

# SILCOOL™ SDI5279 Adhesive

## Product Description

SILCOOL SDI5279 adhesive is a one-component, robust silicone of high thermal conductivity, which can be considered for use as a thermal interface material of large body flip chip BGA packages. This product typically cures quickly with heat and adheres well between the Si die and Ni plated Cu.

## Key Features and Typical Benefits

- Suitable viscosity and thixotropic consistency for dispensing processes
- Good reliability in comparison to gel type products
- High thermal conductivity for thermal management in semiconductor packages

## Typical Physical Properties

| UNCURED PROPERTIES           | Unit              | Results                   |
|------------------------------|-------------------|---------------------------|
| Appearance                   | -                 | Light Gray                |
| Viscosity (23°C) *1          | Pa.s              | 130                       |
| CURED PROPERTIES             | Unit              | Results                   |
| Appearance                   | -                 | Soft, gray adhesive       |
| Density (23°C)               | g/cm <sup>3</sup> | 3.2                       |
| Hardness (Type A)            | -                 | 75                        |
| Elongation                   | %                 | 50                        |
| Thermal Conductivity*2       | W/m.K             | 5.2                       |
| Storage Modulus (25°C)       | MPa               | 20                        |
| Pot life*3                   | Hrs               | 24                        |
| Shelf life*4                 | Month             | -20 to -40°C/9month       |
| Recommended cure condition*5 |                   | 125°C/30min + 150°C/60min |

\*1: Rotary type viscometer

\*2: Hot wire

\*3: Pot life is in reference to time after freeze-thaw at room temperature.

\*4: Shelf life is 9months@-20C~-40°C from manufacturing date and not including delivery condition (-10°C to 10C within 1week)

\*5: Recommend cure condition doesn't mean the optimized condition for customers.

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

## Potential Applications

SILCOOL SDI5279 adhesive is an excellent candidate to consider for use in the following applications:

- Thermal interface material for semiconductor package as TIM1

## Processing Recommendations

All parts should be as clean and dry as possible prior to applications. Materials such as water, sulfur, nitrogen compounds, organic metallic salts, phosphorus compounds, etc. contained in the surface of the substrate can inhibit curing. It is recommended that a preliminary test is performed to determine compatibility

## Containers

SILCOOL SDI5279 is available in syringe packaging. Other types of packaging are potentially also available. Please speak with your sales representative.

## 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

CAUTION: SILCOOL SDI5279 adhesive can generate flammable hydrogen gas upon contact with acidic, basic, or oxidizing materials. Such contact should be avoided.

The shelf life will be indicated by 9 months from the date of manufacturing when stored in the original unopened container below -20to -40°C. \*\*Please see also use-before / expiry date on product label and certificate.

Customers should review the latest Safety Data Sheet (SDS) 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. SDS 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.

## Contact Information

Email

[commercial.services@momentive.com](mailto:commercial.services@momentive.com)

### Telephone

#### Americas

+1 800 295 2392  
Toll free\*  
+704 805 6946  
Direct Number

\*All American  
countries

#### Latin America

**Brazil**  
+55 11 4534 9650  
Direct Number

**Mexico**  
+52 55 2169 7670  
Direct Number

#### EMEAI- Europe, Middle East, Africa & India

**Europe**  
+390510924300  
Direct number

**India, Middle East & Africa**  
+ 91 44 71212207  
Direct number\*

\*All Middle Eastern  
countries, Africa, India,  
Pakistan, Bangladesh, Sri  
Lanka.

#### ASIA PACIFIC

**China**  
800 820 0202  
Toll free  
+86 21 3860 4892  
Direct number

**Japan**  
+81 3 5544 3111  
Direct number

**Korea**  
+82 2 6201 4600  
Direct number

**South East Asia, Australia & New  
Zealand**

+60 3 9206 1543  
Direct number\*

\*South East Asia countries (Malaysia, Singapore, Thailand, Indonesia, Vietnam, Philippines, Cambodia, Myanmar / other countries located in Pacific region).

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NY 12188 USA  
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