si/W	Emulsifier W/Si, W/Si+O Co-emulsifier W/Si+O	Emulsifier W/Si	Emulsifier W/Si, W/Si+O Co-emulsifier W/Si+O
<b>Texture</b>	Light emulsions	White emulsions, Gel-cream translucent emulsions	Fluid Emulsions	Versatility of textures: white & transparent emulsions, lotions, creamy emulsions, gel-creams	Versatility of textures: white & transparent emulsions, lotions, creamy emulsions, gel-creams. Richer emulsions
<b>Viscosity (25°C)</b>	2000 cSt	300 cSt	600 cSt	30 cSt	1250 cSt
<b>HLB</b>	8	13	4,5	2	5
<b>Compatibility</b>	Water, hydroalcoholic systems	Water, hydroalcoholic systems	Isododecane, ethanol, esters, UV filters, silicones.	Isododecane, ethanol, esters, silicones.	Isododecane, ethanol, vegetal oils, UV filters, butters, esters, silicones.
<b>Where to add the emulsifier ?</b>	Water phase	Water phase	Oil/silicone phase	Silicone phase	Oil/silicone phase
<b>Cold process</b>	No	Yes	Yes	Yes	Yes
<b>Oil phase to emulsify</b>	-	Up to 20%	Up to 30%	Up to 30%	Up to 30%
<b>Use level</b>	1 - 3 %	4%	2 - 8 %	7 - 10 %	1,5 - 3 %

<b>Skin Care</b>	x	x	x	x	x
<b>Sun Care</b>			x	x	x
<b>Hair Care</b>	x	x		x	x
<b>Make-up</b>			x	x	x

# Silicone Crosspolymer



# Silicone Crosspolymer

**Clear to slightly translucent cross-linked silicone elastomer gel**

**These products are specifically designed to provide luxurious feel as well as maintaining the back up of your formulation**

- **BRB SG 106, 116, 117**
  - Cyclopentasiloxane (and) Dimethicone/Vinyl Dimethicone Crosspolymer
- **BRB SG 506, 516, 517**
  - Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer
- **Custom made**



# Silicone Crosspolymer

- Impart superior sensory feel : smoothness, light, silky, non-greasy and powdery touch
- Cold Processable and Easy to formulate
- Reduce tackiness of formulation
- Acts as thickening agent, improving formula stability
- Provide long-lasting effect
- Applications : Skin Care, Hair Care, Antiperspirant & Deodorants, Color Cosmetics, Sunscreens and styling products



# Silicone Crosspolymer overview

Parameter	Unit	BRB SG 106	BRB SG 116	BRB SG 117
INCI		Cyclopentasiloxane (and) Dimethicone/Vinyl Dimethicone Crosspolymer		
Appearance		Colourless translucent gel	Colourless translucent paste	Colourless translucent gel
Odour		Odourless	Odourless	Odourless
Refractive index		1.397	1.397	1.397
Viscosity (25 °C, 10 s-1)	mPa.s	30.000	55.000	10.000
Crosspolymer content	%	11	12	6

Parameter	Unit	BRB SG 506	BRB SG 516	BRB SG 517
INCI		Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer		
Appearance		Colourless translucent gel	Colourless translucent paste	Colourless translucent gel
Odour		Odourless	Odourless	Odourless
Refractive index		1.400	1.397	1.397
Viscosity (25 °C, 10 s-1)	mPa.s	30.000	30.000	10.000
Crosspolymer content	%	14	11	10



# BRB Personal Care Emulsions

- **BRB 1018** Dimethiconol (and) TEA-dodecylbenzenesulfonate
  - **BRB 1288** Amodimethicone (and) Trideceth-12 (and) Cetrimonium Chloride
  - **BRB 9719** Dimethicone (and) Laureth-4 (and) Laureth-23 (and) Salicylic acid
  - **BRB 5446** Silicone Quaternium-17 (and) Trideceth-7 (and) Trideceth-5
  - **BRB 1298** Amodimethicone (and) Trideceth-7 (and) Trideceth-5 (and) Propylene Glycol (and) Trideceth-12
  - **BRB 5834** Phenyl Trimethicone (and) Laureth-4 (and) Silicone Quaternium-17 (and) Laureth-23
- 
- Hair Care and Skin Care applications
  - Emulsions of silicone for easy formulation into hair treatment products
  - Concentration easily adjusted by dilution with water
  - Protective coating upon drying
  - Imparts soft and silky feel
  - Improves wet and dry combing



# BRB Personal Care Emulsions

- **BRB 1018: High viscosity dimethiconol emulsion**  
**INCI:** Dimethiconol (and) TEA-dodecylbenzenesulfonate
- 60% Dimethiconol Gum anionic macro-emulsion made by Emulsion-polymerisation
- Improve wet and dry combing, imparting smooth soft feel and shine
- Deposit on hair in combination with cationic polymers (e.g. hydroxypropyltrimoniumchloride)
- Preservative: Phenoxyethanol



# BRB Personal Care Emulsions

- **BRB 1288: Cationic Aminofunctional emulsion**  
**INCI:** Amodimethicone (and) Trideceth-12 (and) Cetrimonium Chloride
- Hair care emulsion for Conditioners and Hair Treatment formulations
- A very good conditioning additive for Leave-on and styling products
- Benefits: easier dry & wet combing, less flyaway, less static build-up, hair volume
- 35% silicone active macroemulsion
- Low D4 content (~0.1%)
- Phenoxyethanol preserved
- **BRB 1292** is a 50% silicone active version.



# BRB Personal Care Emulsions

- **BRB 9719: Dimethicone emulsion**

**INCI:** Dimethicone (and) Laureth-4 (and) Laureth-23 (and) Salicylic acid

- Non-ionic emulsion for Skin Care and Hair Care applications
- 55% Silicone active
- Hair Care: highly conditioning effect without build up
- Skin & Body Care: non-tacky, luxuriant soft silky feeling
- Easy to formulate
- Preservative: Salicylic acid



# BRB Personal Care Emulsions

- **BRB 5446: Silicone Quaternium microemulsion**

**INCI:** Silicone Quaternium-17 (and) Trideceth-7 (and) Trideceth-5

- BRB 5446 is a clear, non-ionic microemulsion of a quaternary ammonium functional silicone.
- It represents a step forward in hair conditioning effect, suitable for use in shampoo, conditioner, hair-balm and styling formulations.
- Ideal for use in clear, leave-in and rinse-out products, for all hair types
- Enhanced color and heat protection, particularly on damaged hair fibers.
- Preservative: Phenoxyethanol



# BRB Personal Care Emulsions

- **BRB 1298: Non-ionic Aminofunctional microemulsion**
  - **INCI:** Amodimethicone (and) Trideceth-7 (and) Trideceth-5 (and) Propylene Glycol (and) Trideceth-12
- Hair care emulsion for Conditioners and Hair Treatment formulations
- Ideal for clear formulations
- Benefits: easier dry & wet combing, less flyaway
- 30% solid / 20% Silicone
- Protected with a preservative-free blend of Caprylyl glycol and Phenethyl alcohol that offers synergetic broad spectrum antimicrobial protection.



# BRB Personal Care Emulsions

- **BRB 5834: Silicone Quaternium microemulsion**  
**INCI:** Phenyl Trimethicone (and) Laureth-4 (and) Silicone Quaternium-17 (and) Laureth-23
- BRB 5834 is a clear, non-ionic microemulsion combining the effect of the well-established gloss-boosting Phenyl Trimethicone with the excellent conditioning properties of a quaternary ammonium silicone in a clear microemulsion.
- Ideal for use in clear, leave-in and rinse-out products, for all hair types
- Silicone content: 17%
- Preservative free



	BRB 1018	BRB 1288 / 1292	BRB 1298	BRB 5446	BRB 9719	BRB 5834
Description	Macro-emulsion of an Ultra high viscosity polymer	Macro-emulsion of an amine-functional silicone polymer	Micro-emulsion of an aminefunctional silicone polymer	Micro-emulsion of a quaternary ammonium functional silicone	Macro-emulsion of a high viscosity polymer	Microemulsion of Phenyl Trimethicone and a quaternary ammonium functional silicone
INCI Name	Dimethiconol (and) TEAdodecylbenzenesulfonate	Amodimethicone (and) Trideceth-12 (and) Cetrimonium Chloride	Amodimethicone (and) Trideceth-7 (and) Trideceth-5 (and) Propylene Glycol (and) Trideceth-12	Silicone Quaternium-17 (and) Trideceth-7 (and) Trideceth-5	Dimethicone (and) Laureth-4 (and) Laureth-23 (and) Salicylic acid	Phenyl Trimethicone (and) Laureth-4 (and) Silicone Quaternium-17 (and) Laureth-23
Emulsifier Type	Anionic	Cationic	Non-ionic	Non-ionic	Non-ionic	Non-ionic
Silicone content	60%	35% / 50%	20%	15%	50%	22%
Viscosity (25°C)	200 cSt	5 cSt / 200 cSt	30 cSt	20 cSt	5000 cSt	
Preservative	Phenoxyethanol	Phenoxyethanol	Caprylyl glycol and Phenethyl alcohol	Phenoxyethanol	Salicylic acid	Preservative free
Primary Applications						
Shampoo	x		x	x	x	x
Conditioner Rinse off	x	x	x	x	x	x
Conditioner Leave In		x	x	x	x	x
Styling		x	x	x	x	x
Use level	0,5 to 4%	0,5 to 2%	0,5 to 2%	2 to 10%	0,5 to 4%	1 to 4%
Conditioning level	medium	high	high	high	medium	high
Formulation benefits	low cost, ease of use	ease of use	clear systems, preservative free	clear systems, ease of use	low cost, ease of use	clear systems, preservative free
Performance benefits	ease of detangling, shine, silkiness	ease of detangling, smooth & soft dry feel, shortens hair drying time	ease of detangling, color protection	ease of detangling, heat protection, color protection, no build up effect	ease of detangling, shine, softness	ease of detangling, excellent gloss, excellent wet combing, softness





# Amino oils

- **BRB SF 240** - Amodimethicone
- **BRB SF 430** - Amodimethicone

	<b>Nitrogen</b>	<b>Viscosity</b>
<b>BRB SF 240</b>	0.2 %	4000 cSt
<b>BRB SF 430</b>	0.4 %	3000 cSt

- Ingredient for Hair Care formulations to enhance conditioning
- Free of emulsifiers and preservatives
- Easy to process into hair-care formulations (emulsified or added in the oil phase) of rinse-off or leave-on hair products
- Provides smooth feel to dry hair
- Improves wet and dry combing
- Long lasting conditioning without build up

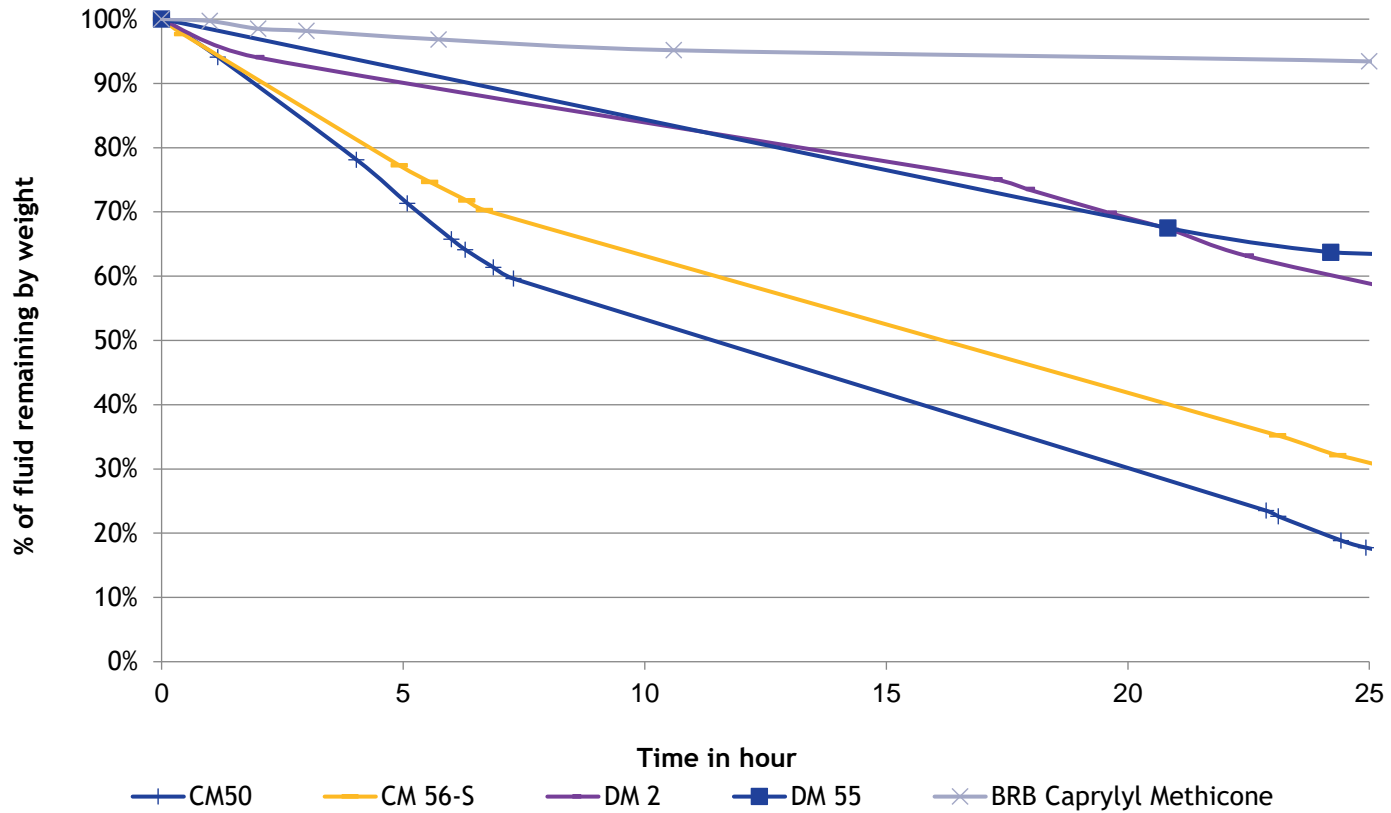
# Alkyldimethicones

- **BRB Caprylyl methicone**



BRB Caprylyl Methicone	
Field application: Skin Care, Color Cosmetics and Sun Care	
Sensory	Performance
Suppleness, smooth silky light feel	Oil & waxes compatibility
Great spreadability	Pigment dispersant
Gives shine	Keeps skin moisturized with no occlusive effect
Reduce tackiness, greasiness and stickiness	Reduce surface tension of organic oils (spreadability)
Enhance sensory of natural ingredients	Great ability to distribute UV filters: SPF booster
Moderate volatility	

## Volatile Profile of BRB Caprylyl Methicone



- Moderate volatility- less dry feel compare to volatile silicones

# Alkyldimethicones



- **BRB 2835:** Cetyl dimethicone
- **BRB 2836:** Stearyl dimethicone (and) Octadecene
- Enhance sensory of natural ingredients, providing unique smooth silky feel
- Organic compatibility, improve spreadability
- Pigment compatibility, SPF booster
- Water resistance
- Applications : Hair Care, Body & Skin Care, Lip Care, Color Cosmetics and Sun Care

# Alkyl functional Silane

- **BRB 2894:** Triethoxycaprylylsilane **(NEW)**
- Very reactive Surface-treating agent for pigments and powders
- Imparts excellent hydrophobicity
- Improves dispersibility in organic media.
- Lower oil absorption compared to untreated pigments
- Improves water resistance and long lasting

# Silicone resins

New

- **BRB TMS** Trimethylsiloxysilicate
- **BRB TMS-50C** Cyclopentasiloxane (and) Trimethylsiloxysilicate
- **BRB TMS-30D** Dimethicone (and) Trimethylsiloxysilicate
- **BRB TMS-50I** Isododecane (and) Trimethylsiloxysilicate
- **BRB Color Lock** Isododecane (and) Trimethylsiloxysilicate (and) Dimethicone
  
- Custom made
  
- Excellent film former, providing long lasting effect
- Wash-off and rub-off resistant
- Unique smooth non-tacky feel



# Silicone resins

- **BRB PMS-2** Polymethylsilsesquioxane
- **BRB PMS-5** Polymethylsilsesquioxane
- Soft focus effect, reduction of fine lines and wrinkles
- Luxurious smooth dry feel
- Excellent lubricity, due to ball bearing effect
- Prevention of pigment and powder agglomeration
- Sebum absorption
- Water repellence improvement
- Applications : Skin Care and Color cosmetics



# BRB Personal Care



We would like to offer you:

- Greater flexibility
- A wide range of products
- Worldwide coverage
  
- We are:
- Highly experienced in tailor made solutions
- Highly experienced in toll manufacturing





**BRB**  
Passionate about Progress