

# Product Fact Sheet



## JMAC™ COMPOSITE PG

### Antimicrobial active

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#### COMPOSITION

Silver chloride antimicrobial agent and titanium dioxide

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#### PRODUCT PROPERTIES\*)

<b>Silver chloride content</b>	About 20%
<b>Appearance at 25 °C</b>	White, solid powder
<b>Loss on drying (30 minutes at 130°C)</b>	Max. 2%

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\*) These characteristics are for guidance only and are not to be taken as product specifications. The tolerances are given in the product specification sheet. For further information on product properties, toxicological, ecological and safety data, please refer to the safety data sheet.

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CLARIANT INTERNATIONAL LTD

Rothausstrasse 61  
4132 Muttenz  
Switzerland

BUSINESS UNIT INDUSTRIAL &  
CONSUMER SPECIALTIES

[www.ics.clariant.com](http://www.ics.clariant.com)  
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### USE

JMAC™ Composite PG is used as antimicrobial agent with low toxicity in non aqueous based applications. Following are some examples:

- Hot melt plastics injection moldings
- Extruded PVC
- Powder based grouts and tile adhesives
- Alkyd coatings
- Powder coatings and master batches

JMAC™ Composite PG is used in a wide pH range of 3 – 12 and is stable to temperatures of up to 300°C without loosing antimicrobial effectiveness.

The effective dosage should be tested in appropriate challenge tests prior to use. Typical dose levels in solid formulations are 0,005 – 0,3 % JMAC™ Composite PG.

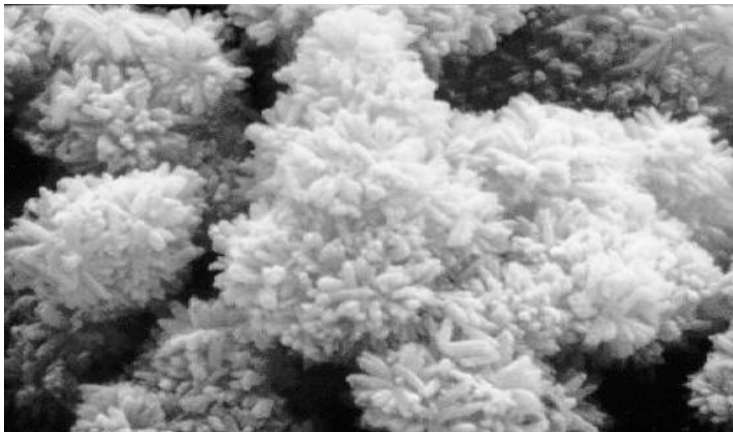
JMAC™ Composite PG has been granted EPA registration (Registration Number 49403-34) for use in fibers and textiles at addition levels of up to 500 ppm. EPA application areas include napkins, wiping cloths, mops, towels, bags, brush bristles, filters, sponges, sacks, wraps, mattress covers pads, pillow covers, sheets, blankets, fiberfill for quill and pillows, curtains, sports ware, sleep ware, stockings, socks, wall covering fabrics, curtains, draperies, upholstery, sails, ropes, tents and other outdoor equipment, tarps and awnings.

**MECHANISM OF ACTION**

When JMAC™ Composite PG particles are exposed to aqueous media, a saturated solution of silver chloride is formed around the titanium dioxide particles. Silver ions diffuse from the particles to the aqueous phase and form an equilibrium concentration. Silver ions react destructively within microbial cells by interruption of cell membrane, enzyme inhibition and interrupting DNA.


**JMAC™ ACTIVE**

Electron microscopy of silver chloride on titanium dioxide particles



**MICROBIAL DATA**

JMAC™ Composite PG has a broad spectrum of activity which is demonstrated by the following MIC data.

MIC Levels	Organism	MIC (ppm)
	<b>Bacteria</b>	
	Pseudomonas aeruginosa	< 1
	Enterobacter aerogenes	< 1
	Escherichia coli	< 1
	Staphylococcus aureus	< 1

**CHEMICAL COMPATIBILITY AND STABILITY IN FORMULATIONS**

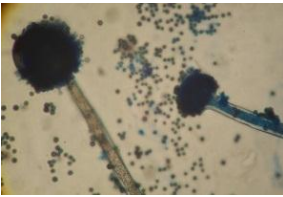
JMAC™ Composite PG is compatible with most raw materials used in the manufacture of industrial products. At normal use levels JMAC™ Composite PG should not cause colour problems. Care, however, should be taken to check colour stability of products when using JMAC™ Composite PG. JMAC™ Composite PG can react with redox agents reducing to metallic silver. This can give rise to rapid formation of blue-grey-pink colour. Compatibility should always be checked and evaluated before use.

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## HANDLING AND STORAGE

Protect from exposure to humidity. Biocidal products should ideally be stored between + 5 and max.+ 40°C.

Use biocides safely. Always read the label and product information before use. Any usage shall comply with the Biocides Product Regulations 2012-538-EC.



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