disposable needles which have an aluminium insert, if the filter is to be reused, since electrolyte solutions will cause corrosion and hence contaminate the filter.

The needle is slipped into the open end of the filter and cyanoacrylate cement used to secure it. Next a 4 cm length of 1.2 mm i.d. nylon or polyethylene catheter tubing is cut, one end tapered and the other roughened slightly, slipped over the filter element and secured with cyanoacrylate cement. Since the filter requires considerable driving pressure, this tube serves to prevent rupture of the element and to channel fluid flow. Once the filters have been wetted they must be stored wet to retain their properties.

The filters are intended for use with driving pressures of up to 2 atm maximum. Where a large number of filtrations need to be carried out simultaneously, a pressure manifold having adapters for the hypodermic needles can be constructed and the driving pressure obtained from a regulated compressed gas source. For one-off filtrations, the modified hypodermic syringe shown in figure b, is sufficient, the inner edges of the hole being smoothed to permit the plunger to be removed and reinserted without damage. A pair of haemostat forceps is used to clamp the plunger in place during filtration. This approach takes advantage of Boyle Mariotte's Law:  $P_1V_1 = P_2V_2$ ; each halving of the air volume doubles the pressure. Thus it is a simple matter to

insert  $100\,\mu l$  or so of solution through the side hole, shake it down to the filter tip, insert the plunger and compress the air space to 0.75 the original volume (giving a pressure of 1.5 atm), clamping it in place with the haemostats.

When filtration is complete, air will be forced through the membrane and this clears the filtrate out of the plastic tube. The filter can be reused in its entirety, or the membrane dissolved in scintillation cocktail or whatever, should this be required, and the needle and outer tube reused.

In order to reuse the entire filter, it must be back-flushed with solvent to clear the lumen, using a 2nd hypodermic syringe attached by an 18 G (1.28 mm) needle to the lower open end of the filter assembly. Sometimes it helps to agitate it, while back-flushing, in an ultrasonic cleaning bath, if the retained substances are difficult to remove.

- 1 H.J. Spencer, G. Tominez and B. Halpern, Brain Res. 212, 194 (1981).
- 2 Amicon Scientific Systems Division. 21 Hartwell Avenue, Lexington (Mass. 02173, USA).
- 3 These fibers are available as 'loose hollow fibers' with MW cutoffs of 5000, 10,000, 50,000, 100,000 dalton, 0.5 mm lumen diameter and 2000 dalton with lumen diameter of 1.1 mm.

## Austria

## 3rd international symposium/workshop on chlorinated Wa

Salzburg, 12-14 October 1982

dioxins and related compounds

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**CONGRESSUS** 

Topics: Incineration sources; Analysis and standards; Fate, distribution and levels; Laboratory safety and disposal practices; Toxicology and risk assessment; and Legal and regulatory aspects. Information by: Dr E. Merian, Im Kirsgarten 22, CH-4106 Therwil/Switzerland.

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