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HIGH PERFORMANCE ADJUVANT SOLUTION FOR USE IN BIOLOGICAL FORMULATIONS AND APPLICATIONS

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Abstract: The use of biological products for controlling diseases and pests is becoming increasingly popular in the market. The pursuit of sustainable production systems combined with advances in biotechnology is enabling the development of new agents, large-scale production techniques, and improved formulations. Organosilicone surfactants have shown promising results in improving the emulsification, adhesion, coverage, and overall efficacy of biological treatments. However, it is crucial that the surfactant or adjuvant is compatible with the biological product and does not affect its viability. This study aimed to evaluate the compatibility and effect on the efficacy of an organosilicone surfactant, more specifically a trisiloxane alkoxyate (SIL-1), with different entomopathogenic fungi formulations. The fungi tested were *Beauveria bassiana* (Bals.) Vuillemin, *Metarhizium anisopliae* (Metsch.) Sokorin, *Paecilomyces lilacinus* (Thom.) Samson, *Paecilomyces fumosoroseus* (Wise) Brown & Smith, *Trichoderma harzianum* (Cepa Esalq 1306). Tests were performed at Instituto Biológico in Campinas, SP, Brazil, and the viability of the conidia was assessed using the Biological Index. Results showed that SIL-1 did not inhibit the growth, germination, and sporulation of the different fungal isolates analyzed, and was classified as compatible with all the formulations tested. Therefore, SIL-1 is a safe alternative to be considered for use in biological product formulations and applications, providing improvements in the quality of the spray application and control efficacy.

Keywords: Organosilicone, Surfactant, Compatibility.

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