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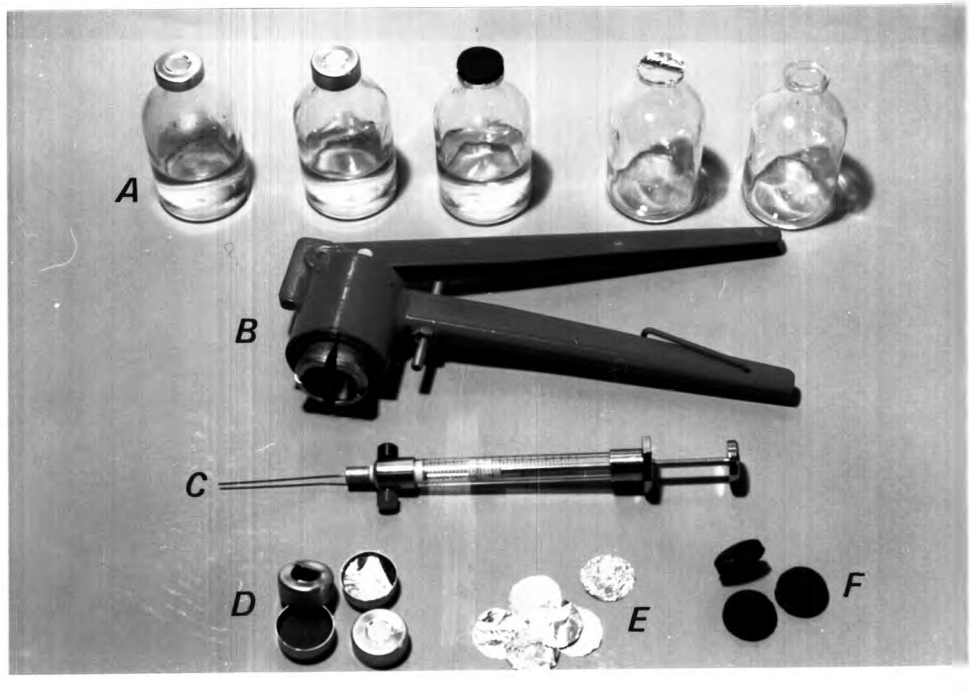
APPENDIX A

The materials used in the developed headspace technique.



A = 60 mL Serum vial; Height = 70 mm, Base diameter = 40 mm.

B = Manual Hand Operated Crimper.

C = Pressure-Lok series A2 gas tight syringe 2.00 mL.

D = Aluminum cap; Diameter = 18.0 mm .

E = Aluminum foil; Diameter = 18 mm, Thickness = 0.02 mm .

F = Black rubber septum; Diameter = 18.0 mm, Thickness = 3.3 mm.

APPENDIX B

The Calibration of the Volume of Serum Vial Used in the Study.

The volume of serum vials used in the study was calibrated by the procedure as described in the following :

1. Weigh an empty serum vial.
2. Fill the vial with distilled water up to the brim.
3. The defference between the weight of the vial filled with the water and the weight of empty vial is equal the weight of water in the vial.
4. Knowing the density of water, the volume of the vial could be determined by the following equation

$$D = \frac{M}{V}$$

where D = the density of water.

M = the weight of vial filled with water - the weight of empty vial.

V = the volume of serum vial.

VITA

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