

# SM2059 reactive silicone emulsion

SPECIALTY FLUIDS



**SM2059 reactive silicone emulsion is a reactive emulsion of an amine functional silicone polymer in water. The product cures to an elastomeric film without the need for a catalyst.**

### Key Features and Typical Benefits

- Good lubricity
- Easy release
- High temperature stability of silicone polymer
- Low volatility of silicone polymer
- Water dispersible

### Potential Applications

#### *Chemical Specialties*

- Polishes & household cleaners
- Cured coatings on glass containers

#### *Textiles*

- Fiber & thread lubricants
- Nonwoven treatments
- Softeners & modifiers
- Water-repellent finishes

#### *Paint and Ink Additives*

- Mar resistance

#### *Water Repellant*

- Particle treatment
- Perlite & vermiculite coatings

### Typical Physical Properties

Property	Value
Appearance	Milky white liquid
Emulsifier type	Cationic
Silicone content, %	35
Density, g/cm <sup>3</sup>	0.99
Diluent	Water
Storage stability	12 months

Typical properties are average data and are not to be used as or to develop specifications.

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### Processing Considerations

Normally used at concentrations of 0.2 to 2.5% silicone. A 2.0% silicone concentration is an excellent starting point for evaluating this product in new applications.

### Cure Properties

Upon evaporation, the product will cure to an elastomeric film.

### Hard Water Dilution

Silicone emulsions are generally stable in hard water. However, should the water supply be of 200 ppm hardness or higher, softened water or boiler condensate is recommended as a diluent.

Dilution of the emulsion with water may result in the need for additional bacteriostat/fungistat to counteract possible microbial activity. It is recommended that each user evaluate the diluted emulsion before putting it into use. Depending on the specific applications and dilution level, it may be necessary to use additional bacteriostat/fungistat in the diluted product.

Silicone emulsions are shipped with sufficient biocide for preservation. Shipments of emulsions with sufficient biocide for all dilution levels in all applications is not feasible. Therefore, it is recommended that each user evaluate whether it is necessary to add additional biocide to diluted products.

### Reactive Fluid Emulsions

The reactive silicone emulsions may not be compatible with certain materials. They are deactivated by acidic materials and may cause gellation of materials containing hydroxy (-OH) groups. Other materials such as anionics, lower alcohols, salts, etc., may break the silicone emulsion. It is recommended that any mixture of reactive emulsions with other materials be thoroughly checked before it is put into factory production.

### Freeze/Thaw Stability

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Freezing of all silicone emulsions has the potential to cause emulsion instability. The propensity for an emulsion to be destabilised as a result of freezing is dependent upon the emulsion formulation and the conditions under which it is frozen and thawed. All precautions to prevent freezing must be made in the handling, transferring and shipping of emulsions. It is recommended that the product is shipped in transportation that will keep the product above 4 °C (39 °F).

SM 2059 reactive silicone emulsion has been developed to exhibit resilience to destabilisation when frozen. If a container of SM 2059 reactive silicone emulsion is frozen and then properly thawed and mixed, it is possible that there will be no detrimental effect relative to the subsequent performance of the product, provided a sample of the product has a uniform appearance. To be properly thawed, the emulsion must be completely melted (at less than 50 °C) to a liquid state before any agitation of the product is attempted. Before a product that has been frozen is used, it is essential that a fully representative sample of the emulsion is taken, left to stand (> 12 hours) and then visually inspected for signs of separation. If there is any sign of instability, the product should not be used. These statements apply only to the emulsion itself and not to any dilutions made from the emulsion.

As with any water containing material, damage to the container may result from expansion of the liquid during freezing. Containers should therefore be inspected prior to thawing to insure that no leakage of liquid has or will occur.

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### Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

### Product Safety, Handling and Storage

Customers should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. MSDS are available at [www.momentive.com](http://www.momentive.com) or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

### Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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