

Safety



Bulletin

PLAINTIFF'S EXHIBIT

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AREA MONITORING

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The DPMC Industrial Hygiene Department conducts various types of sampling to measure the concentrations of gases, vapors and particulates in the workplace which may effect employee health.

As discussed in a previous Safety Bulletin, *PERSONAL MONITORING* is conducted to evaluate an individual's exposure. Another type of sampling, *AREA MONITORING*, is frequently employed to measure air contaminant levels in a given area or workplace, and to determine the potential for worker exposure.

Area monitoring is useful in determining respiratory protection requirements, identifying and restricting contaminated areas, and evaluating the effectiveness of decontamination procedures and engineering controls. One advantage of area monitoring is that some methods of measurement will give an instantaneous or direct reading at the time of sampling so that immediate action can be taken to control or correct the problem.

The instruments at DPMC which are available for instantaneous methods include:

- 1) Drager pump and detector tubes - A small hand pump which draws a fixed volume of air through a colormetric indicating tube. A color change indicates the presence and concentration of the chemical. Colormetric detector tubes are available for 105 different chemicals and may be purchased through Vallen by operating departments. The Health & Safety Dept. may help with the procurement.
- 2) Syringe and gas chromatography - A small volume of contaminated air is collected inside a 20 cc glass syringe. This air sample is injected into a gas chromatograph to analyze for the particular contaminant. Industrial Hygiene can presently analyze for the following benzene, xylene, toluene, cumene, MEK, ECH, MIBK, D-D, EDC, AC, VCM, MIBC and IPA.
- 3) Meters - Direct reading instruments also available through Industrial Hygiene for H₂S, noise, heat stress and hydrocarbon vapors.

In some cases, it is desirable to sample area concentrations over an extended period of time, 15 min. to 8 hrs. Sampling pumps may be used to collect the contaminant on filters or into sample bags. This method often requires outside analysis by Westhollow or Bellaire Research Centers, and therefore, results are not obtained as promptly. Respiratory protection must be used when concentrations are unknown until results of the sampling can verify an exposure exist

Area monitoring should be considered as the quality control of an individual's working environment. The monitoring helps insure that operating equipment and work procedures are effectively controlling exposures at acceptable levels.

Your continued cooperation and interest in both personal and area monitoring is necessary to assure a safe and healthy work environment.

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