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Distillation of Eugenol from Betel Leaves using Dichloromethane vs M.T.B.E

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Title: Distillation of Eugenol from Betel Leaves using Dichloromethane vs M.T.B.E

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Abstract: Eugenol is one of the most widely used natural anesthetics in the field of dentistry. It can be extracted from various types of leaves, including betel leaves, by carrying out steam distillations. In this steam distillation process, various oils are extracted from the leaves, and these oils combine to make a cloudy distillate which contains polar and nonpolar molecules. To isolate the eugenol from the other oils, a set of green and non-green solvents are used. The green solvent is MTBE, and the non-green solvent is dichloromethane. Dichloromethane has a high volatility and hazardous for the environment upon evaporation whereas MTBE has a lower toxicity. Both of these solvents were used in the same role which was to distill the eugenol from the remaining oils in the distillate. Research done has shown both the solvents are highly effective in the isolation of eugenol from the betel leaf. Green solvent was shown to have effective results in the isolation of eugenol while being less harmful for the environment.