



MONTHLY SAFETY BRIEF: FORMALDEHYDE

Continuing our journey of specific contaminants to be aware of and understand the basics about, this safety brief is about formaldehyde. On the industrial hygiene side of the business we conduct formaldehyde sampling quite frequently for our healthcare, education and industrial sector clients. Formaldehyde is commonly used as a preservative in medical and educational laboratories. Formaldehyde is also found in many industrial manufactured products such as particle board, plywood and as a component in many chemicals. It is also used widely as an industrial fungicide, germicide, and disinfectant.

This safety brief covers some basics on the chemical formaldehyde, how formaldehyde effects the body, factors of exposure, occupational exposure limits, and how to protect yourself from exposure.

General Information

Formaldehyde is a colorless, strong-smelling gas. It is often found in aqueous solutions (such as Formalin). Its chemical breakdown is CH_2O . Formaldehyde is produced by a vapor-phase oxidation of methanol. OSHA has a specific standard covering formaldehyde exposure in general industry – 29 CFR 1910.1048.

Factors of Formaldehyde Exposure

Like many chemicals, the following factors determine the potential effects of Formaldehyde exposure:

- Age and your health
- Duration of exposure
- Concentration of formaldehyde exposed to

Formaldehyde Effects

Formaldehyde is a sensitizing agent that can cause an immune system response to initial exposure. It is also a cancer hazard. Acute exposure is irritating to the eyes, nose, and throat and can make you cough and wheeze. Subsequent exposures can cause severe allergic reactions of the skin, eyes and respiratory tract. Ingestion of formaldehyde can be fatal and chronic exposure to low levels can cause asthma-like respiratory problems and skin irritations. Concentrations of 20 ppm are immediately dangerous to life and health (IDLH).

Occupational Exposure Limits (OELs)

- OSHA has a permissible exposure limit (PEL) of 0.75 ppm and an action limit of 0.5ppm
- OSHA has a short-term exposure limit (STEL) of 2 ppm
- NIOSH has a TWA of 0.016 ppm and a 15-minute ceiling of 0.1ppm

What You Can Do

- Work with your Project Manager to understand any work environments where formaldehyde may be used.
- Take proper precautions depending on your interaction with the processes involving formaldehyde at our client locations such as: using proper personal protective equipment (i.e.: impervious clothing, gloves, aprons, and chemical splash goggles and even respiratory protection if warranted).
- Be able to locate the showers and eyewash stations in a work environment where formaldehyde is used.
- Be aware that there are direct reading equipment capabilities available for formaldehyde that may assist in evaluating an environment.
- As always, contact your Project Manager if you have any exposure concerns to any chemical.



FORMALDEHYDE QUIZ

- 1) Which of the following commonly has formaldehyde in it?
 - a. Seat cushions
 - b. Laboratory Tissue Preserver
 - c. Car exhaust
 - d. Ceiling tile

- 2) What is the chemical formula for formaldehyde?
 - a. CH_2O
 - b. CHO
 - c. C_2OH
 - d. IDLH

- 3) If a worker is only exposed to formaldehyde for less than 5 minutes at a concentration of 3 ppm, there are no OSHA compliance concerns.
 True
 False

- 4) You are likely to see asthma-like respiratory problems from a small, one-time exposure to formaldehyde.
 True
 False

- 5) Laboratory sampling is necessary to evaluate the concentration of formaldehyde in the air.
 True
 False

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SCORE: PASS / FAIL

Employee Signature



Supervisor Signature

Date