



A Subsidiary of PETRONAS Chemicals Group

# Silicone Solutions

for RTV-2 Formulators



# BRB International

## A subsidiary of PETRONAS Chemicals Group Berhad

BRB is a globally operating independent manufacturer of future-oriented silicones, lube oil additives and other speciality chemicals. Our innovation strategy focuses on anticipating the needs and wishes of the customers and industries we serve – and developing cutting-edge technologies to meet them. We consistently build solid, long-term relationships with our partners and customers. As a subsidiary of the PETRONAS Chemicals Group Berhad, BRB now has an even greater global presence and innovation resources.

Since our beginning as a small business in 1981, BRB has grown to become an international corporation with over 300 employees at 11 locations. BRB is now one of the world's largest independent manufacturers and suppliers of speciality silicones, core intermediates and silanes. We offer a comprehensive range of silicone-based products, serving many different applications, with the aim to enhance everyday life. Lube oil additives, including solutions for cutting-edge viscosity modifier technologies, represent a further focal point of our portfolio. Customers worldwide count on us to help keep them at the forefront of innovation and ahead of their competitors.



**BRB supplies a comprehensive range of silicone products to elastomer formulators for addition or condensation cure formulation. Products include polymer, silicone hydride, additives, base, gum and platinum catalyst.**

Dual and mono Vinyl-terminated dimethylpolysiloxanes are available in various viscosities and vinyl contents. It also meets the cyclo siloxane content (D4/D5/D6) of <1000 ppm each.

For condensation cure formulation, we offer silanol functional fluid available in different viscosities ranging from 40 to 6000 cSt.

Silicone hydride fluid where the functional group (hydride) is pendant, terminal and or both to increase the crosslinking density. Available in different viscosities and hydride content. For condensation cure formulation, please refer to our Silane products for a range of crosslinkers and adhesion promoters.

Vinylated MQ resins to improve mechanical properties whilst maintaining the transparency of elastomer. Available in different viscosities and vinyl content and customization is available upon request.

Silicone base compounded with silica for ease of use to avoid handling of silicas. Two grades are available with a cured hardness of Shore A 50 and 60.

Platinum (Karstedt) catalyst available in 1% weight disperses in a vinyl fluid.

The standard volatile content is 1%.

## Vinyl functional silicone polymer

BRB Vinyl Dimethicone range is vinyl terminated PDMS in lower volatile content (0.5%) and cyclic siloxane (D4/5/6) content not exceeding 1000ppm each.

Name	Vinyl Content (mmol/g)	VISCOSITY (cSt)
BRB Vinyl Dimethicone 20 cSt	1.00	20
BRB Vinyl Dimethicone 100 cSt	0.38	100
BRB Vinyl Dimethicone 200 cSt	0.25	200
BRB Vinyl Dimethicone 500 cSt	0.15	500
BRB Vinyl Dimethicone 1000 cSt	0.11	1000
BRB Vinyl Dimethicone 2000 cSt	0.08	2000
BRB Vinyl Dimethicone 5000 cSt	0.06	5000
BRB Vinyl Dimethicone 10,000 cSt	0.05	10,000
BRB Vinyl Dimethicone 20,000 cSt	0.04	20,000
BRB Vinyl Dimethicone 65,000 cSt	0.03	65,000
BRB Vinyl Dimethicone 100,000 cSt	0.02	100,000
BRB Vinyl Dimethicone 165,000 cSt	0.02	165,000

## Specialty vinyl functional silicone polymer

BRB Mono Vinyl Fluid are single side Vinyl terminated PDMS used to adjust mechanical properties such as hardness and crosslinking density.

Name	Vinyl Content (mmol/g)	Viscosity (cSt)
BRB Mono Vinyl Fluid 1000 cSt	0.38	1000

## Vinyl functional resins

Used as an additive to improve mechanical properties of addition cure elastomer. The resins dispersed in Vinyl fluid except for BRB MQ 100.

Name	Vinyl Content (mmol/g)	Viscosity (cSt)
BRB MQ 339	0.22	6500
BRB MQ 393	0.20	50000
BRB MQ 325	0.26	6500
BRB MQ 330	0.30	6500
BRB MQ 100	0.96	Powder

For product customization (vinyl content and viscosity), please get in touch with our sales representative in your region.

## Hydride functional silicone polymer

Used as a crosslinker or extender in most additional cure formulations.

Name	Description	SiH content (mmol/g)	Viscosity (cSt)
BRB Crosslinker 434H4	Trimethyl terminated, pendant hydride	4.0	50
BRB Crosslinker 1595H7	Trimethyl terminated, pendant hydride	7.0	30
BRB Crosslinker 1738H1.9	Trimethyl terminated, pendant hydride	1.9	53
BRB Modifier 1439	Hydride terminated PDMS	2.5	5
BRB Modifier 1449	Hydride terminated PDMS	1.4	14
BRB 959H2.5	Hydride terminated & pendant hydride	2.5	30

## Silicone gum

Vinyl functional PDMS gum is a crucial ingredient for manufacturing silicone rubber and master batch pigments and process additives.

Name	Vinyl Content (mmol/g)	Molecular weight (10 <sup>4</sup> )
BRB TG 22	0.02 to 0.12	40 to 80

For specific vinyl content and viscosity, please get in touch with our sales representative in your region.

## Silicone base

A mixture of vinyl silicones and reinforcing filler is used primarily in addition cure elastomer formulation.

	BRB B300	BRB 1300
Durometer (Shore A)	50	62
Tear Strength (kN/m)	33	30
Tensile Strength (Mpa)	9	10
Elongation (%)	520	422
Viscosity @ 25°C (Pa.s)	300	800

- 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

## Cure inhibitor

BRB Inhibitors are Vinyl-functional siloxanes used to increase the pot life of addition-cured RTV-2.

Name	Viscosity (cSt)	Density (g/cm <sup>3</sup> )
BRB Vinyl M2 (CAS# 2627-95-4)	1	0.81
BRB Vinyl D4 (CAS# 2554-06-5)	4	0.98

## Platinum catalyst

**BRB Pt Cat 10000 Fast** consists of 1% (wt) of Karstedt platinum catalyst in a vinyl fluid.

## Silanol functional silicone polymer (low viscosity)

Reactive polymers have various viscosity and silanol content. Used as a base polymer to formulate condensation cure RTV, filler treatment and anti-structuring. Additives in HCR.

Name	Description	Viscosity (cSt)
BRB OH Fluid 40	Silanol terminated, 4% OH content	40
BRB OH Fluid 70	Silanol terminated, <2.5% OH content	70
BRB OH Fluid 750	Silanol terminated	750
BRB OH Fluid 1000	Silanol terminated	1000
BRB OH Fluid 2000	Silanol terminated	2000
BRB OH Fluid 3500	Silanol terminated	3500
BRB OH Fluid 5000	Silanol terminated	5000
BRB OH Fluid 6000	Silanol terminated	6000

Also available are high-viscosity silanol polymers 20,000 cSt, 50,000 cSt & 80,000 cSt, commonly used in RTV-1 sealant. For crosslinker, please refer to our silane product brochure.





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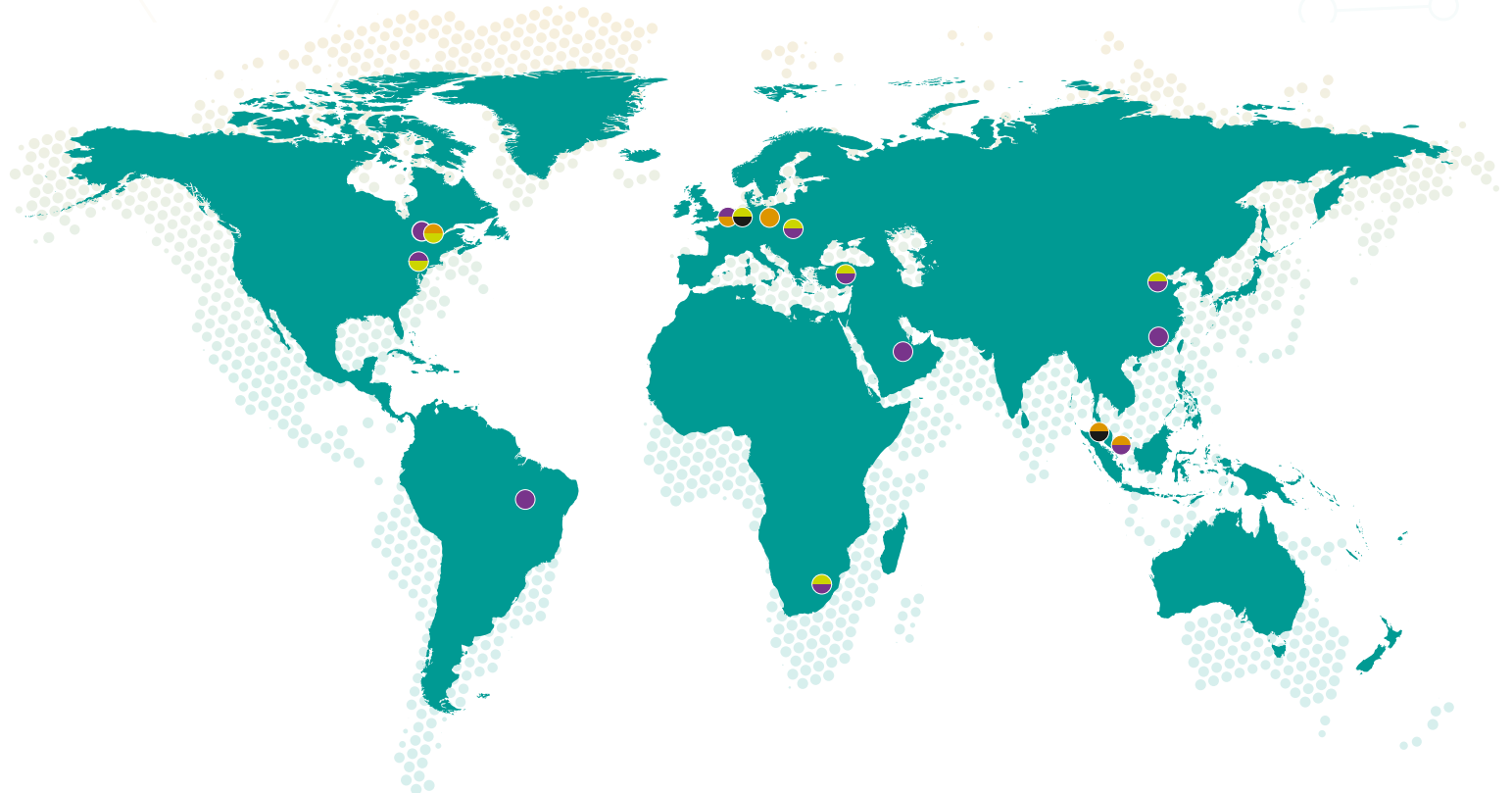
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