

Silwet* DRS-60 Drift Retardant Spreader



MARKETING BULLETIN

SPECIALTY FLUIDS - AGRICULTURE

Silwet DRS-60 drift retardant spreader is a new agricultural spray adjuvant that offers both drift control and wetting properties. It is an effective tank-mix additive, typically providing drift reduction similar to that achieved with commercial anti-drift polymers and gums. In addition to drift control, it also can provide superior wetting and spreading performance to enable lower spray volumes and related application costs. This new combination of drift control and wetting properties positions Silwet DRS-60 drift retardant spreader as a potentially cost-effective multifunctional adjuvant for many spray applications on crops.

Key Features and Typical Benefits

- Can lower undesired spray drift by 50 percent or more in agrochemical applications
- Enhances the wetting and spreading of pesticide treatments, which can enable both lower spray volumes and related application costs
- Easily dissolves in aqueous spray formulations with mild agitation

Potential Applications

The Silwet DRS-60 drift retardant spreader can be considered for use as a tank-mix additive in agrochemical spray applications where drift reduction and better spreading and deposition are desired.

Processing Recommendations

The Silwet DRS-60 drift retardant spreader can be effective at concentrations ranging from 0.1 to 1.0 percent by weight. It may be directly added to diluted tank-mix solutions and easily dissolved with mild agitation.

Compliance

The components meet the requirements of U.S. EPA regulation 40 CFR §180.920, 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

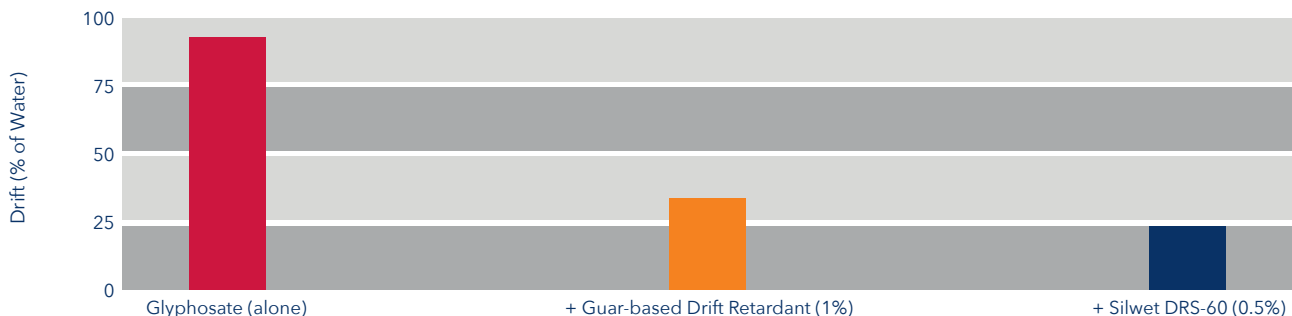
Property	Typical Values
Appearance	Clear, colorless liquid
Viscosity (cPs at 25 °C)	800 - 1,600
pH	6.0 - 8.0
Density (g/cc)	~ 1
Water Solubility	Complete
Spread Diameter (mm) ⁽¹⁾	> 30

Typical physical properties are average data and are not to be used as or to develop specifications.
 (1) Note: Spread of a 1% solution (10µl drop on a flat polystyrene surface)
 *Silwet is a trademark of Momentive Performance Materials Inc.

Performance Data

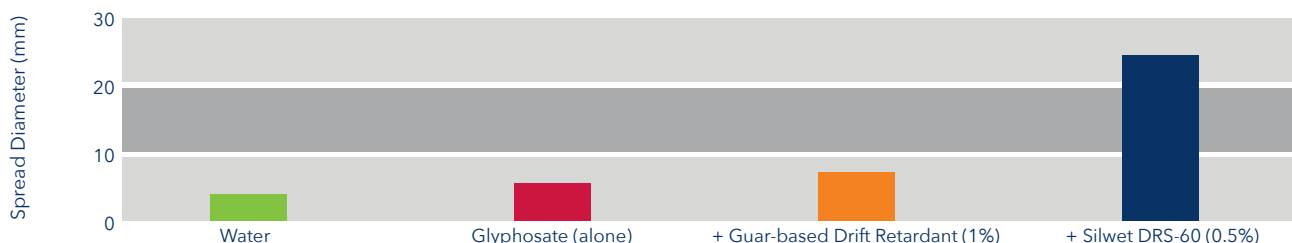
Spray-drift and spreading tests were run in the lab to compare the performance of Silwet DRS-60 drift retardant spreader with a commercial guar-based drift retardant. The test results are summarized below in Figure 1 (drift control) and Figure 2 (spread diameter). It can be seen that the Silwet DRS-60 drift retardant spreader provided both better drift control and a greater level of spreading than the selected commercial guar drift retardant agent.

Figure 1: Drift of Silwet DRS-60 Drift Retardant Spreader in Glyphosate-IPA (1%)



Note: Test data. Actual results may vary.

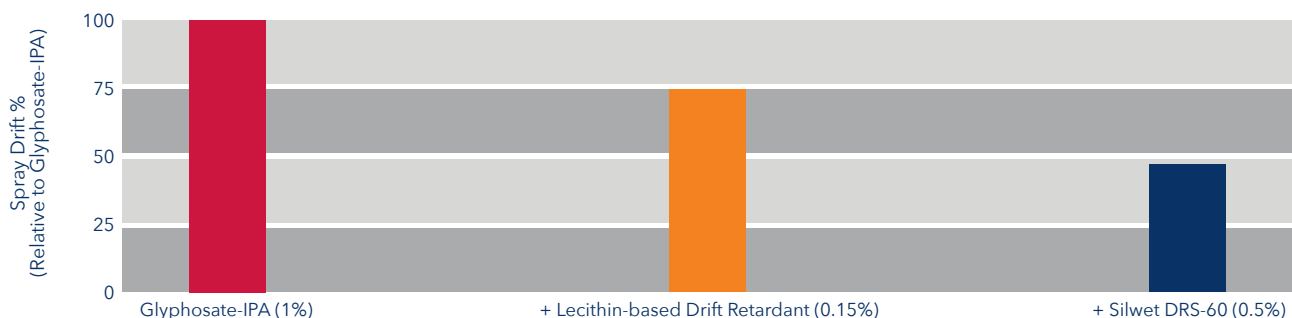
Figure 2: Spreading of Silwet DRS-60 Drift Retardant Spreader in Glyphosate-IPA (1%)



Note: Test data. Actual results may vary.

Several wind tunnel test studies were also conducted to measure the effectiveness of the Silwet DRS-60 drift retardant spreader in a glyphosate-IPA/TAE herbicide solution. A commercial lecithin-based drift retardant was also run at its recommended use rate for comparative purposes. The wind tunnel test results are summarized in Figure 3. The Silwet DRS-60 drift retardant spreader adjuvant reduced the resulting spray drift by more than 50 percent and it was significantly more effective than the commercial lecithin drift retardant.

Figure 3: Wind Tunnel Results with Silwet DRS-60 Drift Retardant Spreader



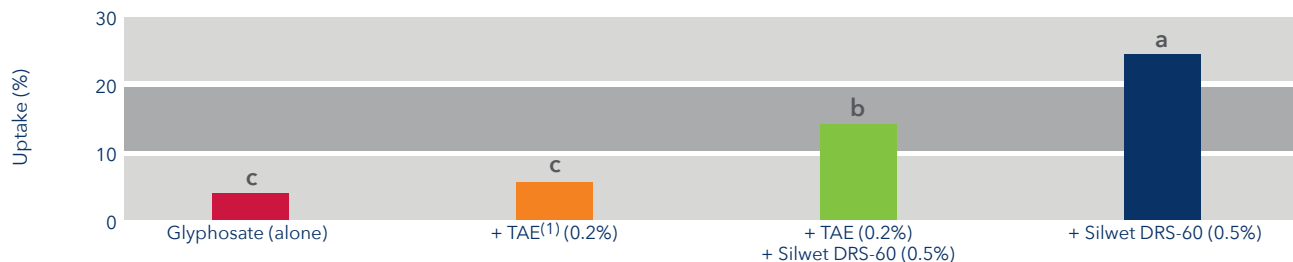
Note: Test data. Actual results may vary.

Performance Data (continued)

A final test was conducted to demonstrate the excellent rainfastness of Silwet DRS-60 drift retardant spreader. This was a glyphosate uptake study on barnyardgrass (BYDG: Echinochloa crus-galli) that is summarized in Figure 4. The uptake rates of the ¹⁴C-Glyphosate IPA salt measured at two hours after treatment demonstrate that Silwet DRS-60 drift retardant spreader was a much faster penetrant than TAE (Tallow Amine Ethoxylates), and thus Silwet DRS-60 drift retardant spreader provided a more effective rainfastness in spray applications during wet or humid conditions.

Figure 4: Rainfastening with Silwet DRS-60 Drift Retardant Spreader

(¹⁴C-Glyphosate Uptake into BYDG after 2 Hours)



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.

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 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.

Customer Service Centers

Worldwide

4information@momentive.com

T +1 614 986 2495

T +1 800 295 2392

North America**Silicones**

T +1 800 332 3390

**Consumer Sealants/
Construction Sealants
and Adhesives**

T +1 877 943 7325

Latin America**South America**

T +55 11 4534 9650

**Mexico and Central
America**

T +52 55 2169 7670

**Europe, Middle East,
Africa and India**

T +00 800 4321 1000

T +40 21 3111848

Pacific**China**

T +800 820 0202

T +86 21 3860 4892

Japan

T +0120 975 400

T +81 276 20 6182

Korea

T +82 2 6201 4600

Malaysia

T +60 3 9206 1532

Disclaimer

THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY "SUPPLIER"), ARE SOLD SUBJECT TO SUPPLIER'S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER'S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user bears full responsibility for making its own determination as to the suitability of Supplier's materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier's products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.