TECH BULLETIN

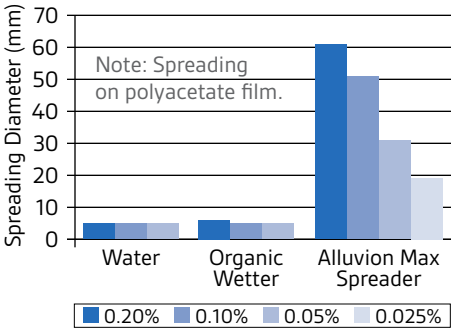
Alluvion™ Max

ORGANOSILICONE SPREADER

OMRI LISTED
For Organic Use · OMRI.org

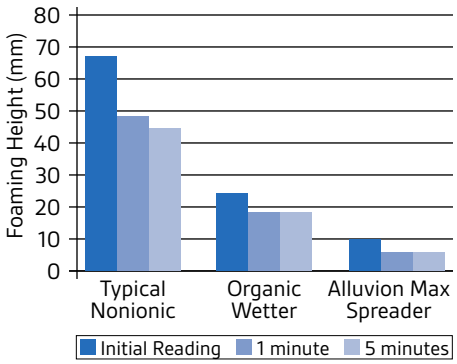
Arkion's Alluvion™ Max Organosilicone Spreader is a water-reducing, low-foaming activator spreader used in agriculture, pest control, and other industries. It is listed by the Organic Materials Review Institute (**OMRI**®) for use in organic production. Alluvion Max helps reduce the surface tension of spray solutions beyond what can be achieved with conventional adjuvants, to allow lower spray volumes and related pesticide application costs. **Alluvion Max** is a super-spreading surfactant that can quickly reduce the contact angle of spray solutions on foliar surfaces, thereby promoting increased surface coverage (Figure 1).

Figure 1: Spreading of Adjuvants
Effect of Alluvion™ Max Organosilicone Spreader on Spreading Properties of Spray Solutions



This increase in spray coverage means that water requirements may be significantly reduced up to 70% of "spray to run-off" volumes in many crop applications. This makes **Alluvion Max** a great choice to consider when water conservation and pesticide application costs are important.
Also, the low foaming properties of **Alluvion Max** typically make it much easier to handle than other spreader adjuvants (Figure 2).

Figure 2: Foaming of Adjuvants
Foam Properties of Alluvion™ Max Organosilicone Spreader at 0.1% Use Rate



Key Features and Benefits

- Superspreader for improved coverage
- Potential for 25-75% lower spray volumes and costs
- Effective with most low-temperature applications
- Low foaming
- Nonionic
- Meets requirements for EPA 40CFR§180.910

Typical Physical Properties

Surface Tension (0.1%), mN/m:	21.5
Cloud Point (0.1wt%):	<50°
Critical Micelle Concentration (wt%):	0.003
Pour Point:	-58°F
Viscosity @ 77°F:	22 cps
Flash Point, PMCC:	289°F
Specific Gravity @ 77°F	1.002

Potential Applications and Use Rates

Applications	*Typical Use Rates
Plant Growth Regulators:	0.025-0.05%
Herbicides:	0.025-0.15%
Insecticides:	0.025-0.1%
Fungicides:	0.025-0.15%
Fertilizers & Micronutrients:	0.015%-0.1%

*Note: use rates are dependent on crop, agrochemical and spray volume requirements.

Product Usage in Agrochemical Formulations

Alluvion Max may be used as an effective adjuvant 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 **Alluvion Max** be used at ~5% concentration, based on the total formulation.

Image 1: Noticeable Spreadability
The droplet in the upper left of the inset is untreated and the droplet in the center is treated with Alluvion Max. The image on the right is two minutes after the single treated droplet was applied.

As a Tank Mix Adjuvant

Alluvion Max, when used as a tank-side spray adjuvant, may be used to lower spray application volumes. **Alluvion Max** is most effective as a tank-side adjuvant when spray mixtures are within a pH range of 5-8, and when used within 24 hours of preparation. High spray volumes, coupled with high surfactant rates, are not generally required to achieve sufficient coverage with the **Alluvion Max**. In fact, **Alluvion Max** may provide adequate coverage in many low-volume spray applications at rates between 0.025% and 0.1%.

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