

POTENTIAL APPLICATIONS OF A PORTABLE TOXIC GAS ANALYZER

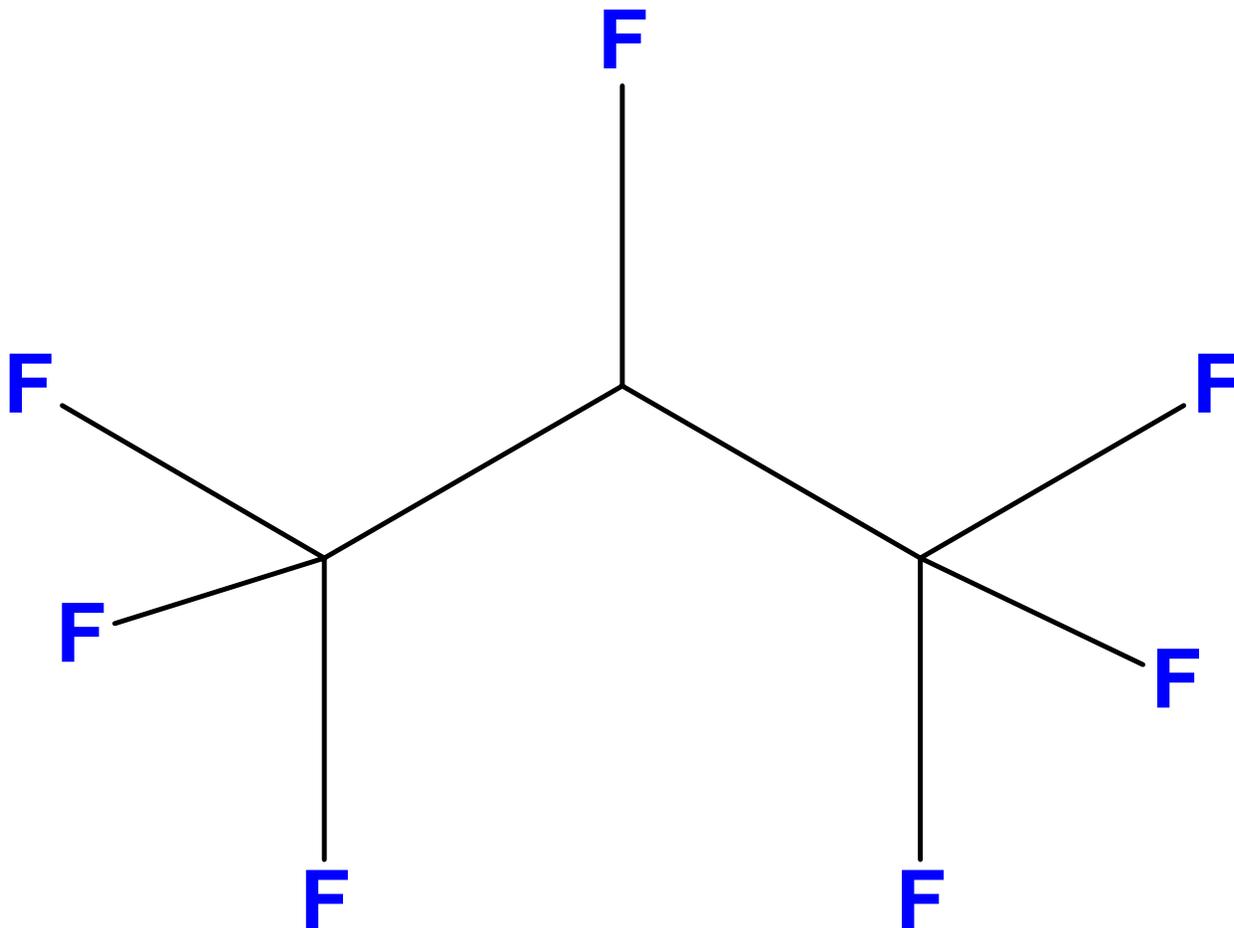
STEVE HOKE

US Army Center for Health
Promotion and Preventive Medicine





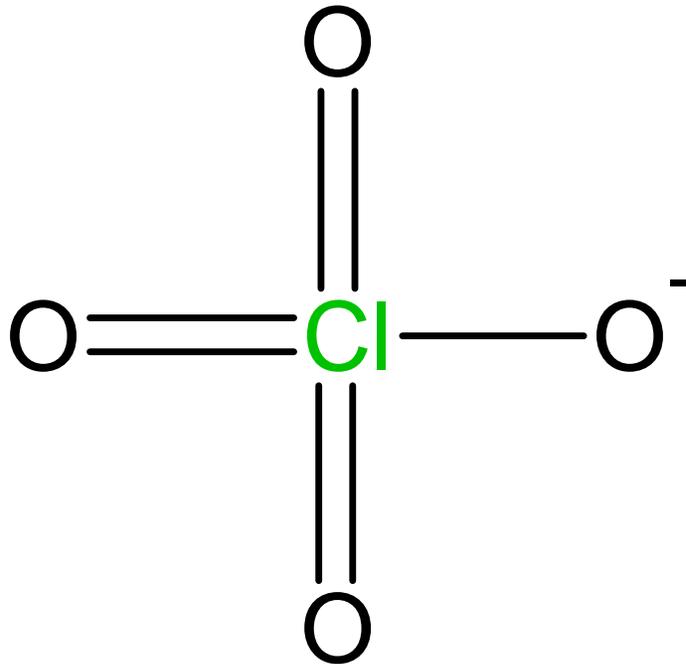
HFP





USACHPPM
Readiness thru Health

Ammonium Perchlorate







USACHPPM
Readiness thru Health

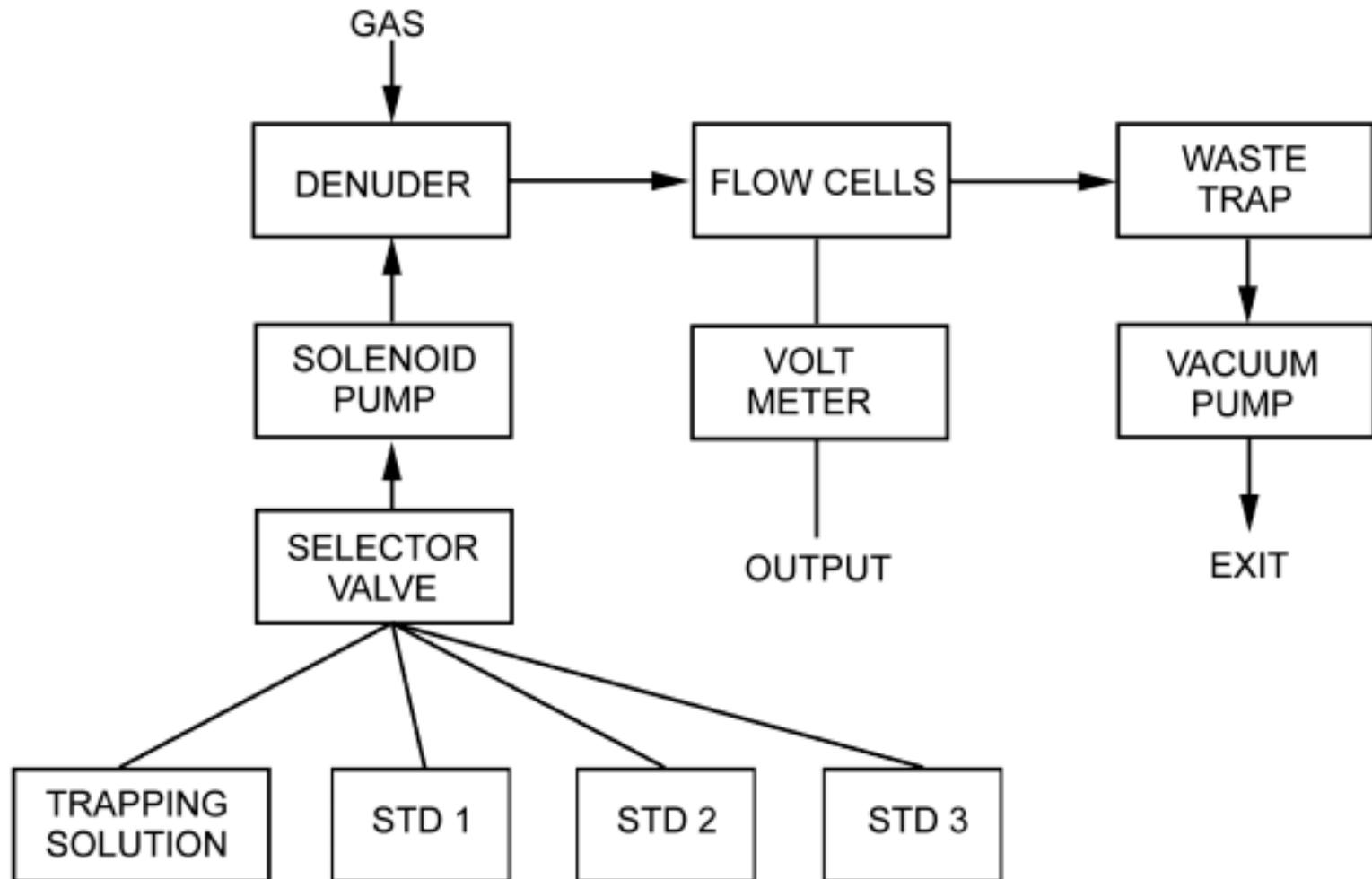


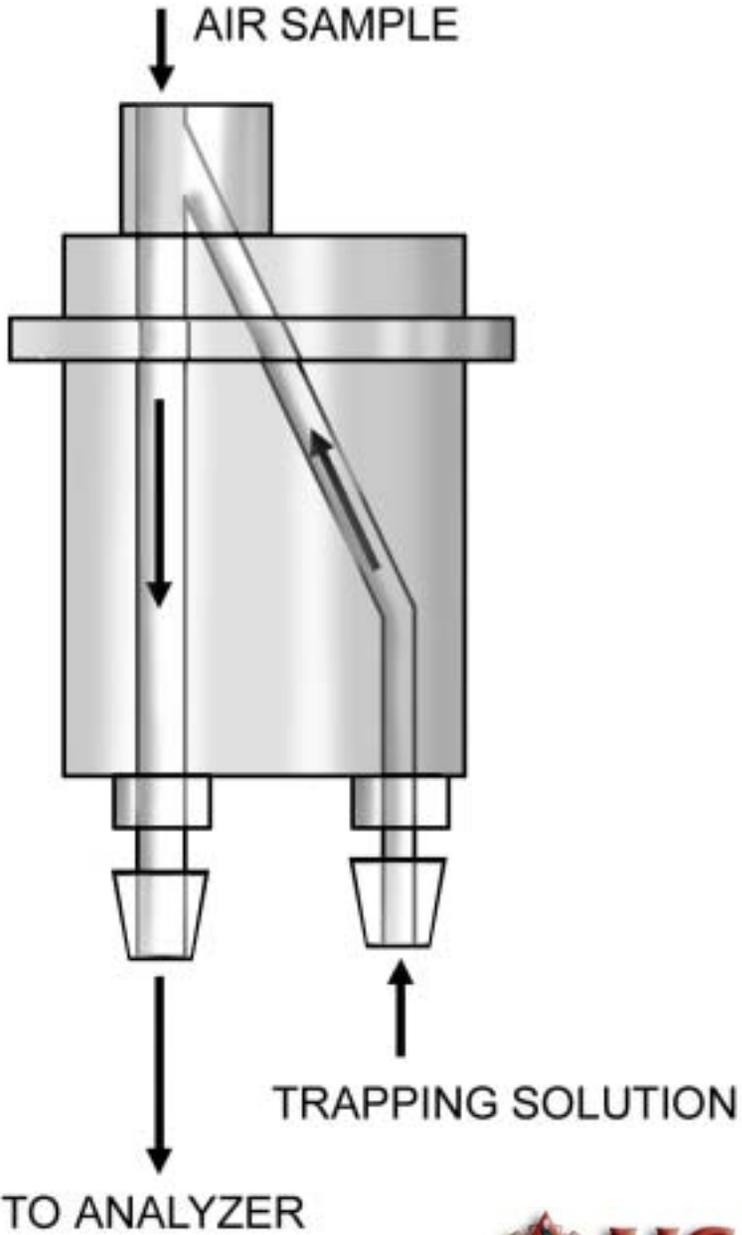




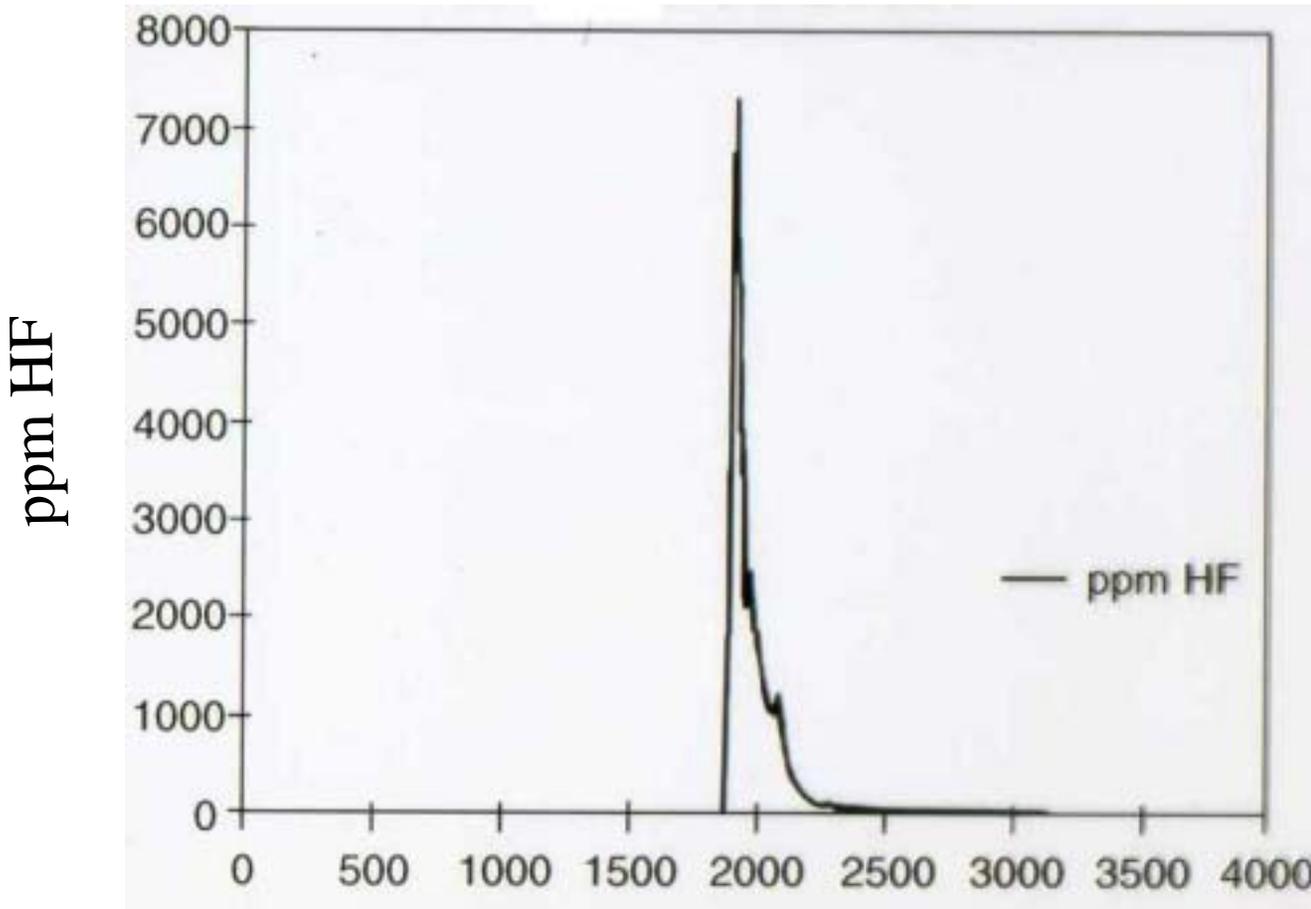
USACHPPM
Readiness thru Health

FLOW SCHEMATIC



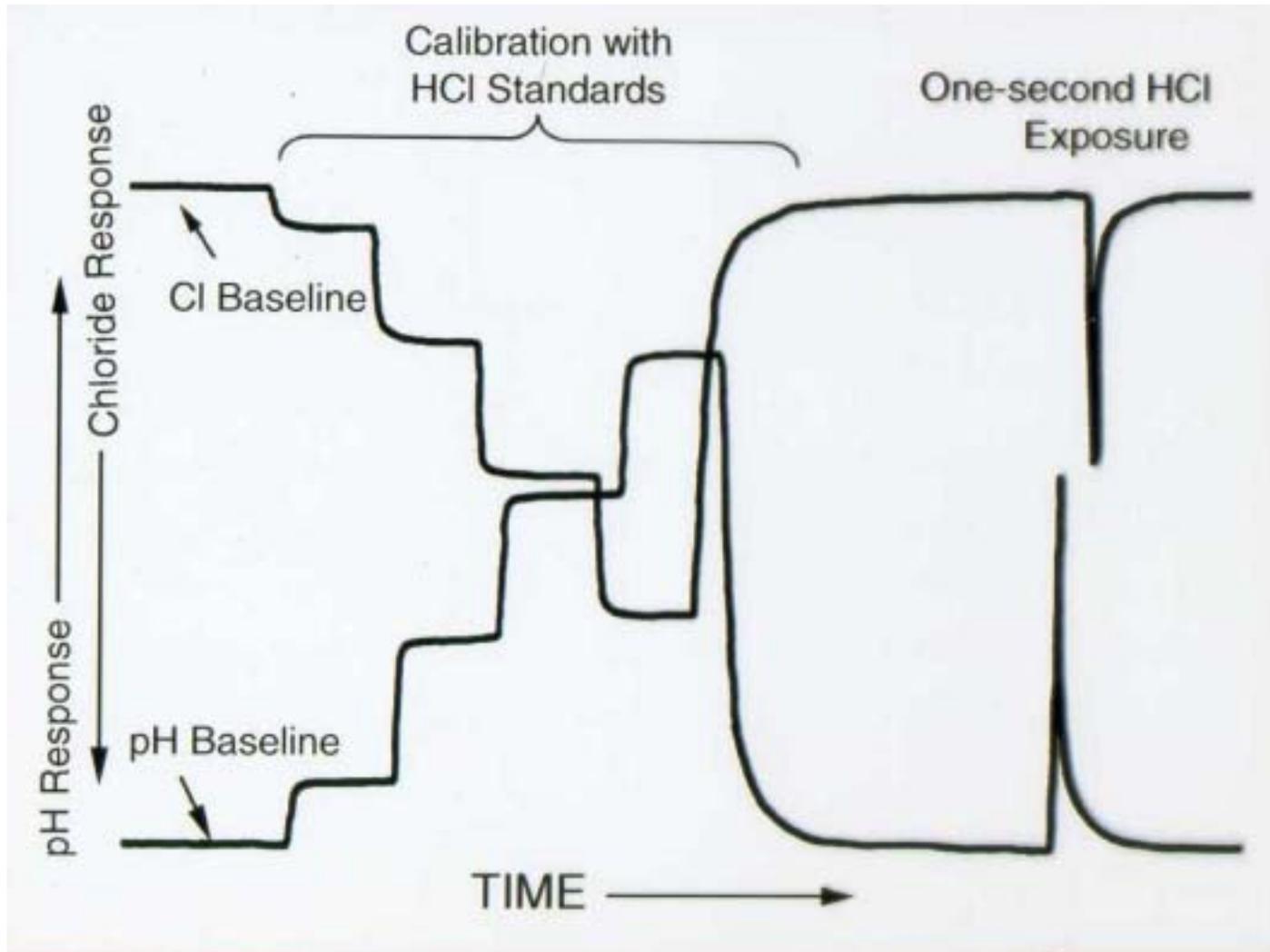


HF RESPONSE TO FIRE SUPPRESSION



Time (seconds)

RESPONSE TO HCl GAS



HF VALIDATION DATA

	Analyzer	Impinger
	Ave (% RSD)	Ave (%RSD)
Phase	(N=3)	(N=3)
Gas	2.31 (3.1)	2.40 (0.0)
Gas	4.04 (3.8)	4.47 (3.4)
Gas	59 (0.0)	57 (3.6)
Gas	1033 (0.7)	1027 (3.4)
Aerosol	144 (4.0)	149 (2.1)

All values in mg/m³

Portions of this table are from Applied Occupational and Environmental Hygiene, A Continuous Denuder for Acid Aerosols and Gases. Copyright 1998. Cincinnati, OH.

DIRECT DETECTION

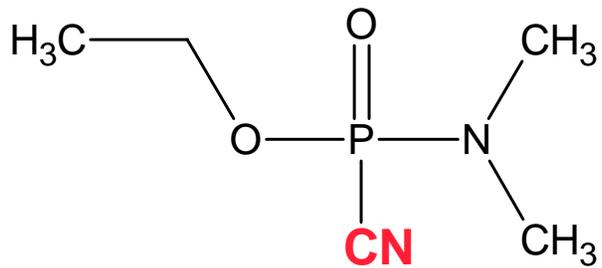
HF HCl HBr HI HCN

NH₃ H₂S NO₂ pH

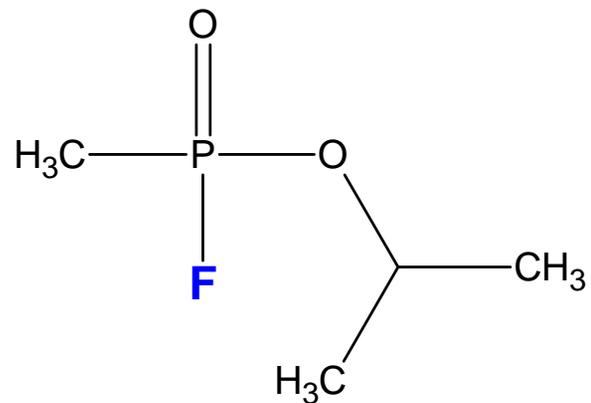
INDIRECT DETECTION

GA GB GD VX

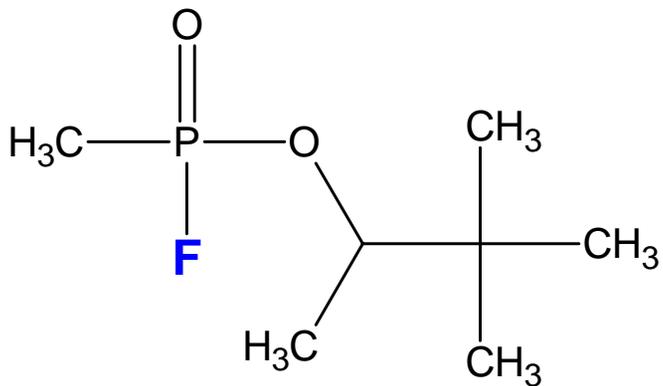
GA (Tabun)



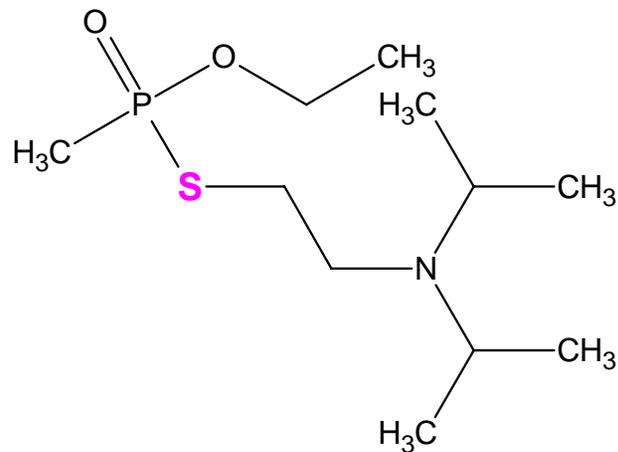
GB (Sarin)



GD (Soman)



VX

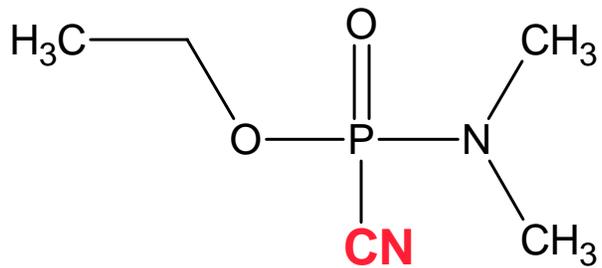


DETECTION ELECTRODES

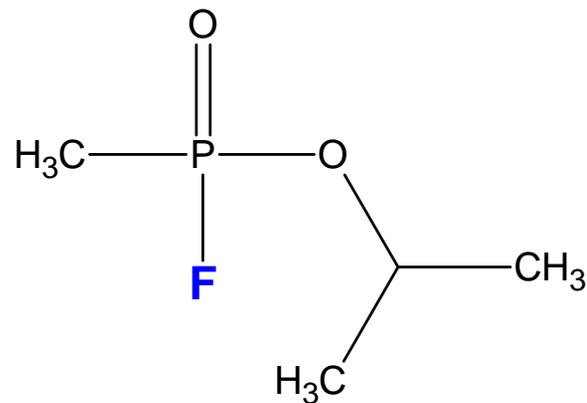
F^- Cl^- Br^- I^- CN^-

NH_3 $S^=$ NO_2 pH

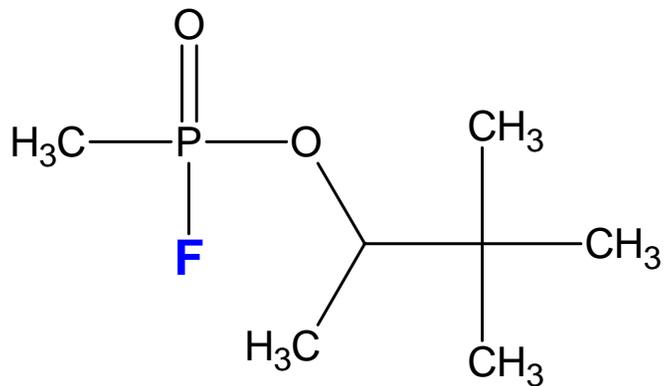
GA (Tabun)



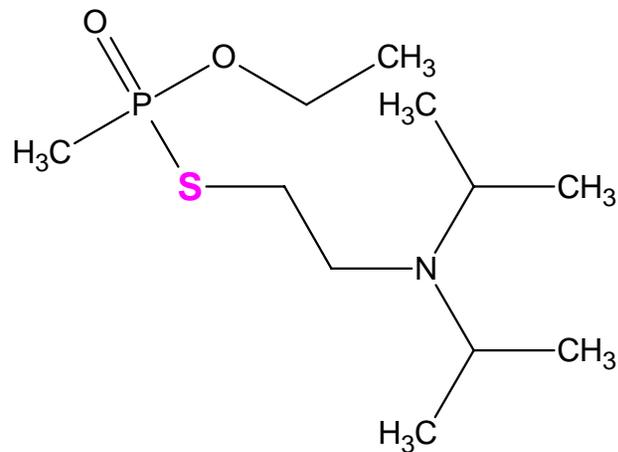
GB (Sarin)

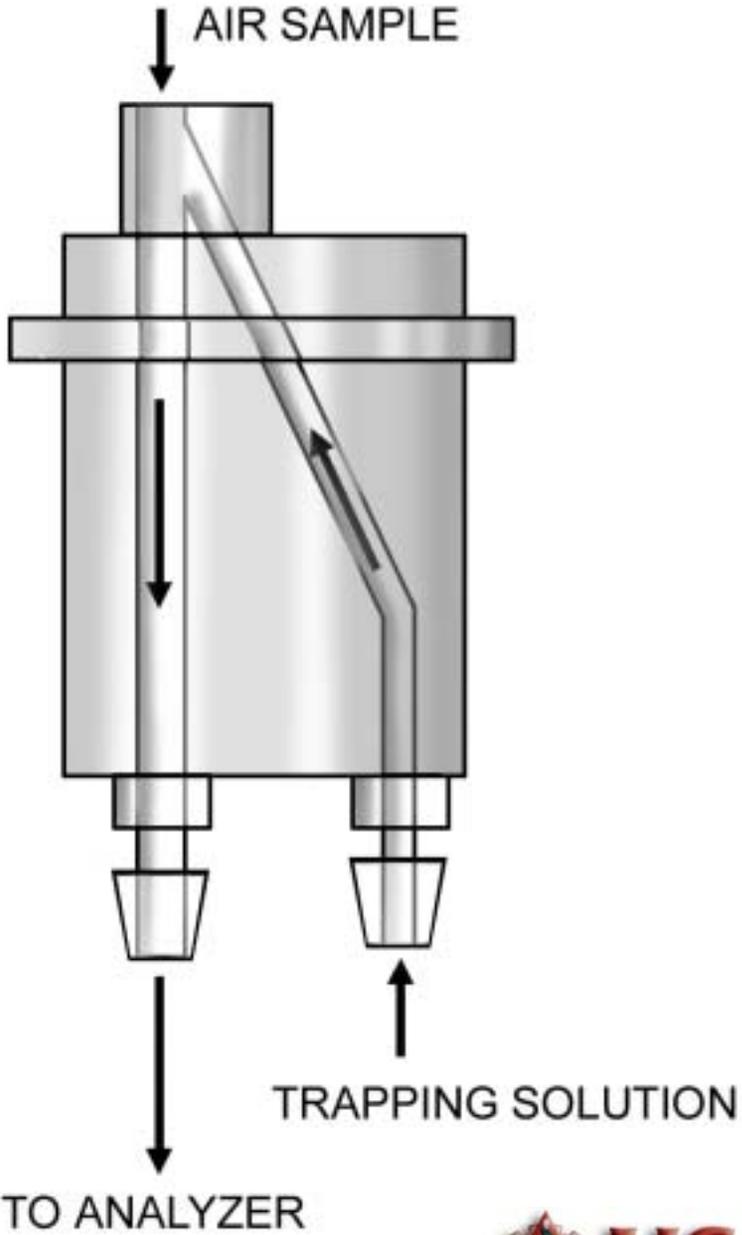


GD (Soman)



VX





Technology for Measuring
Agents in Water

+

Our Technology

=

Expanded Capability to Measure
Agents in both Water and **Air**

ACKNOWLEDGEMENT

Mark Arnold
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Catherine Stern and Mike Chapman
Aberdeen Test Center
Aberdeen Proving Ground, MD

