# SIMULATED-USE TRIAL OF A SKIN MOSQUITO REPELLENT PRODUCT

Trial against *Aedes albopictus* and *Culex pipiens*

**RELMIB016 SPRAY SOLAR CON CITRONELA**

JUNE 2022
**Report 2742j/1121**

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**GOOD PRACTICE**

STUDY TEC N°: 2742j/1121

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SPONSOR: Laboratorios Montplet (Barcelona - Spain)

TEST PRODUCT: RELMIB016 SPRAY SOLAR SPF50 CON CITRONELA ORGANICA ; sample received the 21st June 2022

FACILITIES: T.E.C. 1, rue Jules Védrines, ZAC Maignon 64600 Anglet (France)

DATE OF TESTING: 27th to 28th June 2022

REPLICATES: 10 volunteers

STUDY DIRECTOR: Bruno Serrano / Agronomist engineer

STUDY ENGINEER: Adeline d'Angelo / Master Chemist

QUALITY INSURANCE RESPONSIBLE: Bruno Serrano / Agronomist engineer

METHODOLOGY:

The test system was adapted from the guideline WHO/HTM/NTD/WHOPES/2009.4; GUIDELINES FOR EFFICACY TESTING OF MOSQUITO REPELLENTS FOR HUMAN SKIN.
This method is part of the Appendix of proposed methodologies for PT19 Biocides registration, in the document “Guidance on the Biocidal Products Regulation - Volume II Efficacy – Assessment and Evaluation (Parts B&C) – Version 4.1 – February 2022 - ECHA ".
The trial was conducted in accordance with the procedures required to conduct Officially Recognised Trials (EOR), from the European directive 91/414/CE - rule 1107/09, according to the laboratory agreement by the French Ministry of Agriculture.

ARCHIVING: 10 years, hard and electronic copies

There were no circumstances which can have affected the reliability of the data presented in this report.

Bruno Serrano

Date: 30th June 2022

## PARTICIPANTS TO THE TRIAL

Bruno SERRANO
Trial responsible / T.E.C. Director
Agronomist engineer ENSAT T84
Certiphyto DESA + Certibiocides

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Master Chemist II
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Mélissa MARROT
Metrology responsible
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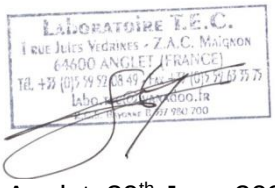
I, the undersigned, Bruno Serrano, manager of T.E.C laboratories, hereby certify that the tests described in this report were conducted according to Good Laboratory Practices relating to our permit No. 94-021.




Anglet, 30th June 2022

### Warning

The results described in this report were generated on the provided samples which are not degraded by sun, sweat or rubbing as they could be in the actual conditions of use.
TEC provides test results only on samples received and may in no event be liable regarding finished products in production or sale.
As such the results should be taken only as an indication of the potential for activity of the formulations or products under test. The trial has been conducted on laboratory strains of “model” insects and that the susceptibility of the local insect’s strains can be different in other labs or in the real conditions of use. Then, these results cannot be considered as confirmation that a formulation or product will work in a clinical or field application. Evidence for such activity can only be obtained from properly constructed and executed clinical or field local trials. Test variability on bioassays implies that the results of test given by TEC shall only be taken as one of the elements that contribute to the development of a product, but cannot be the sole support of product knowledge leading to its production and marketing/sale, and TEC strongly encourages the client to carry out further studies to consolidate the knowledge of the product's effectiveness.

# 6. RESULTS

The raw data are presented in APPENDIX 1.

Testing on the untreated control has proved the natural will of the females to sting.

Table 1: Complete Protection Time (CPT) in hours:

| TARGET | **COMPLETE PROTECTION TIME** |
|---|---|
| *Aedes albopictus* | **4.1 hours** |
| *Culex pipiens* | **4.3 hours** |

*Calculation among the 10 replicates:*

*Aedes albopictus*: 2 volunteers have proved 4.5 hours' protection time, 7 volunteers have proved 4 hours' protection time, 1 volunteer has proved 3.5 hours' protection time **= a mean protection time of [(2x4.5) + (7x4) + (1x3.5)] / 10 = 4.1 hours**

*Culex pipiens*: 5 volunteers have proved 4.5 hours' protection time, 5 volunteers have proved 4 hours' protection time **= a mean protection time of [(5x4.5) + (5x4)] / 10 = 4.3 hours**

**Insecticidal effect:** no insecticidal effect was observed (< 1% death rate of mosquitoes exposed to the product in 24 hours): the results are in APPENDIX 2.

# 7. CONCLUSION

Under the conditions of this test, the samples provided, the strains of insects and the method used, the product

**RELMIB016 SPRAY SOLAR CON CITRONELA**

applied at a rate of 1.67 mg/cm², has proved a complete protection time of:

- 4.1 hours against mosquito *Aedes albopictus*
- 4.3 hours against mosquito *Culex pipiens.*

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