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技术交流

气质联用仪测定汽油中含氧化合物、苯和甲苯的含量

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摘要 利用选择离子法（SIM）对汽油中含氧化合物、苯和甲苯进行定量分析，可以简化分析步骤，缩短分析时间，有效消除汽油中复杂成分对目标组分分析结果的影响，提高了分析结果的准确性。15种组分标准曲线的线性相关系数均大于0.998 8，最低检测限为2~5 μg•g^{-1}，回收率为90%~103%，保留时间相对标准偏差小于0.5%，峰面积相对标准偏差小于11.05%。

关键词

气质联用 汽油 含氧化合物 苯 甲苯

分类号

Determination of Oxygenates, Benzene and Toluene in Gasoline by GC/MS

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Abstract A method for the simultaneous quantitative analysis of oxygenates, benzene and toluene in gasoline was developed by gas chromatography-mass chromatogram(GC/MS). The GC separation was performed on a quartz capillary(0.25 μm×0.25 mm×60 m) column with Ar at the flow rate of 0.65 mL•min^{-1}. Selected ion monitoring mode and mass chromatogram were used for the quantitative detection of oxygenates, benzene and toluene in gasoline. An internal standard method was used for the quantification with butanone(MEK) and ethylene glycol dimetnyl ether(DME) as the double internal standard. For 15 components, the correlation coefficients of the calibration curve are greater than 0.998 8, the detection limits are 2—5 mg•L^{-1} and the value of recoveries are larger than 90%. Relative standard deviation of retention time is less than 0.5%. The area relative standard deviation is less than 11.05%.

Key words gas chromatography-mass spectrometry（GC/MS） _ gasoline _ oxygenates _ benzene _ toluene

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