Overview

Materials and Sample Preparation

Methods

Results

Conclusions

References

Acknowledgements

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Conclusions

References

Acknowledgements

Determination of 3-Monochloropropane-1,2-diol (3-MCPD) in Foodstuff by GC-MS/MS

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0.10

- 4.15

4.05

- 0.20

In addition, a sample preparation method was developed based on a Modified Quantum XLS Triple Mass Spectrometer and a Trace GC Ultra with a PTV (Programmable Temperature Vaporizer) 2.0mm ID. Theoretical and practical results for sample preparation were evaluated using the methodology and all were found to have minimal levels of 3-MCPD.

The official method for the determination of 3-MCPD is very involved and tedious as shown in Procedure 1. For this reason a method was sought that would be easier to use, require less time and less solvent. It was realized that the AOAC method calls for a derivatization procedure which is not only lengthy and requires the use of flash chromatography. A simpler "quick and easy" method was used in this application with good results.

The amount of 3-MCPD is computed from the formula shown below:

\[ C = \frac{(A \times 10)}{(A' \times C)} \]

\[ Y = 14.2965 \times X \quad R^2 = 0.9970 \quad W: \text{Equal} \]

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