



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

## INCI

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

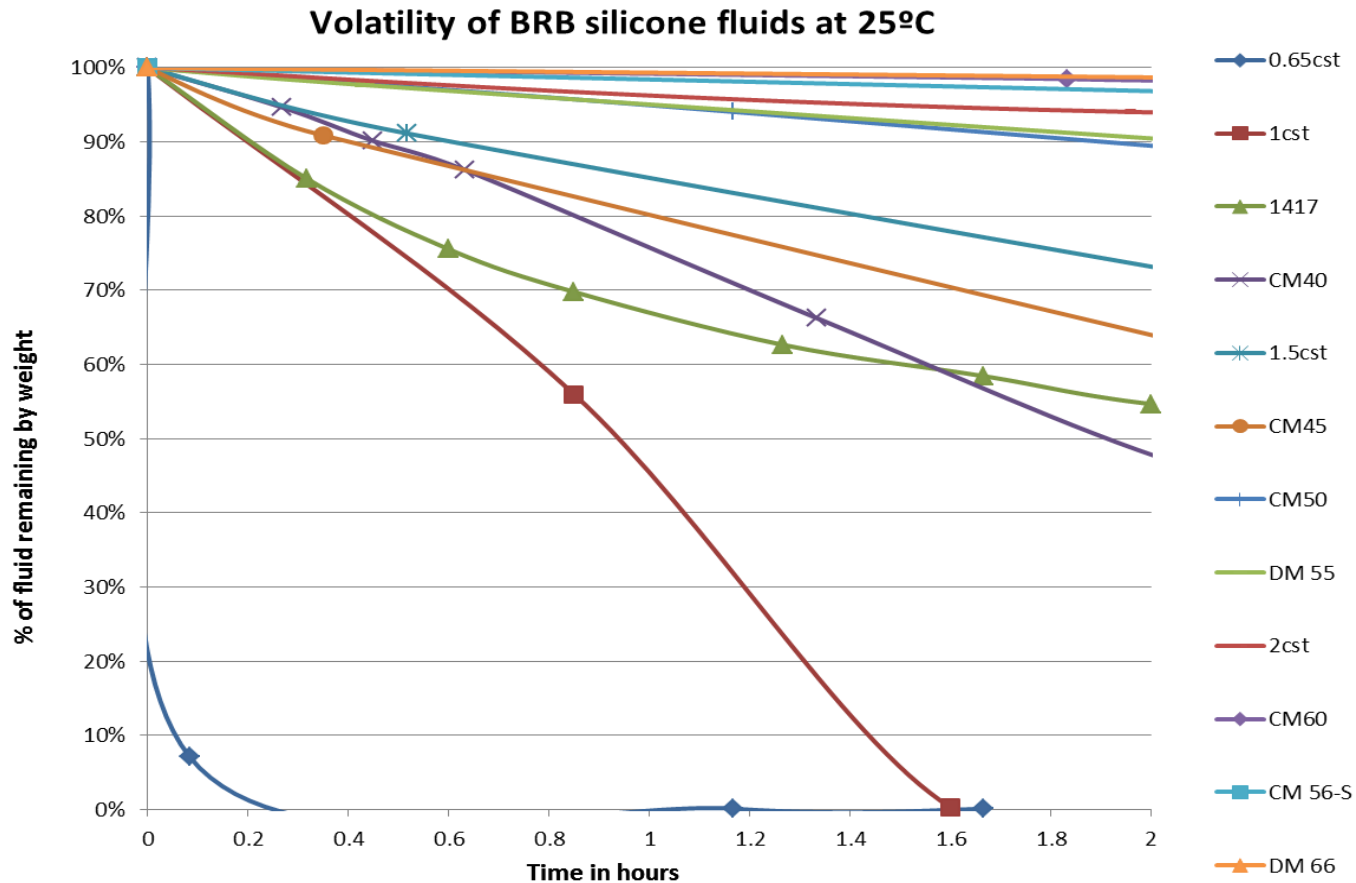
# Volatile Fluids Linears

## INCI

BRB DM 0.65	Disiloxane
BRB DM 1	Trisiloxane
BRB DM 1.5	Dimethicone
BRB 1417 (LC)	Dimethicone (and) trisiloxane (low cyclics version)
BRB 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 1736,1740,1860,1862	Dimethicone (and) Dimethiconol
BRB 1819	Dimethicone
BRB 1859	C11-13 Isoparaffin (and) Dimethicone
BRB 1861	C11-13 Isoparaffin (and) Dimethiconol (and) Isohexadecane (and) Dimethicone
BRB 1875	Isododecane (and) Dimethicone

**Custom made on request**

**Applications**



Body & Skin Care, Antiperspirant & Deodorants,  
Sunscreen Products, Color Cosmetics and Hair Care

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# Gum blends - benefits

- 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



# Focus on D5 Free Gum blends

	BRB 1736	BRB 1740	BRB 1860	BRB 1861	BRB 1862	BRB 1875
INCI	Dimethicone (and) Dimethiconol	Dimethicone (and) Dimethiconol	Dimethicone (and) Dimethiconol	C11-13 Isoparaffin (and) Dimethiconol (and) Isohexadecane (and) Dimethicone	Dimethicone (and) Dimethiconol	Isododecane (and) Dimethicone
Viscosity	4000 mm <sup>2</sup> /s	1500 mm <sup>2</sup> /s	4500 mm <sup>2</sup> /s	16000 mm <sup>2</sup> /s	2100 mm <sup>2</sup> /s	1100 mm <sup>2</sup> /s
Volatiliy of carrier	Low	Low	Medium	Medium	Medium	High

## Skin

Spreadability	***	***	***	***	***	***
Absortion	*	*	**	**	**	***
Greasiness	**	**	*	*	*	*
Stickiness	*	**	**	*	*	**
Smoothness	***	***	***	***	***	***

## Hair

Shine	***	***	**	**	**	**
Frizz protection	***	***	**	**	**	**
Smoothness	***	***	***	***	***	***
Natural look	*	*	***	***	***	***
Volume	*	*	**	**	***	***

	*	***
Spreadability	Difficult to spread	Easy to spread
Absortion	Difficult to absorb	Easy to absorb
Greasiness	Not greasy	Very greasy
Stickiness	Not sticky	Very sticky
Smoothness	Not smooth	Very smooth
Shine	Not shine	Very shine
Frizz protection	No protection	Good protection
Natural look	Not natural look	Natural look
Volume	Not volume	Good volume



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# Phenyl Modified Fluid

**BRB PTM 20** (INCI: 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

## INCI

<b>BRB 523</b>	PEG/PPG-18/18 Dimethicone
<b>BRB 526</b>	PEG-12 Dimethicone
<b>BRB 6340/6341</b>	PEG-10 Dimethicone
<b>BRB 6373</b>	Cyclopentasiloxane (and) PEG/PPG-18/18 Dimethicone
<b>BRB 423</b>	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 6340/ 6341

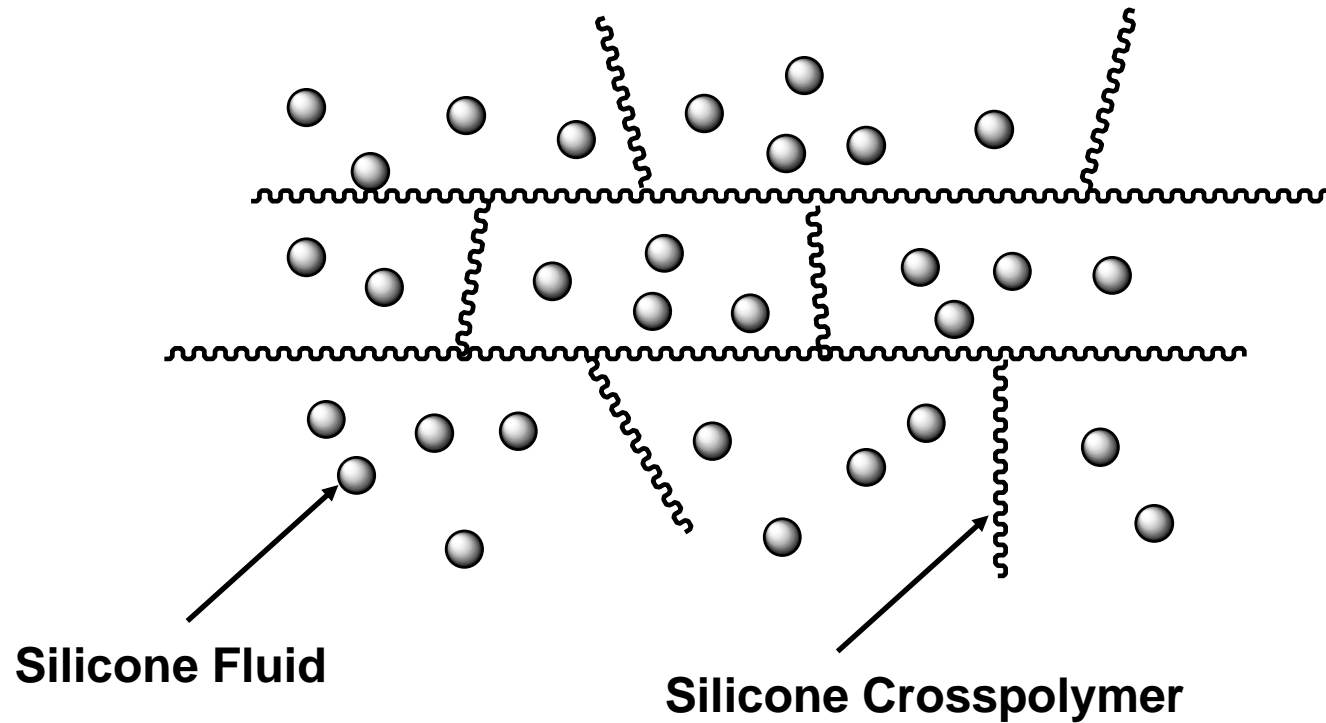
BRB 6373

BRB 423

INCI Name	PEG/PPG-18/18 Dimethicone	PEG-12 Dimethicone	PEG-10 Dimethicone	Cyclopentasiloxane (and) PEG/PPG-18/18 Dimethicone	CetylPEG/PPG-10/1 Dimethicone
Emulsion	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
Texture	Light emulsions	White emulsions, Gel-cream translucid 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
Viscosity (25°C)	2000 cSt	300 cSt	600 cSt	30 cSt	1250 cSt
HLB	8	13	4.5	2	5
Carrier	No	No	No	Yes, cyclopentasiloxane (90%)	No
Compatibility	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.
Use level	1 - 3 %	4%	2 - 8 %	7 - 10 %	1,5 - 3 %
Processing recommendations	* Combine with water phase	* Combine with water phase	* Combine with oil/silicone phase	* Combine with silicone phase	* Combine with oil/silicone phase
Cold process	No	Yes	Yes	Yes	Yes
Oil phase to emulsify	-	Up to 20%	Up to 30%	Up to 30%	Up to 30%
Incompatibility		Waxes Mineral oils Vegetal oils		Waxes Mineral oils Vegetal oils	
Skin Care	x	x	x	x	x
Sun Care			x	x	x
Hair Care	x	x		x	x
Make-up			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

## **NEW BRB SG 210, 212**

Cyclopentasiloxane (and) 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

	SG 106	SG 116	SG 117	SG 210	SG 506	SG 516	SG 517
INCI	Cyclopentasiloxane (and) Dimethicone/Vinyl Dimethicone Crosspolymer	Cyclopentasiloxane (and) Dimethicone/Vinyl Dimethicone Crosspolymer	Cyclopentasiloxane (and) Dimethicone/Vinyl Dimethicone Crosspolymer	Cyclopentasiloxane (and) Dimethicone Crosspolymer	Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer	Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer	Dimethicone (and) Dimethicone/Vinyl Dimethicone Crosspolymer
Carrier	CM 50 (Cyclopentasiloxane)	CM 50 (Cyclopentasiloxane)	CM 50 (Cyclopentasiloxane)	CM 50 (Cyclopentasiloxane)	DM 5 (Dimethicone)	DM 5 (Dimethicone)	DM 5 (Dimethicone)
Crosspolymer content (%)	11	12	6	12	14	11	10
Price indication	***	*	*	**	***	**	**

## Appearance

Consistency	**	**	*	**	*	**	**
Transparency	**	**	**	**	**	**	***

## During application

Spreadability	***	**	**	**	*	*	***
Powdery feel (velvety)	**	***	***	**	**	**	*
Greasiness	**	*	*	*	*	*	***
Stickiness	*	*	*	*	*	*	**
Lumpy effect	*	**	***	***	*	**	*
Smoothness	***	**	**	**	**	**	***
Matt	***	***	***	***	***	***	*

## After application

Smoothness	***	***	***	***	***	***	***
Greasiness	**	*	*	*	*	*	*
Stickiness	**	*	*	*	*	*	*
Powdery feel (velvety)	**	***	***	***	***	***	**

	*	***
Spreadability	Difficult to spread	Easy to spread
Greasiness	Not greasy	Very greasy
Stickiness	Not sticky	Very sticky
Smoothness	Not smooth	Very smooth
Powdery feel	Not powdery	Very powdery
Lumpy effect	Not lumpy	Very lumpy
Consistency	More soft/gel	More hard/solid
Transparency	Not transparent	Very transparent
Matt	Not matt	Very matt



# BRB Personal Care Emulsions

## INCI

<b>BRB 1018</b>	Dimethiconol (and) TEA-dodecylbenzenesulfonate
<b>BRB 1288</b>	Amodimethicone (and) Trideceth-12 (and) Cetrimonium Chloride
<b>BRB 9719</b>	Dimethicone (and) Laureth-4 (and) Laureth-23 (and) Salicylic acid
<b>BRB 5446</b>	Silicone Quaternium-17 (and) Trideceth-7 (and) Trideceth-5
<b>BRB 1298</b>	Amodimethicone (and) Trideceth-7 (and) Trideceth-5 (and) Propylene Glycol (and) Trideceth-12
<b>BRB 5834</b>	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

## INCI

	<b>BRB SF 240</b>	Amodimethicone
<b>NEW</b>	<b>BRB SF 242</b>	Bis-Hydroxy/Methoxy Amodimethicone
	<b>BRB SF 430</b>	Amodimethicone

	Nitrogen	Viscosity
<b>BRB SF 240</b>	0.2 %	4000 cSt
<b>BRB SF 242</b>	0.18 %	5000 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



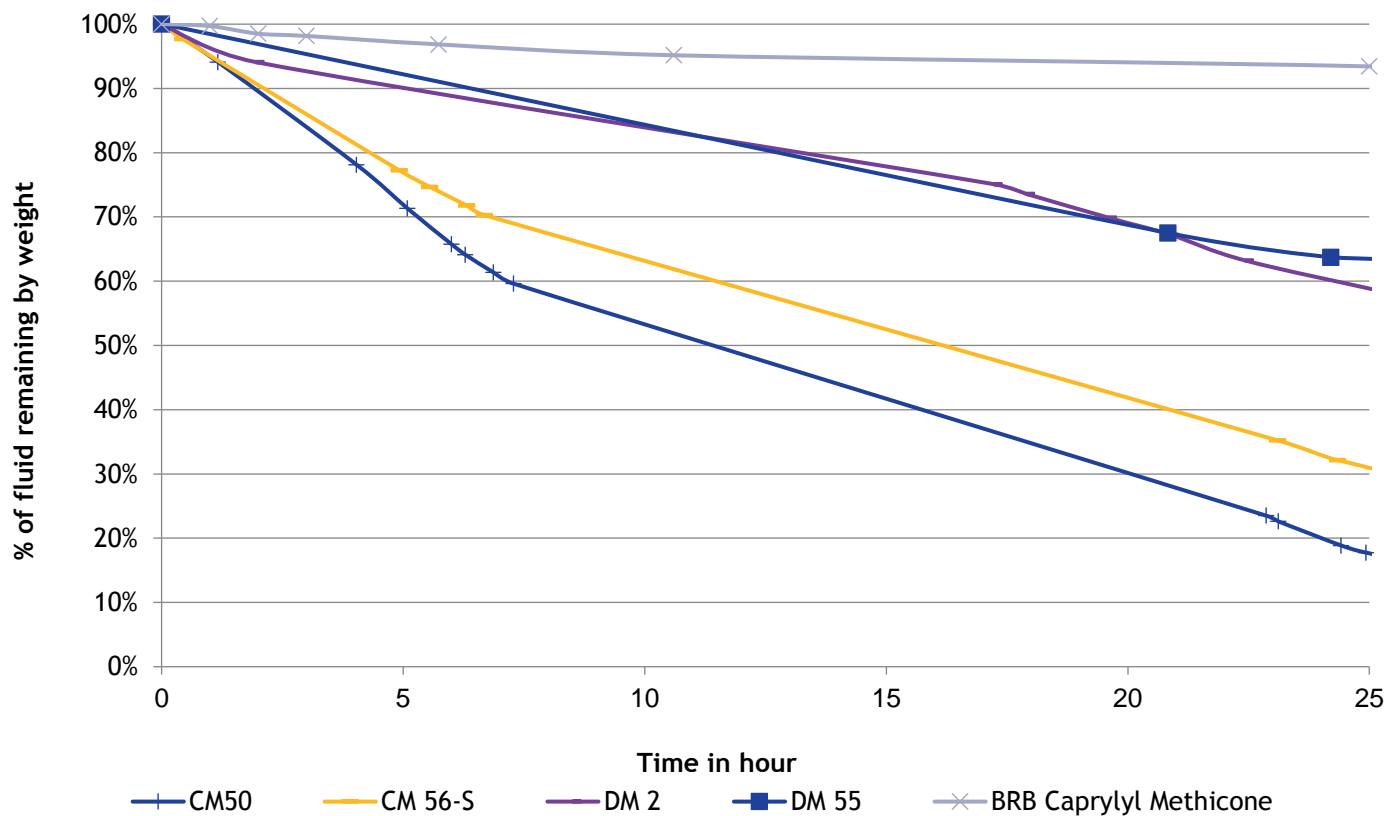
# Alkyldimethicones

## 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 compared 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

- 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

# Carbinol functional Silicone

**NEW BRB 2895:** Bis-Hydroxyethoxypropyl Dimethicone

- Good compatibility with both polar and non-polar solvents
- Imparting hydrophilicity and wetting characteristics
- Improves spreadability and pigment dispersion in decorative cosmetics
- Good binder for powder cosmetics
- Provides unique feel and moisturization on skin
- SPF booster in sun care formulations
- Improves gloss and smoothness of hair cuticles

# Silicone resins

## INCI

<b>BRB TMS</b>	Trimethylsiloxysilicate
<b>BRB TMS-50C</b>	Cyclopentasiloxane (and) Trimethylsiloxysilicate
<b>BRB TMS-30D</b>	Dimethicone (and) Trimethylsiloxysilicate
<b>BRB TMS-50I</b>	Isododecane (and) Trimethylsiloxysilicate
<b>BRB Color Lock</b>	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

## INCI

**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**