

# Product Information

## Fluid

To reorder call:  
 Polysi Technologies  
 (T) 1-866-4-POLYSI  
 (4-765974)  
 (F) 1-919-775-2460

# 200<sup>®</sup> Fluid 50cs, 100cs, 200cs, 350cs, 500cs, 1000cs

## FEATURES

- High compressibility
- High damping action
- High dielectric strength
- High oxidation resistance<sup>1</sup>
- High shearability without breakdown
- High spreadability
- High temperature serviceability<sup>1</sup>
- High compatibility
- High water repellency
- Low environmental hazard
- Low fire hazard<sup>1</sup>
- Low odor
- Low reactivity<sup>1</sup>
- Low surface energy
- Low temperature serviceability
- Low toxicity
- Low vapor pressure
- Good heat stability<sup>1</sup>
- Good leveling and easy rubout
- Soft feel and lubricity on skin

## BENEFITS

- Clear
- Essentially nontoxic
- Nonbioaccumulating
- Nonbioactive
- Nongreasy
- Nonocclusive
- Nonrancidifying
- Nonstinging on skin
- Tasteless

## COMPOSITION

- Polydimethylsiloxane polymers
- Clear liquid
- Chemical composition  
 $(\text{CH}_3)_3\text{SiO}[\text{SiO}(\text{CH}_3)_2]_n\text{Si}(\text{CH}_3)_3$
- Trace amounts of process impurities

## Intended for use by industrial manufacturers

## APPLICATIONS

- Cosmetic ingredient
- Elastomer and plastics lubricant
- Electrical insulating fluid
- Foam preventative or breaker
- Household product ingredient
- Mechanical fluid
- Mold release agent
- Personal care product ingredient
- Mechanical fluid
- Mold release agent
- Polish ingredient
- Specialty chemical product ingredient
- Specialty cleaner ingredient
- Surface active agent

## DESCRIPTION

200<sup>®</sup> Fluids from Dow Corning, 50-1000 centistrokes (cs), are medium viscosity polydimethylsiloxane polymers manufactured to yield essentially linear polymers with average kinematic viscosities ranging from 50 to 1000 cs.

## HOW TO USE

Since the applications for these fluids are numerous and varied, application methods and recommended concentration levels must be considered on an individual basis. Contact Dow Corning Customer Service for specifics.

## Incoming Inspection

Dow Corning recommends that incoming inspection tests be performed to confirm product

identity and condition on arrival. Suggested tests include viscosity and infrared identification, and any other tests deemed necessary for the application. Such tests may or may not be run routinely by Dow Corning as lot acceptance tests. Obtain the sales specifications for lot acceptance tests and test limits conducted on 200 Fluids, 50-1000 cs.

## Sales Specifications

Sales specifications information, including detailed test methods and analysis procedures used by Dow Corning, is available upon request. Since Dow Corning reserves the right to update sales specifications information without prior notice, users should periodically request this information.

<sup>1</sup> See "Contamination and Fire Prevention."

## 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.

<u>As Supplied</u>	<u>200 Fluid, 50 cs</u>	<u>200 Fluid, 100 cs</u>	<u>200 Fluid, 200 cs</u>	<u>200 Fluid, 350 cs</u>	<u>200 Fluid, 500 cs</u>	<u>200 Fluid, 1000 cs</u>
Appearance	Crystal clear liquid from suspended matter and sediment					
Specific Gravity at 25°C (77°F)	0.960	0.964	0.967	0.968	0.969	0.970
Refractive Index at 25°C (77°F)	1.4022	1.4030	1.4032	1.4034	1.4034	1.4035
Color, APHA	5	5	5	5	5	5
Flash Point, open cup, °C (°F)	318 (605)	>326 (>620)	>326 (>620)	>326 (>620)	>326 (>620)	>326 (>620)
Acid Number, BCP	trace	trace	trace	trace	trace	trace
Melt Point, °C (°F) <sup>2,3</sup>	-41 (-42)	-28 (-18)	-27 (-17)	-26 (-15)	-26 (-15)	-25 (-13)
Pour Point, °C (°F)	-70 (-94)	-65 (-85)	-65 (-85)	-65 (-85)	-50 (-58)	-50 (-58)
Surface Tension at 25°C (77°F), dynes/cm	20.8	20.9	21.0	21.1	21.1	21.2
Volatile Content, at 150°C (302°F), percent	0.3	0.02	0.07	0.09	0.15	0.11
Viscosity Temperature Coefficient	0.59	0.60	0.60	0.60	0.60	0.61
Coefficient of Expansion, cc/cc/°C	0.00104	0.00096	0.00096	0.00096	0.00096	0.00096
Thermal Conductivity at 50°C (122°F), g cal/cm • sec•°C	–	0.00037	–	0.00038	–	0.00038
Specific Heat at 25°C (77°F), cal/g °C	–	0.352	–	0.350	–	0.349
Solubility Parameter <sup>4</sup>	7.3	7.4	7.4	7.4	7.4	7.4
Solubility in Typical Solvents						
Chlorinated solvents	High	High	High	High	High	High
Aromatic solvents	High	High	High	High	High	High
Aliphatic solvents	High	High	High	High	High	High
Dry alcohols	Poor	Poor	Poor	Poor	Poor	Poor
Water	Poor	Poor	Poor	Poor	Poor	Poor
Fluorinated propellants	High	High	High	High	High	High
Dielectric Strength at 25°C (77°F), volts/mil	400	400	400	400	400	400
Volume Resistivity at 25°C (77°F), ohm-cm	1.0 x 10 <sup>15</sup>	1.0 x 10 <sup>15</sup>	1.0 x 10 <sup>15</sup>	1.0 x 10 <sup>15</sup>	1.0 x 10 <sup>15</sup>	1.0 x 10 <sup>15</sup>

<sup>1</sup> Dow Corning does not routinely test all these physical properties. Users should independently test these properties when they are critical in the application.

<sup>2</sup> The melt point temperature is a typical value and may vary somewhat due to molecular distribution (especially 50 cs or less). If the melting point is critical to your application, then several lots should be thoroughly evaluated.

<sup>3</sup> Due to different rates of cooling, this test method may yield pour points lower than the temperature at which these fluids would melt.

<sup>4</sup> Fedors Method: R.F. Fedors, Polymer Engineering and Science, Feb. 1974.

## **HANDLING PRECAUTIONS**

200 Fluids, 50-1000 cs, may cause temporary eye discomfort.

Note: For answers to any questions regarding the efficiency, safety, health or environmental aspects of using 200 Fluids, 50-1000 cs, in any application, contact your nearest Dow Corning sales office or call Dow Corning Customer Service at (517) 496-6000.

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY WRITING TO DOW CORNING CUSTOMER SERVICE, OR BY CALLING (517) 496-6000.

### **Contamination and Fire Prevention**

At elevated temperatures, 200 Fluids, 50-1000 cs, are sensitive to contamination by strong acids, bases,

some metallic compounds and oxidizing agents. These contaminants may cause an accelerated rate of volatile by-product formation. Oxidizing agents can also cause an increase in fluid viscosity. When these conditions may exist, it is recommended that the flash point of the fluids be checked periodically to monitor operational safety. Also, ignitable conditions may exist if the fluid is giving off smoke.

## **USABLE LIFE AND STORAGE**

Shelf life is the period of time during which a material may be stored under specified conditions in its original unopened container (except for inspection) while retaining the material's sales specifications. Shelf life starts with the date of manufacturer (unless otherwise specified), and ends on a given date. Continued storage beyond the designated shelf life does not necessarily mean that the material may not be used. However, after the expiration of the designated shelf life, testing of critical properties and redetermination of suitability for contemplated use of the product are imperative.

Dow Corning certifies that 200 Fluids, 50-1000 cs, will meet sales specification requirements for a period of 36 months from date of production. Store in ambient temperatures.

## **PACKAGING**

These products are supplied in 40- and 440-lb (18.1- and 199.6-kg) containers, net weight. Smaller container are available from repackagers.

Caution: Containers will have product residues when emptied. Follow precautions recommended for handling these products when disposing of the container. Containers are not intended for reuse.

## **LIMITATIONS**

These products are neither tested nor represented as suitable for medical or pharmaceutical uses. Not for human injection. Not intended for food or medical use.

### **Shipping Limitations**

None.

**LIMITED WARRANTY -  
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 Dow Corning's products are safe, effective, and fully satisfactory for the intended end use.

Dow Corning's sole warranty is that the product will meet the Dow Corning 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. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.