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**INDORAMA**  
VENTURES

Indispensable Chemistry







# From Lab to Field: Innovating Biopesticide Coformulants for a Healthy Food Chain

The biopesticide market is rapidly expanding, fueled by a growing demand for novel and eco-friendly inputs. We are at the forefront of this revolution, actively nurturing its development with innovative coformulant solutions, fostering the creation of even more sustainable and effective biopesticides.

Our investments in biotechnologic capabilities, allied with our team of biological experts, allows us to help our customers to lead this market growth, and we believe this can be further amplified by harnessing synergies with our expertise in conventional formulation technologies.

This unique dual approach positions us as a leader in shaping a future where healthy, accessible food and environmental responsibility will be the norm. Our unique technologies further improve biopesticide stability and efficacy in the field, offering reliable tools for a successful Integrated Pest Management program.

Explore our solutions and unlock the full potential of biopesticides.

		Mininum inhibitory concentration (MIC) concentration range tested: 50% - 0,4%				Fixed concentration tested	
Product name	Description	Bacillus subtilis <sup>1</sup>	Bacillus velezensis <sup>1</sup>	Bacillus amyloliquefaciens <sup>1</sup>	Pseudomonas chlororaphis <sup>1</sup>	Trichoderma harzianum <sup>2</sup>	OMRI Eligible <sup>3</sup>
DISPERSING AND CO-DISPERSING AGENTS							
TERSPERSE® 2612	Polymeric amide	3,00%	> 50%4	50%	12,50%	Compatible at 5%	Yes
TERSPERSE® 2500	Acrylic graft co-polymer	25%	25%	12,50%	12,50%	Compatible at 5%	Yes
TERSPERSE® 2700	Polymeric anionic	> 50%	> 50%	> 50%	25%	NT	No
TERSPERSE® 2520	Modified polyester condensate	> 50%	> 50%	> 50%	> 50%	NT	No
TERSPERSE® 2020	Alkyl-NSF sodium salt	6,25%	6,25%	6,25%	12,50%	NC	No
SURFOM®1322 SC	Tristyrylphenol EO phosphate ester, TEA salt	> 50%	> 50%	> 50%	50%	NT	–
ULTRARIC® PE 62	EO/PO block copolymer	> 50%	> 50%	> 50%	25%	Compatible at 1%	Yes
ULTRARIC® 5000 HM	EO/PO n-butanol	> 50%	> 50%	> 50%	50%	Compatible at 1%	Yes



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WETTING AGENTS							
TERSPERSE® 4894	APE-free non-ionic wetter	> 50%	> 50%	> 50%	50%	NT	Yes
TERWET® 1004	Anionic wetting agent	1,50%	1,50%	1,50%	1,50%	Compatible at 1,5%	Yes
ALKOSYNT® IT 60	Isotridecyl alcohol 6 EO	NC	NC	NC	NC	NC	No
EMULSIFIERS							
ALKEST® SP 20	Sorbitan monolaurate	> 50%	> 50%	> 50%	> 50%	Compatible at 5%	Yes
ALKEST® SP 80	Sorbitan monooleate	> 50%	> 50%	> 50%	> 50%	Compatible at 5%	Yes
ALKEST® TW 20	Sorbitan monolaurate 20 EO	> 50%	> 50%	> 50%	> 50%	Compatible at 5%	Yes
ALKEST® TW 80	Sorbitan monooleate 20 EO	> 50%	> 50%	> 50%	> 50%	Compatible at 5%	Yes
ALKONAT® CE 200	Cetyl stearyl alcohol 20 EO	> 50%	> 50%	> 50%	> 50%	Compatible at 5%	No
SURFOM® 8056	Emulsifier for vegetable oil methyl ester, free from alkylphenol ethoxylated	3,13%	3,13%	3,13%	3,13%	Compatible at 10%	Yes
SURFOM® ADJ 8099	Emulsifier for vegetable oil, APE free	> 50%	> 50%	> 50%	> 50%	Compatible at 10%	Yes
SURFOM® CE 8953	Emulsifier for mineral oil	> 50%	> 50%	> 50%	> 50%	Compatible at 10%	Yes
SURFOM® R 200	Castor oil 20 EO	> 50%	> 50%	> 50%	> 50%	Compatible at 5%	Yes
SURFOM® R 360	Castor oil 36 EO	> 50%	> 50%	> 50%	> 50%	Compatible at 5%	Yes
SURFOM® CE1299	Tristyrylphenol 16 EO	> 50%	> 50%	> 50%	> 50%	NT	Yes
SURFOM® 8882	Sorbitol hexaoleate ethoxylated	> 50%	> 50%	> 50%	25%	NT	Yes
SURFOM® 1352	Sorbitol hexaoleate 40 EO	> 50%	> 50%	> 50%	50%	Compatible at 10%	Yes
OTHER APPLICATIONS							
SURFOM® ADJ 8860	Spreader sticker tank mix adjuvant	NC	< 0,78%	NC	NC	NT	No
EMCAPLUS® 070	White mineral oil	50%	50%	50%	50%	Compatible at 90%	Yes
GLICENAT® GC	Glycerin	25%	50%	50%	12,50%	Compatible at 5%	Yes
ULTRAPEG® 200 to 600	Polyethylene glycols	50%	50%	50%	25%	Compatible at 5%	Yes

<sup>1</sup>The Mininum Inhibitory Concentration (MIC) methodology was used with 2-fold serial dilutions of the product in culture medium, ranging from 50% to 0.39%.

<sup>2</sup>The agar plate methodology was used, testing fixed concentrations.

<sup>3</sup>Indorama Ventures has not petitioned for OMRI approval for its trade names.

<sup>4</sup>">50%" means that even at 50% the product did not inhibit the microbial growth.

NT= Not tested | NC= Not compatible



#### DISCLAIMER

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