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气相色谱-氮化学发光检测法分析催化汽油中含氮化合物类型的分布

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Determination of nitrogen compounds in catalytic gasolines b nitrogen chemiluminescence detection

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摘要 参考文献 相关文章

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摘要 建立了催化汽油馏分中各种含氮化合物类型分布的气相色谱-氮化学发光检测分析方法,考察了各种色谱条件对含氮化合物分离的
化学预处理的方法浓缩了催化汽油中的含氮化合物,并结合气相色谱-质谱检测以及部分含氮化合物标准样品,对某催化汽油中的20多
进行了定性(或归类)。催化汽油中几种主要含氮化合物(苯胺、2-甲基苯胺、二甲基苯胺)含量测定值的相对标准偏差(RSD)均不大于
噪比(S/N)为3时,苯胺氮的检出限为1.0 mg/L。该方法可用于不同来源和不同加工工艺的汽油馏分中各种含氮化合物类型分布的研

关键词： 气相色谱-氮化学发光检测 气相色谱-质谱 含氮化合物 分布 催化汽油

Abstract： A method for the separation and determination of nitrogen compounds in catalytic gasolines by ga
chromatography-nitrogen chemiluminescence detection (GC-NCD) was established. The effects of the flow rate
gas and the oven temperature on the resolution were studied. More than 20 nitrogen compounds, including a
pyridine, aniline, 2-methyl aniline, 3-methyl aniline, 4-methyl aniline, quinoline, and indole, in catalytic gasoline
identified based on the retention time of some pure nitrogen compounds and by gas chromatography-mass
spectrometry. The relative standard deviations of the peak areas of main nitrogen compounds in a catalytic ga
sample were less than 2.5% and the detection limits for nitrogen were 1.0 mg/L under the chosen conditions.
ranges were 1.0~100 mg/L nitrogen for each nitrogen compound. The correlation coefficients were more than
method can be successfully applied for the determination of each nitrogen compound in different catalytic gas

Keywords： gas chromatography-nitrogen chemiluminescence detection gas chromatography-mass spectro
（GC-MS） nitrogen compounds distribution catalytic gasolines

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