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Assessment of ethyl acetate in selected Ayurvedic pharmaceuticals

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Ayurvedic pharmaceutical preparations named *Asava* and *Arishta* are consumed as medicines, appetizers, vigour tonics and herbal wines. About 35 *Arishta*s and 25 *Asava*s have been mentioned in official Ayurveda pharmacopoeia.

As fermentation is the major process by which these preparations are manufactured, ethyl acetate is a major constituent found in them, along with other secondary components. Ethyl acetate contributes significantly to the objectionable quantities in fermented solutions or alcoholic beverages. Ethyl acetate has a significant effect on the organoleptic characteristics of wines and distillates. The manufacturing process of *Arisha* and *Asava* is almost similar to the fermentation done in wine making. Hence the concentration of ethyl acetate in 16 brands each of commercially available *Ashvagandarista*, which can be bought without prescriptions, and *Aravindasava, which is specially used in the treatment of children's disorders,* was determined using Gas Chromatographic (GC) methods. 30 cm^3 aliquots of the product were distilled and the total distillate was used for the analysis. The concentration of ethyl acetate in different brands of *Ashvagandarishta* varied from a minimum of 26.43 ppm, maximum 221.36 ppm and with the average of 107.92 ± 70.38. In *Aravindasava*, the corresponding values were 34.12 ppm minimum, 223.94 ppm maximum and 129.14 ± 58.92 ppm the average.

Observed variations of ethyl acetate in different brand of preparations can result in dissimilarity of organoleptic characteristics of products. Hence it is necessary to identify methods to maintain and control these constituents in a minimal level in Ayurvedic pharmaceutical preparations that were investigated.

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