



Silicone solutions for RTV Formulator

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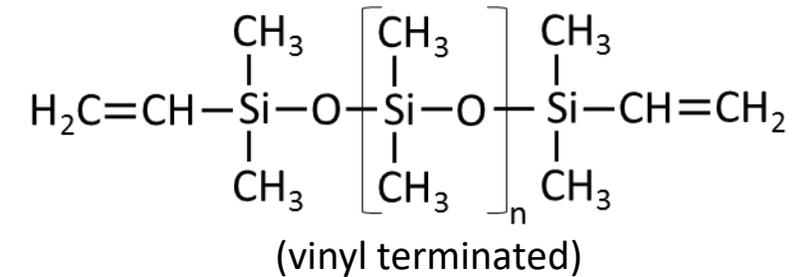
- Vinyl Fluids & Vinyl Dimethicones
- Crosslinker & Modifier
- Vinyl Gum & Base Compound
- Vinyl Resins
- Additives - Inhibitor & Pt Catalyst
- Condensation Cure RTV
- Intermediates for silicone synthesis

BRB's Value Proposition

- BRB is an independent silicone supplier and part of Petronas group of companies.
- Quality Silicone intermediates at competitive pricing
- Quick customization to help customer shorten commercialization time.
- Global reach & supply chain
- High integrity, protection of customer's Intellectual Property
- Flexible MOQ to support customers' initial launch

BRB Vinyl Fluids

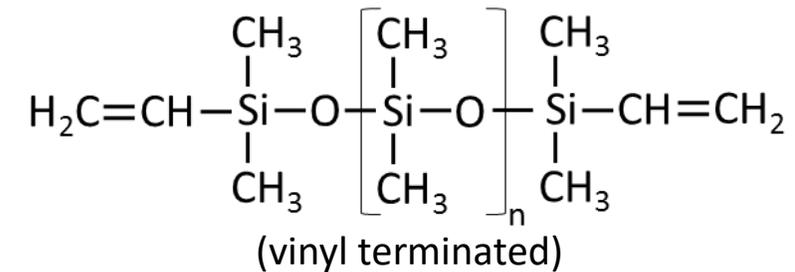
- **BRB Vinyl Fluids** are Vinyl end-capped linear polydimethylsiloxanes with different viscosities.
- **Features & Benefits**
 - Used as the base polymer in most addition-cured RTV-2 formulations
 - Suitable for formulation of technical products
 - Volatile content <2 wt%
 - Customization upon request of vinyl groups in different constellation



| Product name | Viscosity (cSt) | Vinyl content (mmol/g) |
|-----------------------------|-----------------|------------------------|
| BRB Vinyl Fluid 20 cSt | 20 | 1.0 |
| BRB Vinyl Fluid 50 cSt | 50 | 0.80 |
| BRB Vinyl Fluid 100 cSt | 100 | 0.38 |
| BRB Vinyl Fluid 200 cSt | 200 | 0.25 |
| BRB Vinyl Fluid 500 cSt | 500 | 0.15 |
| BRB Vinyl Fluid 1000 cSt | 1000 | 0.11 |
| BRB Vinyl Fluid 2000 cSt | 2000 | 0.08 |
| BRB Vinyl Fluid 5000 cSt | 5000 | 0.06 |
| BRB Vinyl Fluid 10.000 cSt | 10000 | 0.05 |
| BRB Vinyl Fluid 20.000 cSt | 20000 | 0.04 |
| BRB Vinyl Fluid 65.000 cSt | 65000 | 0.03 |
| BRB Vinyl Fluid 165.000 cSt | 165000 | 0.02 |

BRB Vinyl Dimethicone

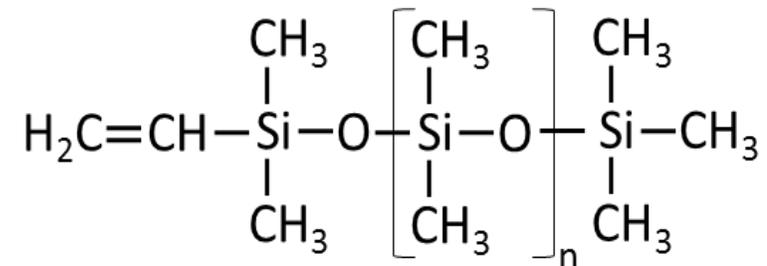
- **BRB Vinyl Dimethicones** are Vinyl end-capped linear polydimethylsiloxanes with different viscosities.
- Used as base polymers for formulating dental impressions, electronic & auto pottants/encapsulants and medical device applications.
- **Features & Benefits**
 - Clear liquid & wide range of viscosities
 - Very low volatile content of <0.5 wt%
 - Low cyclic (D4/5/6) content @ 0.1% available upon request.
 - Customization upon request of vinyl groups in different constellation



| Product name | Viscosity (cSt) | Vinyl content (mmol/g) |
|----------------------------------|-----------------|------------------------|
| BRB Vinyl Dimethicone 20 cSt | 20 | 1.0 |
| BRB Vinyl Dimethicone 50 cSt | 50 | 0.80 |
| BRB Vinyl Dimethicone 100 cSt | 100 | 0.38 |
| BRB Vinyl Dimethicone 200 cSt | 200 | 0.25 |
| BRB Vinyl Dimethicone 500 cSt | 500 | 0.15 |
| BRB Vinyl Dimethicone 1000 cSt | 1000 | 0.11 |
| BRB Vinyl Dimethicone 2000 cSt | 2000 | 0.08 |
| BRB Vinyl Dimethicone 5000 cSt | 5000 | 0.06 |
| BRB Vinyl Dimethicone 10.000 cSt | 10000 | 0.05 |
| BRB Vinyl Dimethicone 20.000 cSt | 20000 | 0.04 |
| BRB Vinyl Dimethicone 65.000 cSt | 65000 | 0.03 |

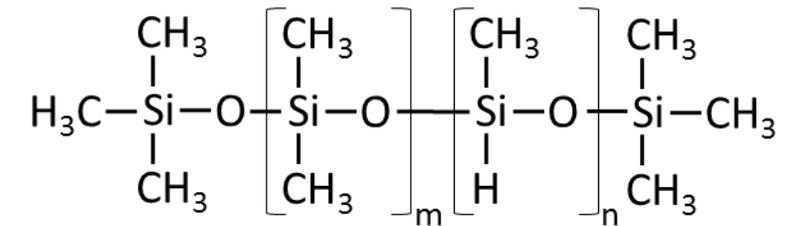
BRB Mono Vinyl Fluid

- BRB Mono Vinyl Fluid is a single side Vinyl end-capped linear polydimethylsiloxanes
- Features & Benefits
 - Single side vinyl terminated to achieve reduction in modulus & hardness
 - Low volatile @ 1% (wt)
 - Viscosity of 1000cSt

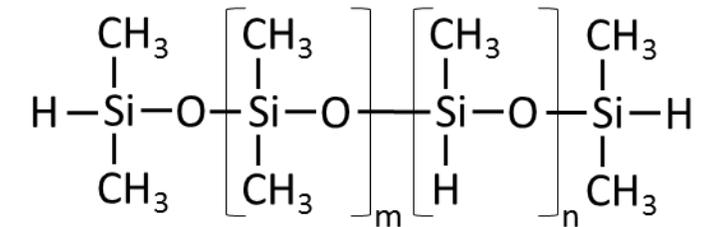


BRB Crosslinkers

- **BRB SiH Crosslinkers** are SiH-functional polydimethylsiloxanes with varying SiH content and viscosities
- Used as the crosslinker in addition-cured RTV-2 formulation
- **Features & Benefits**
 - Major influence on the mechanical properties of the elastomer
 - Cures with vinyl-functional components without by-product formation
 - Low volatile & cyclic (D4/5/6) content available upon request
 - Both pendant and terminal SiH available for higher reactivity. Pot life impact.
 - Customisation of molecular structure available upon request



Crosslinker (pendant SiH)

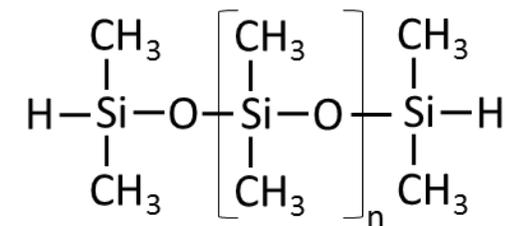


Crosslinker extender - 959H2.5
(Pendant & terminated SiH)

| Product name | Type of SiH | Viscosity (cSt) | SiH content (mmol/g) |
|--------------------------------------|---------------------|-----------------|----------------------|
| BRB Crosslinker 434H4 | Pendant | 50 | 4 |
| BRB Crosslinker 1595H7 | Pendant | 30 | 7 |
| BRB Crosslinker 1738H1.9 | Pendant | 53 | 1.9 |
| BRB Crosslinker 1739H0.5 | Pendant | 1000 | 0.55 |
| BRB Crosslinker 959H2.5 (low cyclic) | Pendant & Endcapped | 30 | 2.5 |

BRB Modifiers (Chain Extender)

- **BRB Modifiers** are SiH terminated polydimethylsiloxanes with varying SiH content and viscosities.
- Used for the formulation of addition-cured RTV-2
- **Features & Benefits**
 - Synergetic effect with BRB Crosslinkers on mechanical properties of elastomer
 - Allows free flowing low viscosity formulations with good mechanical properties
 - Cures with vinyl-functional components without by-product formation
 - Reduces crosslinking density thereby reduce elastomer hardness
 - Suitable to formulate addition cure gel
 - Low dosage required
 - Low volatile content available upon request



Modifier
(SiH terminated)

| Product name | Type of SiH | Viscosity (cSt) | SiH content (mmol/g) |
|-------------------|-------------|-----------------|----------------------|
| BRB Modifier 1439 | End-capped | 5 | 2.5 |
| BRB Modifier 1449 | End-capped | 13 | 1.3 |
| BRB Modifier 1459 | End-capped | 13 | 1.5 |

BRB Vinyl Gum

- **BRB GUM TG 22** is a Vinyl-functional Polydimethylsiloxane Gum
- Used as key ingredient to manufacture various silicone rubber as well as to manufacture master-batches of pigments & process additives
- **Features & Benefits**
 - Low Volatile Content
 - Translucent
 - High level of filler/pigment acceptance
 - High storage stability
 - Food grade approval and conforms to the following guidelines:
 - EU 2023/2006 & 1935/2004
 - EU 10/2011
 - USA FDA 21 CFR
 - China GB9685-2016 & GB4806-11-2016
 - MERCOSUR/GMC/RES.N°02/12

| Product name | Molecular weight (10^4) | Volatile (wt%) |
|---------------------|-----------------------------|----------------|
| BRB Vinyl Gum TG 22 | 67 | <3 |

BRB Vinyl-functional base compound

- BRB B300 & 1300 are a mixture of vinyl-group-containing silicones and reinforcing filler
- Used for formulating addition-cured two-component silicone rubber
- Features & Benefits
 - Impart mechanical properties (tensile, elongation) of addition-cured silicone rubber
 - Eliminate handling of dry, dust forming filler during formulation process
 - Offered with a complete package of components for formulating addition-cured RTV-2.
 - Translucent colorless paste

| Product name | Viscosity (cSt) | Vinyl (mmol/g) | Hardness (Shore A) | Tear Strength (kN/m) | Tensile Strength (Mpa) | Elongation (%) |
|--------------|-----------------|----------------|--------------------|----------------------|------------------------|----------------|
| B 300 | 300,000 | 0.09 | 47 to 53 | 26 to 40 | 7.5 to 25 | 440 to 600 |
| B 1300 | 1,300,000 | 0.11 | 57 to 63 | 25 to 40 | 8 to 25 | 300 to 500 |

- 100 parts of Base, 3.5 parts of crosslinker 434H4, 0.12 parts of 1-ETCH & 0.05 parts of Pt catalyst
- Curing - 10 mins @ 175°C and post cure 4 hours @ 200°C

BRB Vinylated MQ Resin

- Vinyl-functional resin dissolved in Vinyl fluid or 100% solids.
- As an additive for RTV-2 addition-cured formulations. Especially suitable to formulate clear elastomer in replacement of reinforcing filler
- Features & Benefits
 - Increases hardness of elastomer when formulated into RTV-2
 - Improves mechanical properties of elastomer when formulated into RTV-2
 - Good compatibility with other addition-cured RTV-2 components
 - Customization of resin and viscosity is available upon request
 - Clear liquid

| Product name | Viscosity (cSt) | Vinyl content (mmol/g) |
|--------------|-----------------|------------------------|
| BRB MQ 339 | 6500 | 0.22 |
| BRB MQ 393 | 50000 | 0.2 |
| BRB MQ 325 | 6500 | 0.26 |
| BRB MQ 330 | 6500 | 0.3 |
| BRB MQ 100 | Powder | 0.96 |

Vinyl Additives - Inhibitors

- **BRB Inhibitors** are Vinyl-functional siloxanes used to increase the pot life of addition-cured RTV-2
- **Features & Benefits**
 - Increases pot life from minutes up to hours. For longer pot life (days), Ethynylcyclohexanol (ECH) is recommended.
 - Vinyl M2 (divinyl tetramethyl disiloxane) is highly volatile, which enables instant curing at elevated temperature
 - Vinyl D4 (tetravinyl tetramethyl cyclotetrasiloxane) is less volatile, which enables inhibited curing at elevated temperature
 - Low dosage required
 - Good compatibility with addition-cured RTV-2 components

| Product name | Viscosity (cSt) | Density (g/cm ³) |
|---------------------------------|-----------------|------------------------------|
| BRB Vinyl M2 (CAS# - 2627-95-4) | 1 | 0.81 |
| BRB Vinyl D4 (CAS# - 2554-06-5) | 4 | 0.98 |

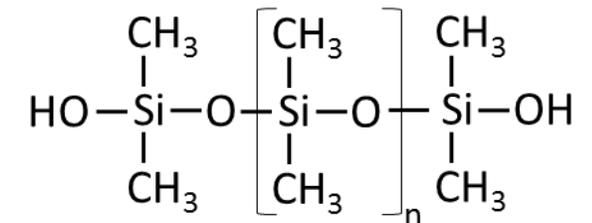
BRB Platinum (Pt) Catalyst

- **BRB Pt Cat** consists of Karstedt platinum catalyst in vinyl fluid
- Used for the formulation of addition-cured RTV-2.
- **Features & Benefits**
 - Available as 1 and 2 wt% Pt concentrations
 - Enables room temperature curing as well as accelerated curing at elevated temperature
 - Extremely low dosage required
 - Good compatibility with addition-cured RTV-2 components
 - Slightly yellow clear liquid

| Product name | Pt content (wt%) |
|-----------------------|------------------|
| BRB Pt Cat 10000 Fast | 1.0 |
| BRB Pt Cat 20000 Fast | 2.0 |

Condensation cure RTV-2

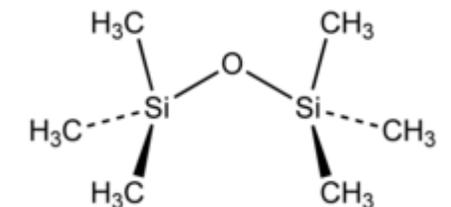
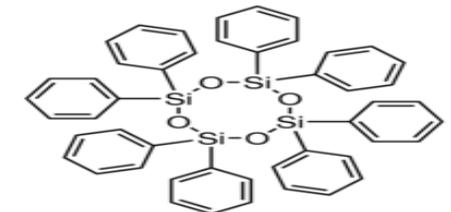
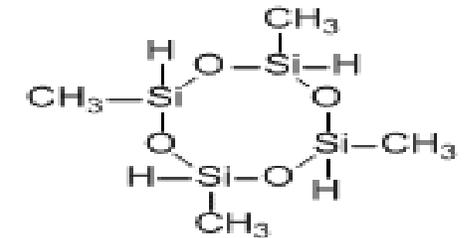
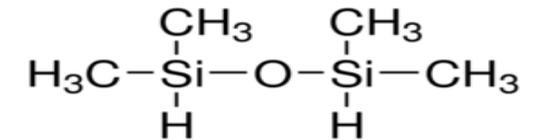
- Silanol endcapped polydimethylsiloxane base polymer
 - Low viscosity (cSt) - 40 & 70 cSt
 - Mid viscosity (cSt) - 750, 1000, 2000, 3500, 5000 & 6000 cSt
 - High Viscosity (cSt) - 20,000, 50,000, 80,000, 300,000 cSt
- Crosslinker for RTV-1 & 2
 - Acetoxy - BRB Silanil MTAS, ETAS, PTAS
 - Oxime - BRB Silanil MOS, VOS
 - Alkoxy - BRB Silanil 118 (MTMS), 203 (MTES)
 - RTV-2 - BRB Silanil Si-28, Si-40 (TEOS)
- Catalyst
 - BRB DBTDL - Dibutyltin dilaurate CAS# 77-58-7
 - BRB DBTDA - Dibutyltin diacetate CAS# 1067-33-0



OH fluids
(OH terminated)

Intermediates for Silicone Synthesis

- **BRB 1,1,3,3 Tetramethyldisiloxane**
 - Primarily used as an intermediate in the preparation of silicon hydride end-capped siloxane polymers and other organo silicone
 - CAS number - 3277-26-7
- **BRB D4H (2,4,6,8 Tetramethylcyclotetrasiloxane)**
 - Utilized widely to synthesize variety functional reactive silicone fluids and crosslinker for addition cure rubber
 - CAS number - 2370-88-9
- **BRB Phenyl D4 (Octaphenylcyclotetrasiloxane)**
 - Also used widely to synthesize variety phenyl functional silicone fluids and phenyl crosslinker for vinyl addition silicone rubber
 - CAS number - 546-56-5
- **BRB Silicone Oil 0.65 cSt (Hexamethyldisiloxane)**
 - Various application one of which is an end blocker in the production of silicone polymer
 - CAS number – 107-46-0





Powerful like a major, flexible like a formulator

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BRB has more than 10 locations worldwide from which we supply our markets and meet our customer's needs. Get in contact with us by scanning this code.