

Industrial hygiene



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Industrial Hygiene Industrial Hygiene Most industries deal in operations that at times expose employees to hazardous chemicals. Most of these chemicals are dangerous and exposes the employees to the risk of contacting diseases and sometime death (Nims, 1999). Therefore, industrial employers are required to ensure that employees are adequately protected from hazardous chemicals by maintaining high standards of industrial hygiene. To ensure that the standards of hygiene is adhered OSHA established an Occupational Exposure Limit (OEL) that an employee can be exposed to at any given time (Plog and Quinlan, 2002). An exposure to the level above the limit is a violation of the law and can lead to the company's closure or fine. However, it has been noted that an employee may be exposed to a hazardous materials at a level of about 2/3 of the allowable limit, but still show symptoms consistent with the exposure to the material. This paper explores this issue in terms of exposure limits, absorbed dose, sampling, analysis, and other individual factors.

As earlier stated, the OSHA did establish an Occupational Exposure Limit (OEL) to ensure that workers are not exposed to too much chemicals that may be dangerous for their health. OEL refers to an allowable intensity of hazardous chemicals at the workplace over a given period of time. The limit of exposure is expressed on a time-weighted average (TWA) of 8 hours. It can also be expressed on a short-term average limit (STEL) of 15 or 30 minutes of exposure, which is the concentration level to which an employee can be exposed to the chemicals without showing any signs of the hazardous chemicals (Nims, 1999).

Therefore, an employee exposed to hazardous chemicals of about 2/3 of the allowable limit implies an exposure to the chemicals for a period within the

limit permitted by the OSHA. Despite the exposure being within the allowable limit, an employee can still show signs consistent with the exposure to the hazardous materials when the dosage absorbed within the limit is high. This is because there are certain chemicals that are very poisonous and any slight contact with such materials will manifest itself on the employee either through irritation, swellings, breathing problems just to name but a few. In addition, an employee may still show the symptoms of exposure to the materials despite not exceeding the allowable limits when the exposure to the dosage of the chemical has been gradual thereby resulting into high accumulation of the hazardous chemicals in the body. When such occurs, definitely the worker will show the signs of exposure to the materials despite not being exposed above the limit set by OSHA (Nims, 1999).

Since an exposure to the chemicals exposes employees to health risks, the determination of the negative exposures is always needed. This can be done through sampling and analysis to determine the extent of exposure and ensure that an employee is not exposed to the materials above the allowable limit. Sampling is usually important particularly in characterizing exposures that are at or exceeds the allowable limit (Plog and Quinlan, 2002).

However, it is imperative for employees at the workplace to take precautionary measures so as to avoid circumstances that expose them hazardous materials in the industries. This can be achieved by ensuring that protective equipment are worn all the time while working in the industry as this reduces chances of getting into contact with the materials. In addition, employees should also ensure that workers are availed with the protective materials at workplace.

References

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Plog, B. A., & Quinlan, P. J. (2002). Fundamentals of Industrial Hygiene. New York, NY: National Safety Council Press.