

## Silwet\* L-77 Ag spray adjuvant

### Description

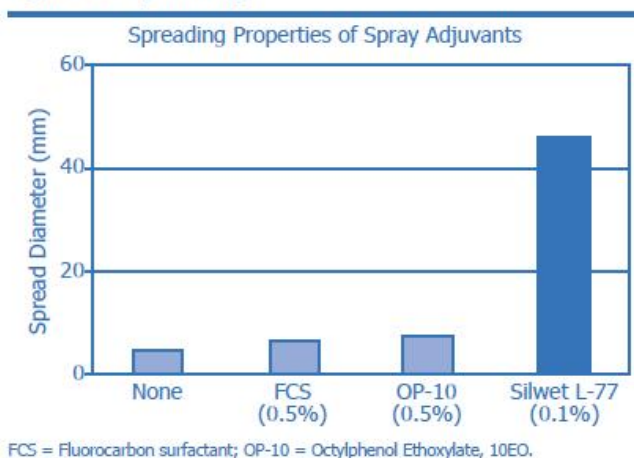
Silwet L-77 Ag spray adjuvant is a superspreading surfactant based on a trisiloxane ethoxylate. Silwet L-77 Ag spray adjuvant lowers the surface tension of spray solutions, beyond that which is achievable with conventional adjuvants.

Typically, Silwet L-77 Ag spray adjuvant (@ 0.1 wt %) gives an aqueous surface tension of 20.5 mN/m. On the other hand, an octylphenol ethoxylate containing 10 EO units (a commonly used nonionic surfactant) at 1.0 wt % gives a surface tension of only 30 mN/m.

The bottom line? Silwet L-77 Ag spray adjuvant helps lower the aqueous surface tension more effectively than conventional spray adjuvants.

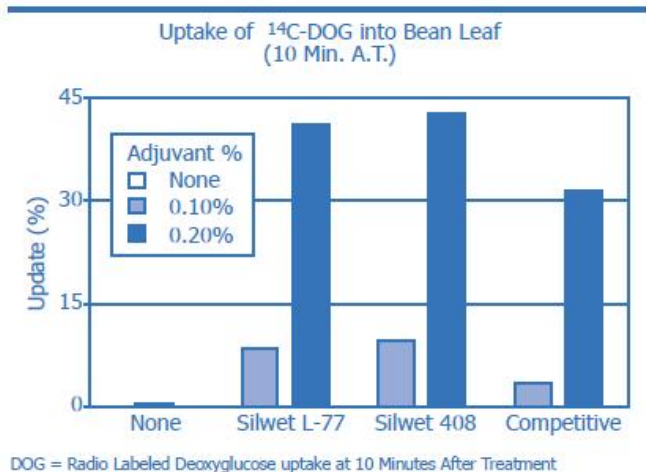
Because Silwet L-77 Ag spray adjuvant is a superspreading surfactant, the contact angle of spray solutions on leaf surfaces is reduced, leading to an increase in spray coverage (Figure 1).

Figure 1: Spreading



Additionally, under specific conditions, Silwet L-77 Ag spray adjuvant promotes rapid uptake of agrochemicals into plants via stomatal infiltration. Spray solutions taken into plants in this way become rainfast, thereby improving application reliability (Figure 2).

Figure 2: Uptake



Silwet L-77 Ag spray adjuvant is nonionic in nature, making it useful with a broad range of agrochemical formulations.

**Key Features and Benefits**

- Superspreader
- Promotes spray volume reduction
- Promotes rapid uptake of agrochemicals (rainfastness)
- Improves spray coverage
- Nonionic
- Meets requirements of EPA 40CFR§180.910

**Typical Physical Properties**

Surface Tension (0.1%, mN/m) <sup>(a)</sup>	20.5
Cloud Point (0.1 wt%), °C	<10
Viscosity, cPs @ 25°C	20
Specific Gravity @ 25/25°C	1.007
Flash Point, <sup>(b)</sup> °C	116

(a) Surface Tension by Wilhelmy Plate Method.

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

**Potential Applications**

Silwet L-77 Ag spray adjuvant has been used successfully in spray applications globally. Typical applications include:

Application	Typical Use Rate <sup>(a)</sup>
Plant Growth Regulators	0.025% to 0.05%
Herbicide	0.025% to 0.15%
Insecticide	0.025% to 0.1%
Fungicide	0.015% to 0.05%
Fertilizers and Micronutrients	0.015% to 0.1%

(a) Note: use rates are dependent on crop, agrochemical and spray volume requirements.

## Product Usage

### In Agrochemical Formulations

Silwet L-77 Ag spray adjuvant 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 L-77 Ag spray adjuvant be used at a concentration of at least 5%, based on the total formulation.

### As A Tank Mix Adjuvant

Silwet L-77 Ag spray adjuvant, 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 L-77 Ag spray adjuvant is 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 required to achieve sufficient coverage with Silwet L-77 Ag spray adjuvant. In fact, Silwet L-77 Ag spray adjuvant may provide adequate coverage in many low volume spray applications at rates between 0.025% and 0.1%.

### 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 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.

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