INDIANA UNIVERSITY

BORKENSTEIN COURSE

Center for Studies of Law in Action

An In Vitro Simulator Study of the Effect of Ethylene Glycol on the Breathalyzer Model 900A, Intoxilyzer 5000C, and Alcotest 7410 GLC

by
J.G. Wigmore

Technical Notes

AN IN VITRO SIMULATOR STUDY OF THE EFFECT OF ETHYLENE GLYCOL ON THE BREATHALYZER MODEL 900A, INTOXILYZER 5000C AND ALCOTEST 7410 GLC

Jim Wigmore,
Centre of Forensic Sciences
Toronto, Ontario

Various concentrations of aqueous ethylene glycol solutions in a simulator were tested on the Breathalyzer Model 900A, the Intoxilyzer 5000C and the Alcotest 7410 GLC. The simulator tests were conducted in triplicate at each concentration for each instrument. The results are as follows:

Aqueous Ethylene Glycol Concentration (mg/100 mL)	Intoxilyzer 5000C	Breathalyzer 900A	Alcotest 7410 GLC
10	0	0	0
20	0	0	0
50	0	0	0
100	0	0	0
200	0	0	0
500	0	0	0
1000	0	0	0

Fatal serum ethylene glycol concentrations have been reported as between 50 and 775 mg/100 mL. [1]

[1] Baselt, R.C., and Carvey, R.H., Disposition of Toxic Drugs and Chemicals in Manitoba, 3rd Ed., Year Book Medical Publishers Inc., Chicago, 1989, pp 339