Work Environment of Workers Exposed to Welding Operations

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Abstract

A Case Study on Work Environment of Workers Involved in Welding Operations aims to evaluate the health hazard of welding particularly exposures to welding dust and fumes by area and personal sampling, concentration of carbon monoxide and nitrogen dioxide and evaluation of ventilation system.

Twenty-one companies in Metro Manila participated in the study from June to August 1992. Results of area sampling of iron, manganese, cadmium, chromium and zinc fumes, welding dust, carbon monoxide and nitrogen dioxide in all workareas measured indicate that concentration were at tolerable levels.

Workers monitored for personal sampling (metal fumes and dust) were classified into highly, moderately and least exposed to metal dust and fumes. Result of measurement revealed that 10% of the welders monitored have dust concentration exceeding the threshold limit value while 21% of them exceeded the tolerable limits or iron oxide and cadmium fumes.

Ventilation evaluation in surveyed establishments showed that the quality of air was good in terms of maintaining low concentration levels of metal fumes and dust. Air velocities were above 0.75 m/sec.