



## Technical Data Sheet

### SYLGARD™ OFX-0309 Fluid

Performance enhancer for agricultural chemicals

#### Features & Benefits

- Very low surface energy
- Rapid spreading and wetting

#### Composition

- Low viscosity silicone polyether liquid

#### Applications

- To enhance the performance of agricultural chemicals, especially water-soluble broadleaf herbicides and insecticides, fungicides and plant growth regulators

#### Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
Appearance		Clear, amber-colored fluid
Active content	percent	100
Solids	percent	100
Viscosity at 25°C (77°F)	cSt	40
Flash point, closed cup	°C (°F)	> 100 (> 212)
HLB		12
Freezing point	°C (°F)	< 0 (32)
Cloud point	°C (°F)	3 (37)

#### Description

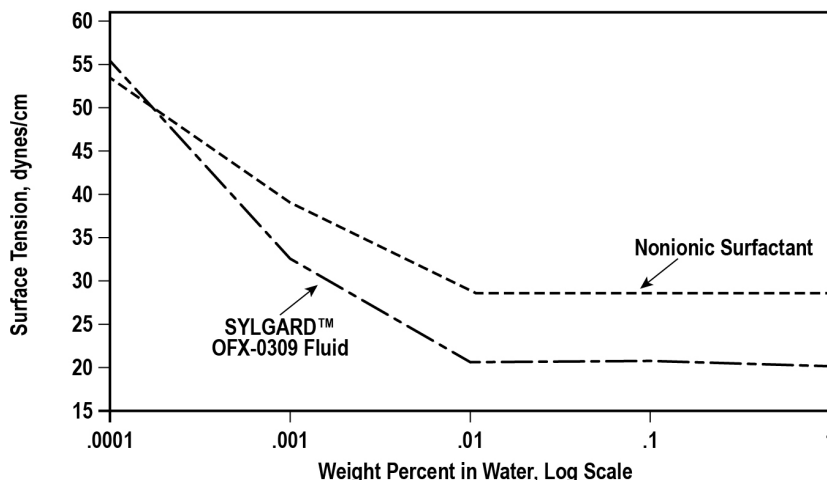
SYLGARD™ OFX-0309 Fluid is a low molecular weight nonionic silicone polyether surfactant, developed to improve the wetting, spreading and penetration of agricultural chemicals. It may be used as a formulation ingredient in pesticide products, or as a tank-mix adjuvant for foliar-applied chemicals.

#### Performance Characteristics

SYLGARD™ OFX-0309 Fluid reduces the surface tension of aqueous agricultural mixtures significantly lower than is achievable with conventional nonionic surfactants. At concentrations as low as 0.01 percent, SYLGARD™ OFX-0309 Fluid reduces surface tension below 23 dynes/cm (see Figure 1), which produces very rapid wetting and spreading on hard-to-wet surfaces such as waxy leaves.

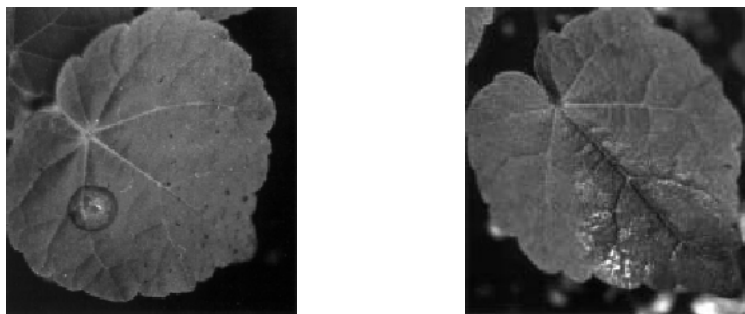
## Performance Characteristics (Cont.)

Thus, complete coverage can be achieved with herbicides, insecticides, fungicides and other agricultural chemicals (See Photo 1).



**Figure 1:** Equilibrium Surface Tension of SYLGARD™ OFX-0309 Fluid.

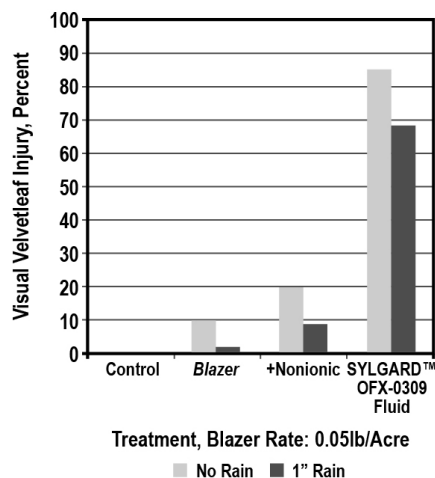
The Gibbs Plot above shows surface tension against adjuvant concentration in water ranging from 1 percent to as low as 0.001 percent.



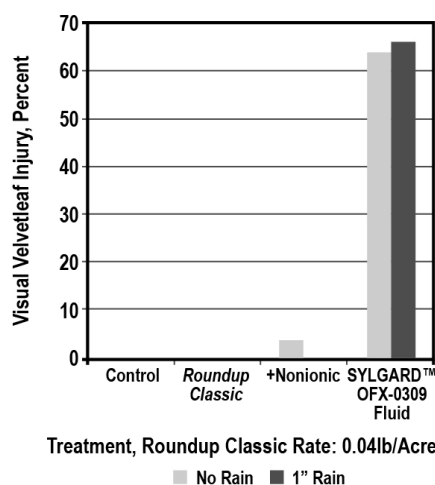
**Photo 1:** Herbicide with a leading nonionic surfactant (left) beads up, contacts only a small area of plant. With SYLGARD™ OFX-0309 Fluid (right), the herbicide rapidly coats the leaf.

In addition to the rapid wetting and spreading, SYLGARD™ OFX-0309 Fluid also greatly increases the uptake of chemicals into plant tissues. Adding SYLGARD™ OFX-0309 Fluid to an herbicide tank-mix may significantly enhance its efficacy, particularly in the control of broadleaf weeds with water-soluble herbicides. The rapid uptake produces "rainfastness"; i.e., herbicides are not washed off by rainfall because they have penetrated into the plant surface. Figures 2, 3 and 4 show the enhancement achieved with SYLGARD™ OFX-0309 Fluid in greenhouse tests with low rates of Roundup Classic and Blazer herbicides. Figure 5 shows the boost in performance achieved by the addition of SYLGARD™ OFX-0309 Fluid to Agri-Mek insecticide/miticide in controlling spider mites in apples. Figure 6 shows the reduction in wheat blight produced by the addition of SYLGARD™ OFX-0309 Fluid to sulfur fungicide.

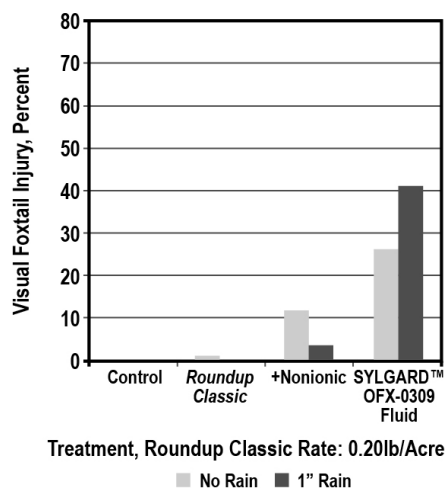
## Performance Characteristics (Cont.)



**Figure 2:** Effect of Surfactants on Activity of Blazer Herbicide on Velvetleaf.

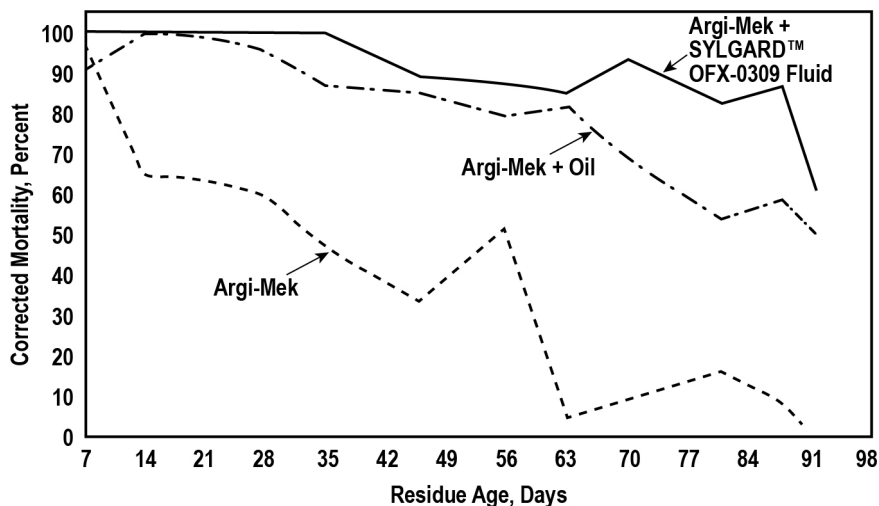


**Figure 3:** Effect of Surfactants on Activity of Roundup Classic Herbicide on Velvetleaf.

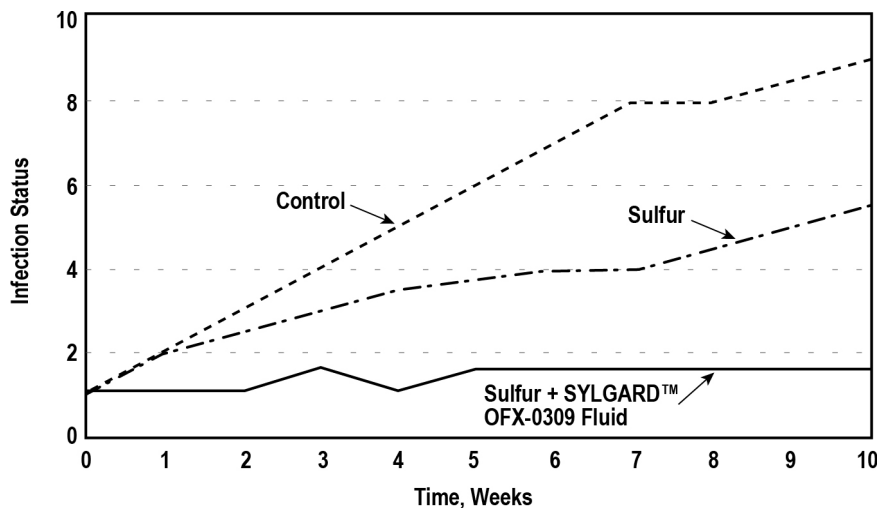


**Figure 4:** Effect of Surfactants on activity of Roundup Classic Herbicide on Giant Foxtail.

## Performance Characteristics (Cont.)



**Figure 5:** Mortality of Two-Spotted Spider Mite After Treatment With Agri-Mek With and Without Adjuvants, 1992.



**Figure 6:** Effect of SYLGARD™ OFX-0309 Fluid on Performance of Sulfur Fungicide on Wheat.

Key: Blight Infection Scale: 1 (no infection) to 9 (maximum infection).

## How to Use

### In Agricultural Chemical Formulations

SYLGARD™ OFX-0309 Fluid may be used as an ingredient in formulations, provided all the ingredients are compatible. SYLGARD™ OFX-0309 Fluid is stable in neutral aqueous formulations (pH = 7), but will degrade rapidly in acidic or alkaline formulations. New product formulations should be thoroughly tested for performance and shelf stability before taking to market.

**How to Use (Cont.)****As an Agricultural Chemical Tank-mix Adjuvant**

SYLGARD™ OFX-0309 Fluid may be added to tank-mixes to enhance the biological performance of the spray solution. With herbicides, SYLGARD™ OFX-0309 Fluid should be used at 1 to 3 pints per 100 gallons of spray solution (0.125 to 0.375 percent). With insecticides and fungicides, use 3 to 16 oz per 100 gallons of spray solution. Test a small area first to ensure that crop damage does not occur. Use pesticides according to manufacturers' label recommendation.

**Handling  
Precautions**

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

**Usable Life and  
Storage**

When stored between 20 and 40°C (68 and 104°F), SYLGARD™ OFX-0309 Fluid has a shelf life of 36 months from date of manufacture.

**Packaging  
Information**

SYLGARD™ OFX-0309 Fluid is available in 500 ml (16.9 fl oz) samples, 200 kg (441 lb) drums and 1000 kg (2200 lb) totes.

**Limitations**

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

IMPORTANT NOTE: APPLICABLE LOCAL REGULATORY REQUIREMENTS MAY LIMIT THE USE OF THIS MATERIAL IN SPECIFIC APPLICATIONS, INCLUDING AGRICULTURAL. IT IS THE USER'S SOLE RESPONSIBILITY TO CONFIRM THAT ITS PRODUCT USE COMPLIES WITH ALL LOCAL, STATE (PROVINCIAL), AND COUNTRY REGULATIONS.

**Health and  
Environmental  
Information**

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, [dow.com](http://dow.com) or consult your local Dow representative.

**Disposal  
Considerations**

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

## **Product Stewardship**

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

## **Customer Notice**

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