

Thesis Title **Determination of Volatile N-nitrosamines in Industrial Air.**

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ABSTRACT

Since N-nitroso compounds have been known as a group of the most potent carcinogen in animals and they were found in the environmental air in some kinds of industries. This study was to modified the sampling procedure, to suit the situation in Thailand. The air sampling cartridge was made by using a 5 ml syringe. Two grams of mixture of floridil and 15% sulfamic acid was packed in the syringe as adsorbent. After air sampling by using air sampling pump, the adsorbent was eluted with 20 ml of DCM at the rate of about 1 ml/min. Then the eluate was concentrated to about 1 ml. Determination was done by using GC interfaced with TEA detector. NDPA was used as internal standard.

In this study, three tanneries were investigated to determine volatile N-nitrosamines; NDMA, NDEA and NMOR.

Determination of dimethylamine, a nitrosamine precursor was also done in industrial air by using NIOSH method in sampling air and then derivatizing with DNFB for determination. None of these industries were found the volatile N-nitrosamines. Levels of Dimethylamine were in a concentration lower than detection limit in all of those industries.