

Silwet* 719 Spreader



MARKETING BULLETIN

SPECIALTY FLUIDS - AGRICULTURE

Silwet 719 spreader is a proprietary trisiloxane alkoxyate based wetting agent. It is an excellent candidate to consider for use where superior spray coverage is needed.

The ability of Silwet 719 spreader to lower the surface tension of spray solutions has been found to be comparable to that of the leading Industry Bench Mark organosilicone spreader (Figure 1).

By providing a dynamic and energetic spreading behavior to spray solutions, Silwet 719 spreader can significantly reduce the contact angle of spray droplets on plant surfaces, leading to an increase in spray coverage (Figure 2).

Additionally, Silwet 719 spreader can help improve spray droplet adhesion of agrochemicals on plant foliage, thus potentially allowing reduction in spray volume. Since more of the spray is typically delivered to the target, less water is required to cover a given leaf surface.

Silwet 719 spreader is nonionic in nature, making it useful with a broad range of agrochemical formulations.

Use level depends on spray volume, spray equipment and agrochemical application. Typical use rates for Silwet 719 spray adjuvant range from 0.025 to 0.1% for insecticide, fungicide and herbicide applications.

Key Features and Typical Benefits

- Enhances spreading
- Promotes spray volume reduction
- Improves spray coverage
- Patent No. 5,104,647
- Nonionic
- The components meet the requirements of U.S. EPA regulation 40 CFR §180.910, and are therefore exempt from tolerances in food when used as an inert ingredient in agricultural applications in accordance with the other conditions of that regulation.

Typical Physical Properties

Property	Result
Surface Tension (0.1%, mN/m) ^(a)	21.5
Appearance	Pale yellow liquid
Cloud Point (0.1 wt%), °C	44
Pour Point (°C)	-20
Viscosity (cSt at 25 °C)	196
Specific Gravity at 25 °C	1.019
Flash Point, ^(b) °C (°F)	126.6 (260)

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

(a) Surface Tension by Wilhelmy Plate Method.

(b) Pinsky-Martens Closed Cup, ASTM Method D93

*Silwet is a trademark of Momentive Performance Materials Inc.

Potential Applications

In Agrochemical Formulations

Silwet 719 spreader may be used as a component in agrochemical formulations. Although organosilicone surfactants are subject to hydrolysis under acidic or basic conditions, optimum performance is achieved by buffering the formulation to pH 6.5 -7.5. Additionally, it is recommended that Silwet 719 spreader be used in formulated pesticides at a concentration sufficient to deliver between 0.025% and 0.1% product to a spray mixture upon dilution.

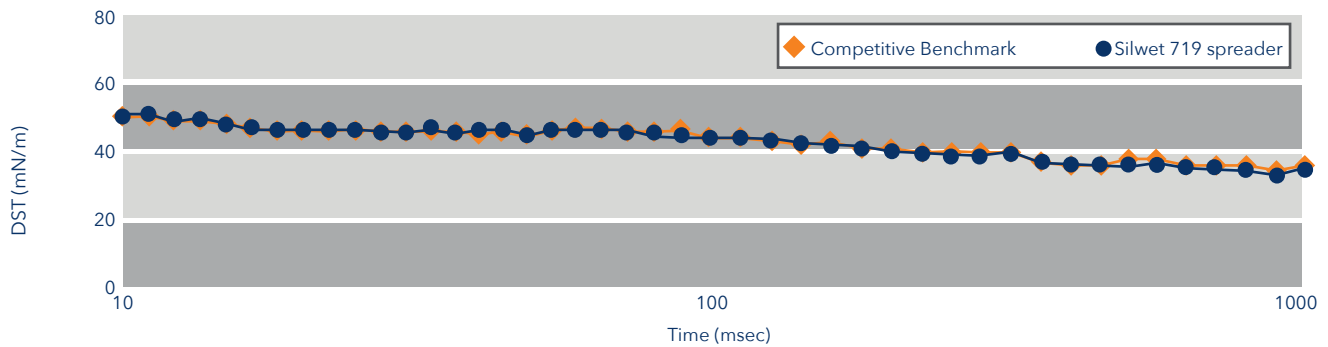
As A Tank Mix Adjuvant

Silwet 719 spreader, when used as a tank-side adjuvant may be used to improve spray coverage, improve uptake or to allow for a reduction in spray volume. Silwet 719 spray adjuvant may be most effective as a tank-side adjuvant when spray mixtures are:

- 1) within a pH range of 5-8, and
- 2) used within 24 hours of preparation.

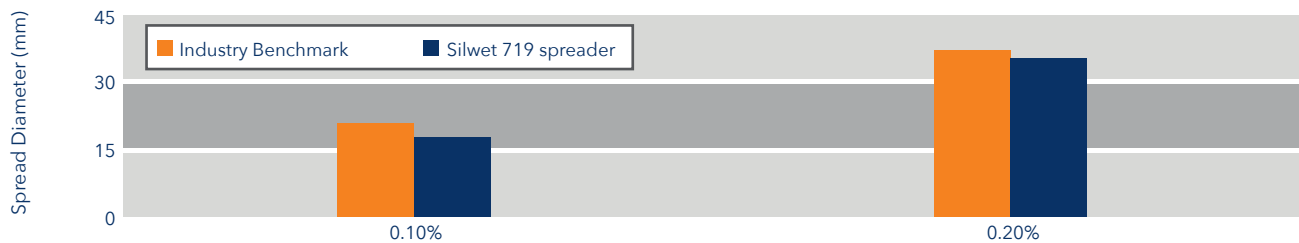
High spray volumes, coupled with high surfactant rates, are not typically required to achieve sufficient coverage with Silwet 719 spreader. In fact, Silwet 719 spreader has the potential to provide adequate coverage in many low volume spray applications at rates between 0.025% and 0.1%.

Figure 1: Dynamic Surface Tension: Silwet 719 spreader



Note: Test data. Actual results may vary.

Figure 2: Spread Properties: Silwet 719 spreader



Note: Test data. Actual results may vary.

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.

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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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 or, upon request, from any MPM representative.

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