

FORMALDEHYDE AWARENESS TRAINING

Substance: Formaldehyde

CAS Registry Number: 50-00-0

Synonyms: Formaldehyde 37%; Formalin; Morbucid Acid; Methylene Oxide, Methyl aldehyde

What is the hazard of Formaldehyde? Formaldehyde is a suspect cancer-causing chemical. Formaldehyde can also cause irritation to the skin, eyes, and respiratory tract. It is a strong sensitizer; meaning that it can cause allergic reactions of the skin or respiratory tract. It may be fatal or cause blindness if swallowed. The liquid and vapor of formaldehyde are flammable. The adverse effects of exposure to formaldehyde are related to the level and duration of exposure.

Where can Formaldehyde be found in our workplace? Formaldehyde is commonly used in our research and anatomy laboratories as a tissue preservative. The stock solutions can be found usually in glass or plastic bottles on shelves or in cabinets in our laboratories. Working solutions may be found in tubes or bottles on lab benches, in fume hoods or in refrigerators. Formaldehyde is also a component of embalming solutions used to preserve cadavers.

How may I become exposed to Formaldehyde? Exposure to Formaldehyde may occur by inhaling the vapors, ingesting the liquid or coming in contact (skin or eye contact) with the liquid vapor.

How may I protect myself from exposure to Formaldehyde? You can protect yourself from exposure by following the specific laboratory procedures established by your Principal Investigator for using Formaldehyde. Read the Material Safety Data Sheet for Formaldehyde before you begin your work. The best way to protect your self is to use a less hazardous chemical. If this is not possible, use the lowest concentration of Formaldehyde possible. Formalin is a 10% Formaldehyde solution and can be used as a preservative. The next best way of protecting yourself is to learn how to work safely with Formaldehyde. In general, engineering controls such as a properly operating fume hood are better at protecting a worker than personal protective equipment such as a respirator, gloves, etc. Work with Formaldehyde must always be done in a properly working fume hood so that the vapors are directed away from your breathing zone. You should also wear safety goggles, nitrile gloves and a buttoned lab coat. Opened toed shoes, sandals, or short pants must not be worn when working with Formaldehyde. Eating, drinking, or applying cosmetics is not permitted in our laboratories. After the completion of your work with Formaldehyde, remove your personal protective equipment and wash your hands thoroughly. All bottles and containers with Formaldehyde must be clearly labeled. This is also the case for waste containers with Formaldehyde. Formaldehyde waste disposal is through the Department of Environmental Health and Safety by completing a Hazardous Waste Pick Up Form and faxing it or mailing it to Forchheimer 800 or by completing a form on the EH&S web site: www.aecom.yu.edu/ehs.

What do I do if there is an emergency involving Formaldehyde? Remain calm.

Notify someone in the area that there is a problem. If it is a Formaldehyde spill, extinguish all

open flames and have everyone evacuate the area and call EH&S at X4150 or Security at X4111. Remain in the area to advise responders. If you become contaminated, remove affected clothing and wash area continuously with mild soap and water for at least 15 minutes. If the eyes or a large part of the body are affected, use the eyewash station and drench shower respectively. You should know where these two items are in your area before an emergency occurs. Go to Occupational Health for evaluation and report the incident to your supervisor and EH&S.

What are some operating procedures for Formaldehyde use?

1. Follow your PI's specific guidelines for using and disposing of Formaldehyde. This should be written in your lab book.
2. Take EH&S' Formaldehyde Awareness Training Program on our web site: www.aecom.yu.edu/ehs or request a copy from our office at X4150.
3. Read the Material Safety Data Sheet for Formaldehyde before starting work.
4. Use the most dilute Formaldehyde solution possible for your work. Formalin is a 10% solution that may work fine.
5. Before using Formaldehyde, put on personal protective equipment such as goggles, nitrile gloves, and a buttoned lab coat. Opened toed shoes, sandals and short pants are not permitted.
6. Use Formaldehyde in a properly operating fume hood. Dilute Formaldehyde from stock solution to diluent using an automatic pipette.
7. Use an absorbent pad under the mixing area.
8. Label all containers with Formaldehyde including waste containers.
9. All containers used must all be seal-tight containers to prevent vapor release.
10. Know what to do before an emergency occurs.
11. Call Environmental Health and Safety for a waste pick up.

What are the regulatory limits of exposure to Formaldehyde? The Occupational Safety and Health Administration (OSHA) has a permissible exposure level (PEL) for Formaldehyde at 0.75 ppm measured as an eight-hour time weighted average. There is also an OSHA short-term exposure limit (STEL 15 minutes) of 2 ppm. All exposures above the PEL or STEL are strictly not permitted. The action level for Formaldehyde is 0.5 ppm. If exposure is at or above the action level, steps must be taken to monitor both the worker and the area. This monitoring includes medical baseline testing and subsequent medical follow up. The specific requirements for medical monitoring can be found in the OSHA standard 29CFR 1910.1048.

REMEMBER – WORKING SAFELY IS UP TO YOU!

If you have any questions, please contact us at X4150.