

## Large Scale Biological Monitoring in Japan

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### Abstract

According to a regulation issued by the Ministry of Labour of Japan, periodical biomonitoring of workers exposed to lead and eight kinds of common organic solvents became mandatory as of October, 1989. The regulation states that each worker must be classified into one of three categories, distribution 1, 2, and 3, according to the level of the determinant in biological specimens. Distribution 3 consists of workers having exposure concentrations above the 1988-1989 biological exposure indices of the ACGIH with the exception of lead concentration in blood (40  $\mu\text{g}/100\text{mL}$ ). Seven major laboratories analyzed the results. The total number of cases examined from 1989-1994 was about 661,000 for lead in the blood and about 4,173,000 for the urinary metabolites of eight organic solvents. The percentage of exposed workers in distribution 3 was 1.4% for blood lead and 0.2-2.4% for the urinary metabolites of the eight organic solvents. Data from the seven laboratories and about fifteen others entrusted with measurements showed that the percentage of exposed workers in distribution 3 for blood lead, urinary delta-amino-levulinic acid, urinary mandelic acid, N-methylformamide and 2,5-hexanedione has decreased with time. The data from the Labour Standard Bureau of the Ministry of Labour also showed similar results. However, data from institutions entrusted with a health survey showed that only the percentage of 2,5-hexanedione had decreased. In ambient monitoring, the percentage of workplaces in control class 3 for lead and styrene also decreased with time.

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