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## Copper chlorophylls and chlorophyllins in oils, olives and brines

Copper chlorophylls (E 141 i) and copper chlorophyllins (E 141 ii) are chlorophyll-derived dyes that are used to enhance the color of some products; they are regulated by European Commission Regulation no. 1333/2005.

These compounds are not allowed in olives and vegetable oils: however, they are sometimes illegally used to enhance their color (especially that of recycled olives) to clear the stocks of previous years.

Copper-chlorophylls and copper-chlorophyllins are not considered as natural additives due to their manufacturing process. Given the inadequacy and insufficiency of data, European Food Safety Agency (EFSA) could not establish an acceptable daily intake, but encouraged to collect more data to exclude the possible carcinogenicity and genotoxicity.

For these reasons, food manufacturers require sensitive and reliable detection methods to determine the presence of copper chlorophylls and copper chlorophyllins in oils, olives and brines.

### How does Mérieux NutriSciences address this issue?

The team of experts of Mérieux NutriSciences already characterized several types of copper chlorophylls and copper chlorophyllins to meet the needs of food companies.

Thanks to a good sample preparation phase and the use of cutting-edge equipment and techniques such as LC/DAD/HRMS (High Resolution Mass Spectrometry) and MS/MS (Tandem Mass Spectrometry), Mérieux NutriSciences has developed an analytical method to determine low concentrations of:

- Copper chlorophylls in vegetable oils
- Copper chlorophyllins in olives and preserving liquids (brines)



**For more information please contact one of our experts  
by calling +39 0423 7177 or by writing an email to  
[consulting.italy@mxns.com](mailto:consulting.italy@mxns.com)**



Via Fratta 25, 31023 Resana, Italy  
tel. +39 0423 7177  
e-mail [food.italy@mxns.com](mailto:food.italy@mxns.com)

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