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Determination of the Composition and Purity of JP-10 by Gas Chromatography /Mass Spectrometry

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Abstract: The components of four kinds of JP-10 aviation fuels were analyzed by gas chromatography/mass spectrometry (GC/MS). The linear scope of gas chromatography was researched. The purities of JP-10 fuels were measured with an external standard method. Results show that JP-10 aviation fuels contains not only the main component exo-tetrahydrobicyclopentadiene, but also decahydronaphthalene, endo-tetrahydrobicyclopentadiene, adamantane and their methylated products, etc. The suitable concentration range for external standard method to measure the purity of JP-10 is $0.5-20 \text{ mg} \cdot \text{mL}^{-1}$. This method is reliable, accurate, and can be used for determining the purity of JP-10.

Key words: gas chromatography/mass spectrometry; JP-10 (exo-THDCPD); component analysis; purity determination

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《含能材料》高品质炸药晶体研究专栏征稿

高品质炸药晶体的出现为钝感弹药的研究与应用开辟了一条重要途径,高品质炸药晶体因而也成为目前国内外含能材料研究领域的热点之一。为促进高品质炸药晶体的研究和应用,《含能材料》将于2015年开设高品质炸药晶体研究专栏,专题报道高品质炸药晶体的制备、表征、性能、应用等领域的最新研究成果,促进学者间的交流。欢迎相关研究学者投稿。来稿建议为英文。来稿时请选择对应的专栏。

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