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## **CBD ANALYSIS IN OILS AND FOODS**

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# CBD Analysis in Oils and Foods

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## ABSTRACT

Cannabidiol (CBD) has become a very prominent topic in the medical community and popular marketplace because of its widespread consumer use. Tetrahydrocannabinol (THC) and other similar molecules can be present in commercial CBD products, so testing is necessary to determine the presence of the CBD. Existing methods of analysis for CBD oils are only known on GC-FID (gas chromatography – flame ionization detector) and these methods are not optimal for the wide variety of commercial CBD products available. Thus, a GC-MS (mass spectroscopy) method, based on a published GC-FID method, was created to optimize the detection of CBD because not only can separation be obtained but also identification, as well. This analysis method can be applied to a wide variety of foods, gummies, and other items that may contain CBD or similar molecules. The method has been optimized by varying GC column temperature and sample preparation to find a balance between analysis time, analyte detection, and resolution for the various types of cannabinoid molecules present in commercial CBD oil samples. The optimized method was able to determine that a 1:3 ratio of oil to solvent gave optimal signal of all CBD oils tested. The optimized method was then tested on a variety of commercial and self-prepared CBD edibles to determine that CBD was still present and was not degraded into THC.

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