effect is common, and when concentrations approach 200 mg. the symptoms may be so pronounced as to cause sick-leave in certain cases.

The Department for Occupational Hygiene, the only institution in this country, as far as we are aware, that carries out quantitative trichloroacetic acid analyses of urine as a matter of routine, received, during the years 1944 to 1947 a large number of samples of urine from various industries for assessment of the degree of exposure of the workers in question. Most of the samples were received from rubber factories, metal industries and dry-cleaning works, which may be interpreted to mean that it is in these industries that problems of occupational hygiene relating to trichloroethylene are most common. A compilation of analyses representing 253 workers in metal industries and 40 persons employed in different dry-cleaning works shows an average value of 53 mg. of trichloroacetic acid per liter of urine for the former and 126 mg. per liter for the latter. The distribution of the samples relative to the different levels of trichloroacetic acid found may be seen in table 6.

TABLE 6.—*Distribution of Urine Samples Relative to Demonstrated Levels of Trichloroacetic Acid*

Mg. Trichloroacetic Acid per Liter of Urine	Percentage of Samples	
	Metal Industry	Dry-Cleaning Works
0- 25	48	15
26- 50	21	20
51- 75	9	15
76-100	7	5
101-150	7	15
151-200	3	15
201-250	2	2.5
251-300	0.5	5
301-400	2	2.5
401-500	..	..
500	0.5	5

The figures in table 6, although not fully representative, give a certain idea of the degree of exposure occurring during the years mentioned in some of Sweden's industries in this field. In the light of the experience described in the foregoing paragraph, concerning the connection between the excretion of trichloroacetic acid and the effects of trichloroethylene, this must mean that at the factories in question there have been groups of workers who have to no inconsiderable extent had symptoms of such effects. That this has actually been the case emerges from the fact that in several industries in which an effective prophylactic program has been carried out and in which the excretion of trichloroacetic acid has been reduced both the workers themselves and their physicians have attested that the effects of trichloroethylene have been considerably reduced. Even if formerly the workers did not actually feel ill—in several places the existence of these effects has not been clearly realized—they have used such expressions, after the introduction of controls, as "now we can make use of our freetime."

The trichloroacetic acid excretion can also be used as a test of the effect of circulation of workers in factories which cannot at once arrange good working conditions. Chart 3 illustrates such a case.

What Urinary Values of Trichloroacetic Acid Are to Be Permitted at a Place of Work?—In principle, no effect of trichloroethylene worth mentioning should