SAG* 1538

Description
SAG 1538 silicone antifoam is a highly potent silicone antifoam that uses novel silicone materials to provide excellent foam control. This 100% active material is designed for use in a broad range of foaming systems. Compared to common silicone defoamers, SAG 1538 silicone antifoam provides an exceptional initial foam control when first applied to a foaming system. Additionally, SAG 1538 silicone antifoam has the ability to maintain its foam control properties for longer periods, as a result it can be used at lower use levels than conventional silicone antifoams. It is particularly effective when used as the foam control agents in hard to defoam surfactant concentrates that contain a high level of organic surfactants and those that contain electrolytes.

Key Features and Benefits

- 100% actives
- High antifoam potency in the majority of foaming systems
- Rapid defoaming when the antifoam is initially applied to the foaming system
- Long lasting foam inhibition
- Performs well over a broad pH range
- Approved as an inert ingredients according to EPA (40CFR 180.910)

Typical Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Opaque, oily viscous liquid</td>
</tr>
<tr>
<td>Actives Content, %</td>
<td>100</td>
</tr>
<tr>
<td>Viscosity 25°C (LVT No 4, 12 rpm)</td>
<td>5000 cP</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>~1.0</td>
</tr>
</tbody>
</table>
Typical Data are average data. The actual values may vary. Product specifications for specific applications need to be agreed upon individually.

**Product Usage**
SAG 1538 silicone antifoam is 100% active that is not immediately dispersible in water. However, it can be easily incorporated into surfactant concentrates, using the surfactants within the system to stabilize the antifoam within the formulation. When SAG 1538 silicone antifoam is added to these concentrates, apply slow to moderate agitations to ensure a complete and homogenous dispersion of the antifoam. The final formulation that incorporates SAG 1538 silicone antifoam must be validated to ensure that the silicone actives do not migrate within the formulation as this can influence the uniformity of the foam control when these formulations are stored for prolonged periods.

The use levels for SAG 1538 silicone antifoam when used in the final foaming system will be dependent upon the nature of the foaming system and/or the agitation that causes the generation of the foam. A recommended starting point is addition of sufficient SAG 1538 silicone antifoam that would give between 5 ppm and 20 ppm of antifoam (as received) in the final foaming formulation.

**Processing Recommendations**
SAG 1538 silicone antifoam provides outstanding defoaming performance in many pesticide formulations. Figure 1 illustrates the shake test results with the foam height observed at 1, 15 and 30 minutes after shaking. These test data demonstrate that SAG 1538 silicone antifoam at 1 ppm, virtually eliminates all foaming in a Tallow Amine Ethoxylate (TAE, 15 EO) Ag formulation, while other standard antifoams will only reduce foaming levels. Figure 2 visually illustrates this outstanding defoaming performance. In addition, SAG 1538 silicone antifoam is easily dispersed in many non-aqueous systems, avoiding phase separation associated with typical antifoam components (Figure 3).
Figure 1: SAG 1538 Silicone Antifoam Performance in 0.5% Tallow Amine Ethoxylate (TAE) Formulation

<table>
<thead>
<tr>
<th>Foam Height (mm)</th>
<th>1 Min.</th>
<th>15 Min.</th>
<th>30 Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5% TAE</td>
<td>15</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>+SAG 47</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Standard Antifoam (1 ppm)</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>+SAG 1538</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Silicone Antifoam (1 ppm)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 2: SAG 1538 Silicone Antifoam Defoaming in Tallow Amine Ethoxylate (0.5%)
Figure 3: SAG 1538 Silicone Antifoam Dispersibility in Tallow Amine Ethoxylate

Patent Status
Standard copy to come

Product Safety, Handling and Storage
Standard copy to come

Limitations
Standard copy to come

Contact Information
For product prices, availability, or order placement, contact our customer service at Momentive.com/CustomerService/

For literature and technical assistance, visit our website at: www.momentive.com

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