CoatOSil1211C coating additive can impart non-foaming and superwetting properties in waterborne coatings for spray applications, high speed roll applications and hard to wet surfaces. It is a 100% active, organomodified silicone that typically does not interfere with recoatability. It can be an effective replacement for typical organic and fluorine surfactants in many applications, while not causing foaming problems often associated with such organic surfactants. It may also be considered for use in solvent-based, radiation-curable coatings to enhance the wetting power of the coating formulations.

**Key Features and Typical Benefits**
- Helps wetting of waterborne systems on hard-to-wet as well as standard substrates
- Typically does not cause foaming in waterborne coatings or inks
- Enhanced coating uniformity
- By enabling reduced use levels of coalescing agents, can help reduce the levels of volatile organic compounds (VOC) in coatings formulations
- Typically does not affect recoatability
- Improved dispersion stability of pigments and color acceptance

**Potential Applications**
CoatOSil 1211C coating additive may provide the greatest benefit in waterborne formulations to be applied to hard to wet substrates. The non-foaming characteristics may make it an excellent candidate for use in coatings applied by spray or high-speed roll methods. Possible applications for coatings containing CoatOSil 1211C coating additive include:
- Spray or high-speed roll applied coatings
- Coatings for plastic films and plastic components
- Wood coatings
- Glass coatings
- Coatings applied to contaminated (oily) metal surfaces

**Typical Physical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actives, %</td>
<td>100</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Dispersible</td>
</tr>
<tr>
<td>Color</td>
<td>Light yellow</td>
</tr>
<tr>
<td>Specific Gravity @ 25 °C</td>
<td>0.997</td>
</tr>
<tr>
<td>Surface Tension, 0.1% (w/w) in water @ 25 °C</td>
<td>22 mN/m</td>
</tr>
<tr>
<td>Flash Point, °C (°F)</td>
<td>118 (245)</td>
</tr>
<tr>
<td>Viscosity, Centipoises @ 25 °C</td>
<td>120</td>
</tr>
</tbody>
</table>

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

*CoatOSil is a trademark of Momentive Performance Materials Inc.*
COATOSIL® 1211C Coating Additive

**CoatOSil 1211C Coating Additive Performance Characteristics:**

**Wetting Property:**
**Test Method:** 10 micro liter aliquot of an aqueous sample was withdrawn using an automatic pipette and discharged onto a clean Polystyrene Petri dish which was conditioned in an enclosed chamber containing humidity in 30-70% range. The liquid was allowed to spread for 30 seconds and the edge of surface covered by the liquid was quickly marked using a marker. The area of the spreading surface was then measured.

<table>
<thead>
<tr>
<th>Sample Concentration</th>
<th>No Additive</th>
<th>0.1% CoatOSil 1211C coating additive</th>
<th>0.5% CoatOSil 1211C coating additive</th>
<th>0.5% Benchmark(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spreading Area (cm²)</td>
<td>0.15</td>
<td>3</td>
<td>8</td>
<td>0.9</td>
</tr>
</tbody>
</table>

(1) Benchmark contains an organic surfactant and a defoaming agent.

Note: Test data. Actual results may vary.

![WB coating with No additive](image1)

**Non-Foaming Property:**
**Test Method:** 60g of aqueous sample were placed in a glass bottle with 120 ml capacity. The sample was shaken for 1 minute by a Wrist Action™ Shaker Burrell. The foam height was measured immediately after shaking.

<table>
<thead>
<tr>
<th>Sample Concentration</th>
<th>0.1% CoatOSil 1211C coating additive</th>
<th>0.5% CoatOSil 1211C coating additive</th>
<th>0.5% Benchmark(1)</th>
<th>No Additive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foaming Height (mm)</td>
<td>4</td>
<td>4</td>
<td>5.5</td>
<td>11</td>
</tr>
</tbody>
</table>

(1) Benchmark contains an organic surfactant and a defoaming agent.

Note: Test data. Actual results may vary.

†Trademark of Burrell Scientific, Inc.

*CoatOSI is a trademark of Momentive Performance Materials Inc.*
Dynamic Surface Tension Measurement:
CoatOSil 1211C coating additive can produce a very rapid decrease in surface tension of aqueous solutions even at a low loading level. For example, at room temperature the surface tension of 0.1% CoatOSil 1211C coating additive in water dropped from 60 mN/m to 30 mN/m in less than one second as measured by a Kruss Bubble Pressure Tensiometer. In comparison, the surface tension of 0.1% commercial benchmark in water dropped to 40 mN/m under the same test conditions. This demonstrates CoatOSil 1211C coating additive’s potential benefit in spray or high-speed roll applications.

Dynamic Surface Tension Measurements of 0.1% Water Solutions

Benchmark contains an organic surfactant and a defoaming agent.
Note: Test data. Actual results may vary.

General Considerations for Use
CoatOSil 1211C coating additive may be used in various waterborne formulations having pH 6.5-8.5. Surface Tension data indicates that efficacy of this additive can be pH sensitive, especially in highly alkaline formulations. Therefore, full formulations testing with CoatOSil 1211C coating additive is recommended.

CoatOSil 1211C coating additive can be added to the formulation in the grind or during the letdown process. It should be added slowly under low agitation, gradually increasing the mixing speed and allowing the wetting agent to disperse at moderate shear for 5 to 15 minutes. Improper dispersion of the additive may cause surface defects in some systems. Alternatively, it can be mixed with co-solvent and incorporated into the formulation. If the formulation has been sitting for a long time, mix well before use.

When CoatOSil 1211C coating additive is added to the grinding resin, it can provide better pigment wetting and help prevent pigments from flocculating. This can result in better storage stability, improved gloss and color acceptance.

CoatOSil 1211C coating additive at starting levels of 1 to 4 pounds per hundred gallons of coating is recommended. A ladder study is recommended to determine optimal usage levels.

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 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.

Limitations
Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

*CoatOSi is a trademark of Momentive Performance Materials Inc.
Customer Service Centers

Email
4information@momentive.com

Telephone
Americas
+1 800 295 2392
+1 614 986 2405

Europe, Middle East, Africa and India
+00 800 4321 1000
+40 212 534754

Asia Pacific
China
+800 820 0202

Japan
+81 276 20 6182

All Other Countries
+60 3 9206 1543

To find a specific language, visit the Contact Us page at Momentive.com. You may select a country to view additional languages and the corresponding telephone numbers.

For email inquiries, we will make every attempt to respond in the incoming written language. If that is not possible, we will respond in English.

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.

*CoatOSil is a trademark of Momentive Performance Materials Inc.

Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.