

Fully Automated Analysis of Phthalates in Animal and Vegetable Fats and Oils by GC-MS

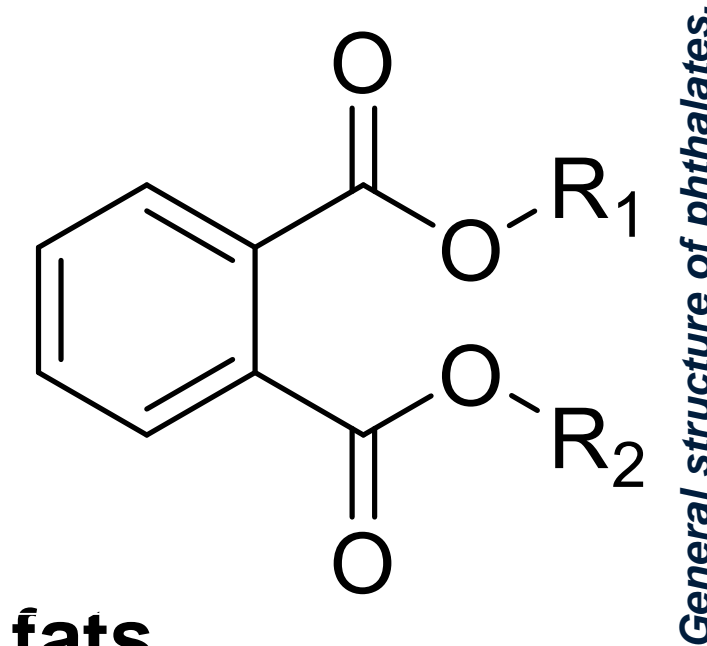
According to draft standard **ISO CD TS 16465**

Part of the **TRAJAN** Family



Phthalates

- Phthalates are a class of chemical compounds widely used as plasticizers.
- Their presence in food products, particularly in fats and oils, has raised concerns due to potential health risks.
- Accurate determination of phthalate levels in these matrices is crucial to ensure consumer safety and compliance with regulatory standards
- The fully automated approach presented offers several advantages, including increased efficiency, reduced labor-intensive steps and improved sample throughput.



- Fully automated sample preparation.
- Automated dispersive cleanup with PSA and C18 and automated epoxidation.
- Automatic spiking of internal standard and calibration lines.
- Analysis extended to dicyclohexyl phthalate (DCHP). Other plasticizers can be included.
- Optimized, loss-free evaporation under vacuum.
- Sample throughput 28 to 47 samples in 24 hours. Depends on oil type and analytes.

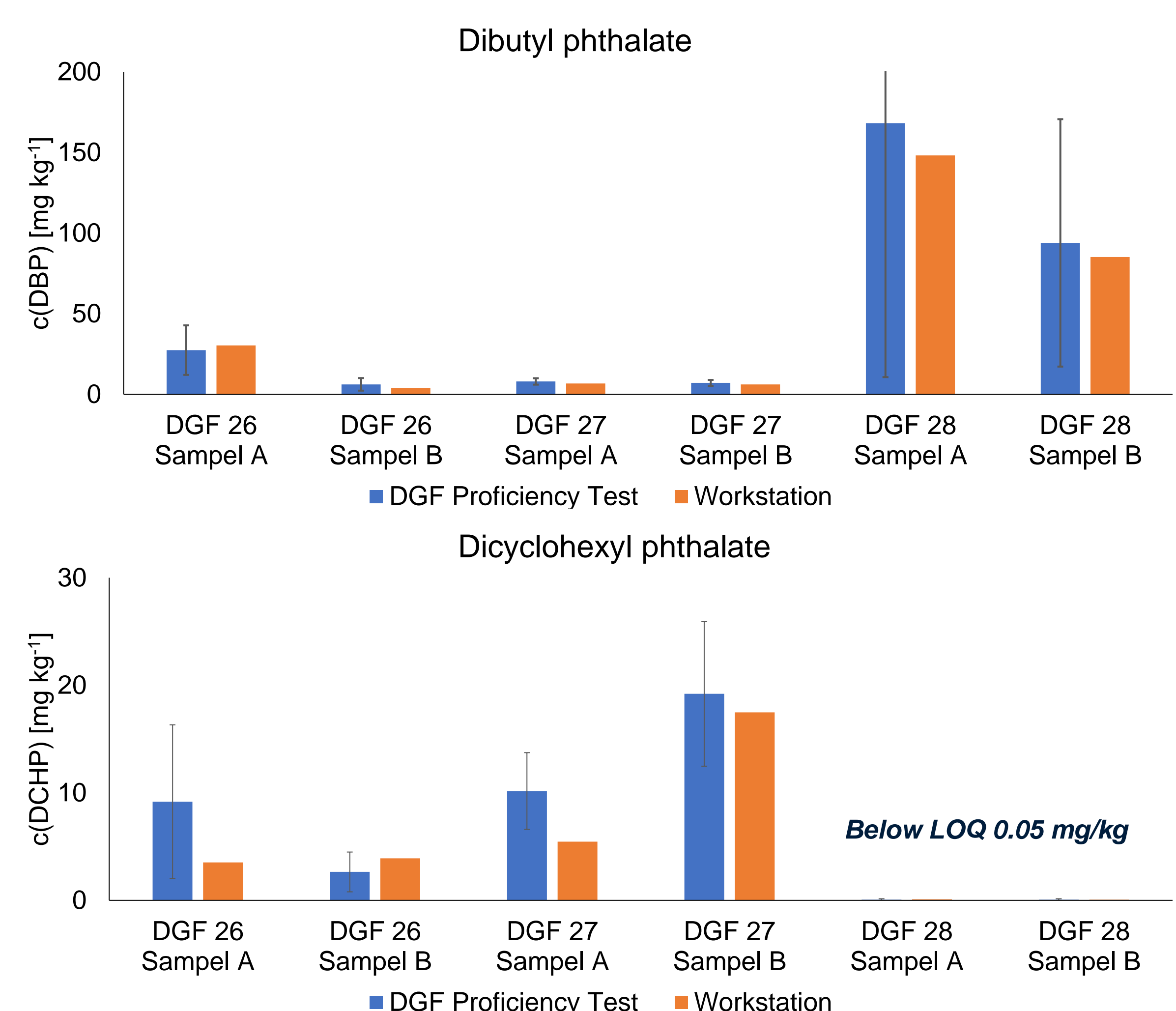
Workstation Phthalates

- Sample preparation is performed with a xyz-robot.
- Enables precise and efficient automated extraction and clean-up procedures.
- Automatic module for solvent evaporation under vacuum.
- Automatic centrifuge.



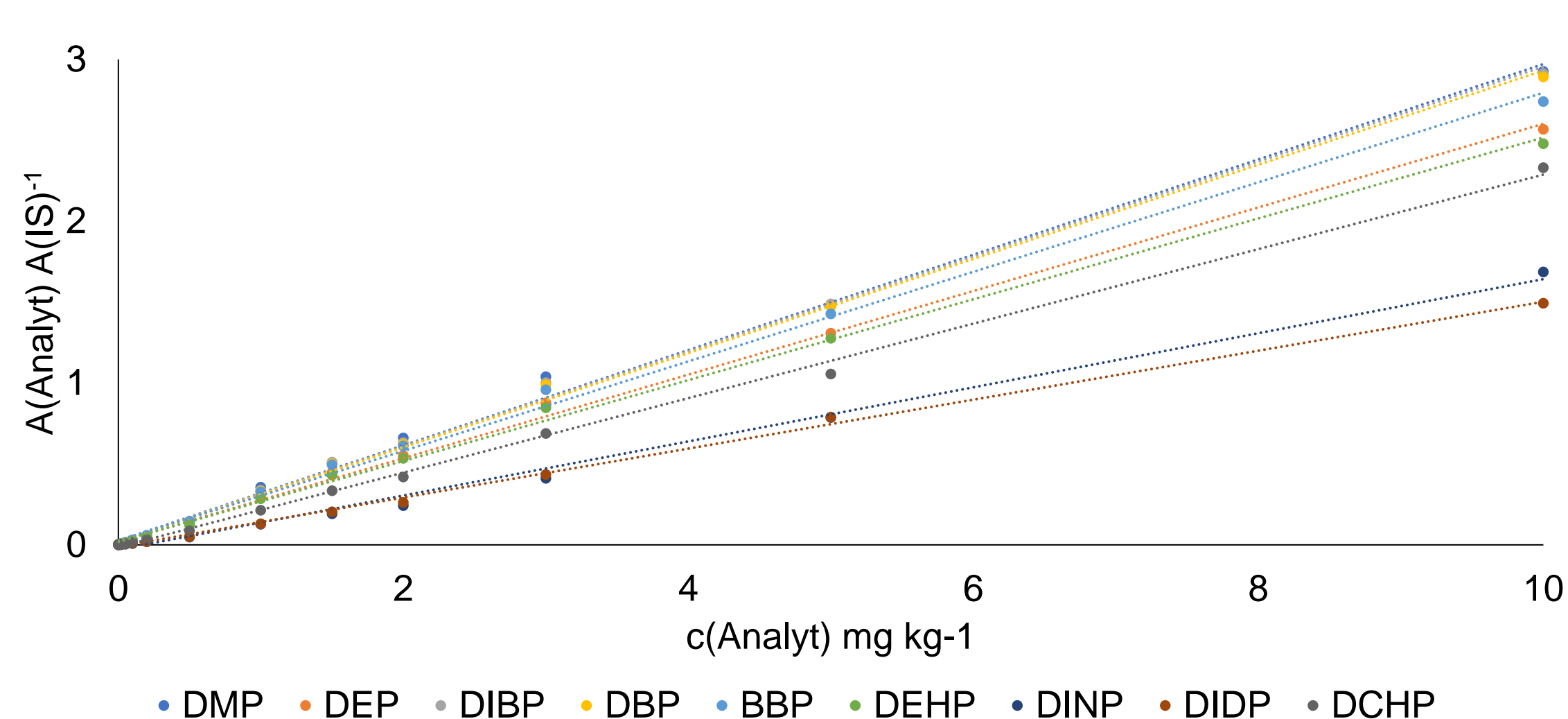
Results reference material

- Comparison of fully automated sample preparation with results from a round robin test.
- The bars on the reference oil results indicate the 2 z-score.
- The reference material had results for dibutyl phthalate and dicyclohexyl phthalate.



Calibration

- The coefficient of determination is greater than 0.995.



The reference material was prepared according to the draft ISO CD TS 16465 for the determination of phthalates in animal and vegetable fats using the Workstation Phthalates and measured on a GCMS. Only values for dibutyl phthalate and dicyclohexyl phthalate were available for the reference material. The bars on the results of the reference oils indicate the 2 z-score.