

Product Information

Personal Care

Dow Corning[®] RM 2051 Thickening Agent

FEATURES

- Multifunctional product: thickening and emulsifying
- Ready to use for controlling the rheology of aqueous formulations
- Silicone carrier provides instant perception of improved aesthetics
- Ease of formulation/cold processing
- Gives smooth, non greasy and non sticky formulations

Thickening and emulsifying polymer in dimethicone

INCI NAME: Sodium Polyacrylate (and) Dimethicone (and) Cyclopentasiloxane (and) Trideceth-6 (and) PEG/PPG 18/18 Dimethicone

APPLICATIONS

- Can be used in a wide range of Personal Care applications such as:
 - Skin care
 - Sun care
 - Color cosmetics
 - Rinse-off and leave-on hair conditioners
 - Hair styling products

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Parameter	Unit	Value
Appearance		Viscous opaque
liquid with a slight yellow color		
Odor		Characteristic odor
Silicone content	%	~29
Sodium Polyacrylate	%	~26
Viscosity at 25°C (Brookfield LVT, 30rpm)	mPa.s	<4000
Flash point	°C	>100
Cyclotetrasiloxane (D4) content	%	<1

DESCRIPTION

Dow Corning[®] RM 2051 Thickening Agent is an inverse (w/o) emulsion of sodium polyacrylate in dimethicone (XIAMETER[®] PMX-200 Silicone Fluid 5 cSt). The emulsion also contains two surfactants, a silicone emulsifier (PEG/PPG-18/18 Dimethicone) to stabilize the *Dow Corning* RM 2051 Thickening Agent and an inverting agent (Trideceth-6) that helps to bring the polymer into contact with the aqueous phase of the formulation.

When the product is added to water, the polymer expands instantly into the water phase to thicken and give stability to the preparation. As the formulation thickens, the oil phase ingredients are emulsified and stabilized.

HOW TO USE

Dow Corning RM 2051 Thickening Agent should be mixed before use. Oil-in-water (o/w) emulsions can be prepared by adding *Dow Corning* RM 2051 Thickening Agent to the oil phase and then mixing with the water phase. The oil phase with *Dow Corning* RM 2051 Thickening Agent can be added to the water phase, or the water phase can be added to the oil phase. If the water phase is added to the oil phase the emulsion will invert as the water phase is added and this can reduce the particle size of the final emulsion. Alternatively, *Dow Corning* RM 2051 Thickening Agent can be added after the oil phase and water phase have been mixed together. Regardless of which technique that is used, the mixer speed will need to be increased as the formulation thickens to maintain good mixing.

The effective pH range of pH 5.5 - 11 allows the use of *Dow Corning* RM 2051 Thickening Agent in a variety of personal care formulations. The recommended addition level is 3 to 6%. *Dow Corning* RM 2051 Thickening Agent can emulsify and stabilize all oil phases (up to 50%). It can be used with high solvent content (30% ethanol, isopropyl alcohol or acetone, 50% glycerin or propylene glycol). The thickening efficiency will be reduced in the presence of electrolytes.

Figure 1: Viscosity of an aqueous gel versus the *Dow Corning* RM 2051 Thickening Agent content

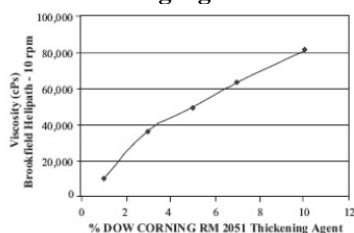


Figure 2: pH influence (Viscosity of a 5% *Dow Corning* RM 2051 Thickening Agent aqueous gel versus pH).

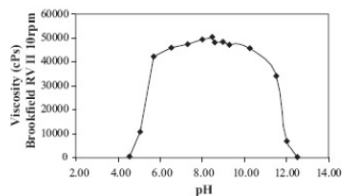


Figure 3: Viscosity of a 5% *Dow Corning* RM 2051 Thickening Agent aqueous gel versus Sodium Chloride concentration.

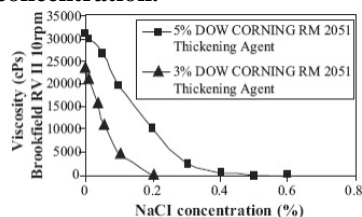
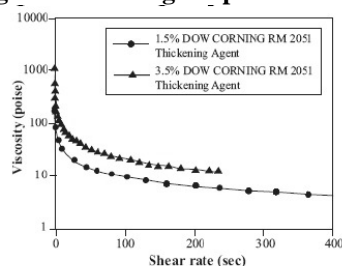


Figure 4: Rheological profile.



HANDLING PRECAUTIONS

Product safety information required for safe use is not included. Before handling, read product and safety data sheets and container labels for safe use, physical and health hazard information. The material safety data sheet is available on the *Dow Corning* website at www.dowcorning.com. You can also obtain a copy from your local *Dow Corning* sales representative or Distributor or by calling your local *Dow Corning* Global Connection.

USABLE LIFE AND STORAGE

When stored at or below 30°C (86°F) in the original unopened containers, this product has a usable life of 18 months from the date of production.

PACKAGING

This product is available in 25kg pails and 130kg drums. Samples are available in 500g bottles.

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 Corning* has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, www.dowcorning.com or consult your local *Dow Corning* representative.

**LIMITED WARRANTY
INFORMATION - PLEASE
READ CAREFULLY**

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

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.

**DOW CORNING
SPECIFICALLY DISCLAIMS
ANY OTHER EXPRESS OR
IMPLIED WARRANTY OF
FITNESS FOR A PARTICULAR
PURPOSE OR
MERCHANTABILITY.**

**DOW CORNING DISCLAIMS
LIABILITY FOR ANY
INCIDENTAL OR
CONSEQUENTIAL DAMAGES.**

*We help you invent the future.*TM

www.dowcorning.com