Micronization of Thebaine ~~extracted~~ Extracted from *Papaver bracteatum Lindl.* ~~using~~ Using Supercritical ~~fluid~~ Fluid ~~technology~~Technology

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Journal of AOAC INTERNATIONAL

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Abstract:

Background: Thebaine, as a main opiate alkaloid extracted from papaveraceae plants, is widely used in the synthesis of many pharmaceutical ingredients ~~like~~ such as buprenorphine, naltrexone, naloxone, and hydrocodone. ~~Unfortunately~~Nevertheless, thebaine and related derivatives are often insoluble in aqueous media and have low bioavailability in digestive system.

Objective: Reducing particle size and changing the morphology can ~~decline~~ mitigate the mentioned problem. In this study, extraction of thebaine from the capsule, steam, and root of *Papaver bracteatum L.* was optimized and micronization of extract components to study of solubility was developed.

Methods: Extraction process was performed using supercritical carbon dioxide. Experimental central composite design was employed to ~~determination of~~determine the optimal conditions. Analysis of extract was done using validated HPLC method and mass spectrometry. Micronization process ~~has been~~was performed using an inhouse developed supercritical technique.