International Conference on Non-Target Screening

ICNTS 21

Certificate of attendance

Antonio Maldonado-Reina

(University of Almería)

has attended the 'International Conference on Non-Target Screening' from October 4th to 7th 2021 online and presented an oral contribution entitled "**Non-target screening approach for plant protection product characterization: Use of chromatographic techniques-high resolution mass spectrometry**".

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Analytisches Forschungsinstitut für Non-Target Screening GmbH
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26. Non-target screening of co-formulants in difenoconazole-based plant protection products by LC-Q-Orbitrap

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Difenoconazole is an approved triazole fungicide used in a broad range of crops. It is applied in the form of plant protection products (PPPs), which are a mixture of the pesticide and several co-formulants that define the properties of the blend. Nonetheless, these co-formulants are not disclosed by the manufacturers, and because of it, they remain unmonitored. The present study focused on the comprehensive analytical determination of polar co-formulants in 15 difenoconazole-based PPPs by ultra-high performance liquid chromatography coupled to Q-Exactive Orbitrap high-resolution mass spectrometry (UHPLC-Q-Orbitrap-MS). Data for non-target analysis were acquired in both Full Scan MS and data-dependent acquisition (ddMS2) modes. Identified compounds mostly included anionic and non-ionic surfactants, predominantly linear alkyl ethoxylates and alkylbenzene sulfonates, although certain emulsifiers, stabilisers, preservatives, and other compounds were also detected. Confirmation and quantification of several compounds was then carried out with available analytical standards.

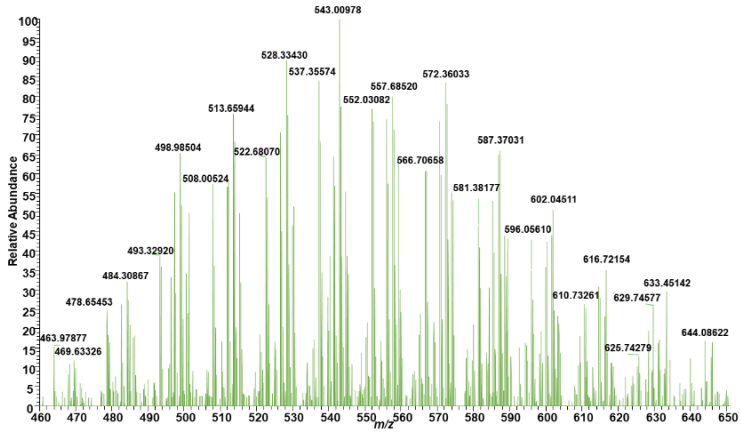

Figure 1. Characteristic mass spectrum of alkyl ethoxylates in difenoconazole PPP.

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