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### EXPOSURE TO ETHYLENE GLYCOL MONOBUTYL ETHER AND RELATED WORKERS HABITS IN AN INK FACTORY

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#### Abstract:

Forty six workers from an ink factory were included in this study, in which, passive badge sampler and questionnaire interview were used to assess the concentrations of airborne exposure to ethylene glycol monobutyl ether during work shifts and to understand the subjects' working habits. The geometric mean value (95% confidence interval) of the airborne ethylene glycol monobutyl ether concentrations was 0.12(0.08-0.19)ppm, with a range of <0.02-1.82ppm. The exposure group was exposed to statistically significantly higher ethylene glycol monobutyl ether concentrations than the control group (geometric mean value: 0.14vs. 0.03ppm; P=0.017). Some chromatograms showed that subjects were co-exposed to m-xylene, ethylene glycol monomethyl ether, and ethylene glycol monoethyl ether acetate. According to the completed questionnaires, subjects might also be exposed to 1,2,4,5-tetramethylbenzene, propylene glycol ethers, ethanol, 1,2,4-trimethylbenzene, methanol and diisononyl phthalate. This study also suggests that, the Taiwan occupational time-weighted average level of ethylene glycol monobutyl ether be reconsidered with a view to being lowered.

#### Keywords:

ethylene glycol monobutyl ether , passive badge , time-weighted average

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