Acetonitrile related Death

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A 32 years old male was arrested and a can believed to contain thinner was seized from him. He subsequently died while in police custody. Postmortem examinations were performed and samples of femoral blood, buccal swab, liver, nostril swab, stomach contents, bile and urine were submitted for toxicological analysis. The blood yielded an acetonitrile level of 21 mg per 100 ml of blood and 2 microgram of toluene per ml of blood. A cyanide level of 12.4 microgram per ml of blood was also detected. The urine was found to contain 24 mg of acetonitrile per 100 ml of urine and 11 mg of acetonitrile was detected in 100 g of liver. Headspace gas chromatography using 5% Carbowax 20M on 100/120 Carbopack B column was used for the initial screening of alcohols and volatiles on the blood and urine samples. Subsequent confirmation and quantitation of acetonitrile was carried out on the same instrument but using RTX1301 (crossbond 6% cyanophenyl - 94% dimethyl polysiloxane) column. The quantitation of cyanide was carried out on a Hewlett Packard 5890 series II GC/NPD equipped with a HP 19395A Headspace Sampler and a 25m x 0.53 mm i.d. fused silica Porapak Q PLOT column from Supelco. This is the first reported case of death in Singapore contributed by a combination of acetonitrile and cyanide poisoning.