DEPARTMENT OF THE ENVIRONMENT

Water Pollution Research 1972

Report of the Director of Water Pollution Research

MONS 040120

London: Her Majesty's Stationery Office 1973

'hard', branched-chain, alkylphenol ethoxylates which are expected to be withdrawn from the market in the near future.

Concurrently with these tests, the biodegradability of a soft anionic surfactant, Dobane JNQ (a linear alkylbenzenesulphonate), has been assessed at different temperatures. No effect of temperature on the removal of this material has so far been observed.

Polychlorinated biphenyls (PCBs) in sewage sludges

At the request of the Association of River Authorities an investigation has been made of the levels of polychlorinated biphenyls (PCBs) likely to be found in sewage sludges. This involved examination of composite samples from 11 different locations twice monthly between November 1971 and January 1972. The PCBs were extracted into hexane by a method similar to that employed for pesticides, and the extract 'cleaned-up' on a Florisil column as described by Reynolds* before analysis by gas/liquid chromatography using a Ni-63 electron-capture detector. Mean values found are shown in Table 38.

TABLE 38. *Mean PCB levels found in sludges examined (μg/g dry weight) expressed as Arochlor 1260 except where indicated*

Hatfield	2·4*	Harpenden	0·15
Wanlip	0·41	Coven Heath	0·14
Luton	0·36	Wheathampstead	0·13
Stoke Bardolph	0·34	Worksop	0·06
Rye Meads	0·29	Stevenage	<0·004
Wigston	0·22		

* As Arochlor 1254.

The low level found in the purely domestic Stevenage sludge confirms that the materials are of industrial origin. Over the 10-week period of sampling the level at Hatfield dropped from 5·6 μg/g to 0·55 μg/g. This may reflect the voluntary restrictions in the manufacture and use of PCBs. Further measurements will be made later in the year. It is thought unlikely that these levels would be particularly hazardous. Higher values† (up to 14 μg/g) have been reported from certain works in Scotland.

* REYNOLDS, L. M. *Bull. env. Contam. Toxicol.*, 1969, 4, 128.
† HOLDEN, A. V. *Nature, Lond.*, 1970, 228, 1220.

MONS 040121