MOMENTIVE™

Marketing Bulletin

COATOSIL* 1211C Coating Additive

non-foaming wetting agent for waterborne coatings

SILANES - COATINGS ADDITIVES

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	
Actives, %	100
Water Solubility	Dispersible
Color	Light yellow
Specific Gravity @ 25 °C	0.997
Surface Tension, 0.1% (w/w) in water @ 25 °C	22 mN/m
Flash Point, °C (°F)	118 (245)
Viscosity, Centipoises @ 25 °C	120

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 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Test Method: 10 micro liter aliquot of an aqueous sample was withdrawn using an automatic pipette and discharged onto a clean Polystyrene Petri dish which was conditioned in an enclosed chamber containing humidity in 30-70% range.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.

Sample Concentration	No Additive	0.1% CoatOSil 1211C coating additive	0.5% CoatOSil 1211C coating additive	0.5% Benchmark(1)
Spreading Area (cm^2)	0.15	3	8	0.9

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

WB coating with No additive

1% OPE

0.5% CoatOSil 1211C coating additive

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 Burrel. The foam height was measured immediately after shaking.

Sample Concentration	0.1% CoatOSil 1211C coating additive	0.5% CoatOSil 1211C coating additive	0.5% Benchmark(1)	No Additive
Foaming Height (mm)	4	4	5.5	11

(1) Benchmark contains an organic surfactant and a defoaming agent.
Note: Test data. Actual results may vary.
†Trademark of Burrell Scientific, Inc.

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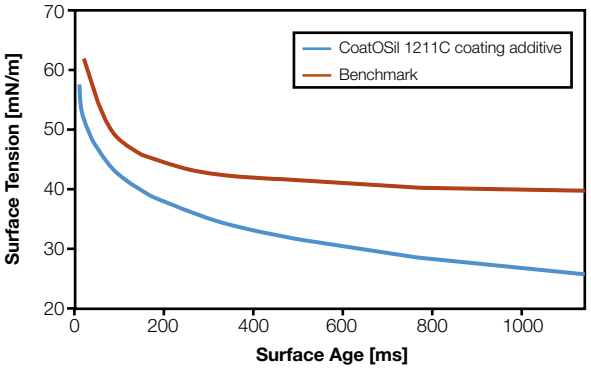
Dynamic Surface Tension Measurement:

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.

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