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摘要：建立以全自动凝胶渗透色谱（GPC）和气相色谱-质谱（GC/MS）联用技术测定食品包装印刷油墨中多溴联苯（PBBs）和多溴联苯醚（PBDEs）的检测方法。样品经乙酸乙酯-正己烷超声提取后用凝胶渗透色谱净化，GC/MS进行定性、定量分析。该方法中多溴联苯及多溴联苯醚在实际样品检测中的平均加标回收率为74%~112%，最低检测限在0.46-6.6ng/g之间。该方法使得样品前处理步骤得到简化，净化效果好，回收率高，提高测定的准确性与灵敏度，适用于成分复杂的油墨组分分析。

关键词：油墨,多溴联苯（PBBs）,多溴联苯醚（PBDEs）,凝胶渗透色谱(GPC),气相色谱-质谱(GC/MS)

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### Determination of polybrominated biphenyl and polybrominated diphenyl ether in food-package-used ink by GPC-GC/MS

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Abstract: A method has been developed for the determination of Polybrominated Biphenyl (PBBs) and Polybrominated Diphenyl Ether (PBDEs) in food-package-used ink by gas chromatography-mass spectrometry (GC/MS) coupled with gel permeation chromatography (GPC) purification. Samples were extracted with ethyl acetate/hexane by ultrasonic, purified by GPC and finally analyzed for PBBs and PBDEs with GC/MS. The recovery range for PBBs and PBDEs was 74%-112%, and the detection limit was 0.4-6.6ng/g. It is concluded that this analytical method is rapid, accurate, sensitive and reproducible, it is suitable for monitoring trace PBBs and PBDEs in ink.

Key words: Ink, Polybrominated biphenyl, Polybrominated diphenyl ether, Gel permeation chromatography, Gas chromatography-mass spectrometry

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