

cized by a management study committee appointed by the NIH to look into allegations of personnel problems in the division. The committee's report said that Dr Murray delays making decisions and that his managerial style is over-cautious—a trait which has caused the DBS "to sacrifice some dynamism and aggressiveness". Dr Murray is due to retire in about 18 months time, but it became clear from the hearings last week that he will be replaced as soon as a successor is found, assuming that the scale of the DBS's activities will be sufficient to maintain a separate division within NIH.

Before the DBS is transferred to the Food and Drug Administration, it will clearly be necessary to work out suitable arrangements for bringing the results of the research conducted at NIH to the notice and use of those who will be regulating biological products in the FDA. One of the arguments for maintaining both research and regulation in the same division in the past has been that research results should be more easily applied in, for example, developing and using more sensitive safety and efficacy tests. It would be a sad mistake if, in attempting to tighten up the DBS's regulatory activities, the proposed transfer makes the regulators less responsive to changes in the science of biological products. Institutional attitudes seem to have hampered such transfer in the past and there is a fear that institutional demarcations could do so in the future.

MANPOWER

Unemployed Chemists

by our Washington Correspondent

WHEN this year's crop of chemistry graduates leaves the universities it will be faced with a job market that is even tighter than it was a year ago. According to a survey carried out by the American Chemical Society, unemployment among chemists and chemical engineers is running at about 3.0 per cent, compared with 2.7 per cent last year. And, more ominously for new graduates, the jobless rate among chemists under the age of 25 has more

than tripled in the past year; it now stands at 23.7 per cent according to the survey.

Based on returns to a questionnaire mailed to members of the American Chemical Society in February, the survey indicates that there are some 5,600 chemists of all types out of work and another 7,800 employed part time or in occupations for which their professional training is not required. With some 13,000 more chemists entering the job market this summer, there could be as many as 23,000 chasing the available jobs but, according to the American Chemical Society, the job market will expand to accommodate only about 11,000.

The chief culprit in the declining job market for chemists seems to be the Federal government, and in particular the drop in federal expenditure on research and development which set in during the late 1960s. The survey shows, for example, that some 46.3 per cent of those who were unemployed had previously been funded by the government, while government funds supported only 24.9 per cent of all the respondents to the questionnaire. Moreover, while only 4.3 per cent of PhD chemists are employed in defense industries, 25.6 per cent of the pool of unemployed PhD chemists came from that source.

Other findings in the survey include:

- Women chemists are hit harder than men by the tight job market—although women make up only 6.6 per cent of the total sample, they account for 15.8 per cent of the unemployed.

- There is surprisingly little difference between the unemployment rate for first degree graduates and that for PhDs. A total of 3.3 per cent of those holding a BS degree reported that they were out of work, compared with 3.5 per cent of those holding a master degree and 2.5 per cent of PhDs. If these totals are broken down according to sex, however, it turns out that 7.2 per cent of women who hold a BS degree, 6.9 per cent of those who have a masters and 7.6 per cent of those with a PhD are out of work, compared with 2.7, 2.9 and 1.9

per cent respectively of the men.

- Although the unemployment rate for chemists under the age of 25 rose from 7.0 per cent in 1971 to 23.7 per cent this year, the unemployment rate for chemists aged 36 to 50 has actually improved fractionally. But the position for all other age groups is worse this year than it was last.

- More than half the sample of unemployed chemists had been out of work for more than three months.

The survey is available from the American Chemical Society, and it is published in part in the current issue of *Chemical and Engineering News*.

DETERGENTS

NTA Still in Doubt

by our Washington Correspondent

IN the late 1960s, when detergent manufacturers were prodded by the rising chorus of concern about the environment to seek alternatives to phosphates for their products, they placed their hopes in a chemical called nitrilotriacetic acid (NTA). At first, NTA seemed to fit the bill admirably. It is even better than phosphates in its ability to combine with metals to prevent them from interfering with the action of the detergent, it is biodegradable and, unlike phosphates, contributes little nutrient to the surface waters.

But the new washday miracle soon turned out to be less of a great white hope than it seemed at first, for in December 1970, detergent manufacturers agreed to take it out of their products because of its possible risk to public health. And last week the Department of Health, Education and Welfare released a report prepared by an independent scientific committee whose conclusions prompted Dr Merlin K. DuVal, Assistant Secretary for Health and Scientific Affairs, to announce that his department will continue to oppose use of the additive in detergents.

The first doubts about the safety of NTA rested chiefly on a study conducted by scientists from Procter and Gamble who found an increase in the incidence of tumours in rats fed moderate doses of the additive for two years, and there were also suggestions that NTA may be mutagenic. Moreover, Dr Samuel Epstein, then at Boston Children's Hospital, suggested that intermediate products formed when NTA undergoes bacterial breakdown in sewage plants may combine with nitrites from the environment to form carcinogenic nitroso derivatives. And there have also been some fears that the very property which makes NTA useful in detergents—its ability to form complexes with metals—may cause it to put into solution metals such as cadmium and mercury in the environment, thereby

Table 1. Employment Status of ACS Members

	1971		1972		Total Chemical Population
	Total Sample	% of Sample	Total Sample	% of Sample	
Full-Time Employed	24,105	88.2%	22,462	88.0%	164,600
Unemployed	731	2.7	777	3.0	5,600
Temporarily/Part-time Employed	612	2.2	386	1.5	2,800
Sub-professional Employment	667	2.4	687	2.7	5,000
Post-doctoral/Fellowship	442	1.6	513	2.0	3,700
Retired, seeking employment	—	—	96	0.4	700
Retired, not seeking employment	698*	2.6*	564	2.2	4,100
No Report	70	0.3	54	0.2	400
TOTAL	27,325	100.0	25,539	100.0	—

* Includes those retired but seeking employment.