

ABSTRACT

DEVELOPMENT OF METHODS FOR ANALYSIS OF EXPLOSIVES BY MASS-SPECTROMETRY AND ELECTRON CAPTURE DETECTOR

Explosives have been used for generations in military and industrial operations. This widespread use of explosives as well as waste from the manufacturing of explosives has caused contaminated water and soil sites. Contamination can cause adverse health effects to those individuals who come into contact with it. Current analysis of explosives uses high performance liquid chromatography (HPLC) equipped with a UV detector. The HPLC-UV method, however, is not very sensitive, reproducible, or selective. The following research shows the development of an analysis method for use with a gas chromatograph equipped with a mass selective detector (GC/MSD). Due to complications with the GC/MSD method and lack of specialized equipment, the project was concluded on a GC equipped with an electron capture detector (ECD).

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