

Analysis of thinner-Lacquer compositions and development of analysis technique for serum screening of solvent inhalation

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ABSTRACT

Recently the inhalation of paint thinner-lacquer becomes a significant drug abuse problem in Thailand especially among the young adolescent group. They are widely used probably because of the general availability and free from legal control. The physical danger from the inhalants is quite considerable particularly the depressive effect on the central nervous and cardiovascular system. The effect may be even fatal. Moreover their use may lead to other narcotics use and creates a more complex deleterious social consequences. Paint thinner-lacquer in the general market are analysed to determine the principal constituent. The analysis adopts the gas chromatographic head space technique using Porapak Q, 80-100 mesh column. The findings demonstrate that toluene is the common principal ingredient. The technique are also applied in the analysis of toluene in the serum of 13 inhalant users. Serum toluene level of 0.1 - 5.1 g/ml was found. The analysis technique has the coefficient of variation between assays of 5.4% and 113.9% accuracy. The finding of toluene in serum suggests the potential of their application as an indicator of paint thinner-lacquer inhalation.

Key words : Thinner-Lacquer, Inhalation

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