

**UNIVERSITY OF ROCHESTER
ENVIRONMENTAL HEALTH & SAFETY**

Policy No.: OS008	Approved by: Michael Liberty
Title: Formaldehyde Exposure Compliance	Date: 7/14/2022
Revision No.: 1	Page 1 of 5
Prepared by: Katherine Root	
EH&S Department Use Only: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	UR Website: <input checked="" type="checkbox"/> Public <input type="checkbox"/> Restricted

I. PURPOSE

This procedure establishes how the University of Rochester (UR) complies with the requirements of the Occupational Safety and Health Administration (OSHA) Formaldehyde Standard (29CFR 1910.1048).

II. PERSONNEL AFFECTED

All employees who work with or have the potential for exposure to formaldehyde (CAS: 50-00-0) as part of their work duties. This includes formaldehyde gas and solutions.

III. DEFINITIONS

Action Level - An airborne concentration of 0.5 parts per million (ppm) formaldehyde calculated as an 8-hour (hr) Time-Weighted Average (TWA). Exposure above the Action Level triggers additional compliance requirements.

Permissible Exposure Limit (PEL) - An airborne concentration of 0.75 ppm formaldehyde calculated as an 8-hr TWA. No employee shall be exposed to formaldehyde exceeding this level.

Short Term Exposure Limit (STEL) – An airborne concentration of 2.0 ppm formaldehyde calculated as a 15 minute TWA. No employee shall be exposed to formaldehyde exceeding the STEL.

IV. RESPONSIBILITIES

Supervisor or Principal Investigator (PI):

- Identify those employees who handle formaldehyde as part of their work duties.
- Assign required compliance training.
 - Laboratory staff: *Annual Lab Safety Training*
 - Clinical Staff: *Mandatory In-Service Education Program*
- Ensure that employees are made aware of the hazards associated with formaldehyde prior to beginning work. This includes a review of specific formaldehyde handling tasks, appropriate safe work practices and procedures, required personal protective equipment and / or additional exposure controls.
- Ensure that a Safety Data Sheet (SDS) is available for formaldehyde solutions, paraformaldehyde or formaldehyde releasing mixtures.

**UNIVERSITY OF ROCHESTER
ENVIRONMENTAL HEALTH & SAFETY**

Policy No.: OS008	Approved by: Michael Liberty
Title: Formaldehyde Exposure Compliance	Date: 7/14/2022
Revision No.: 1	Page 2 of 5
Prepared by: Katherine Root	
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- Ensure that formaldehyde handling tasks under their jurisdiction have been assessed by Environmental Health & Safety for potential exposure.

Employees:

- Complete assigned training and comply with the safe work practices and procedures.

Environmental Health & Safety (EH&S):

- Maintain and administer this program.
- At the request of the supervisor or PI, perform exposure assessments for formaldehyde use operations. Based on qualitative assessment a determination will be made if quantitative exposure monitoring is required.
- Based on exposure assessment, recommend exposure controls including local exhaust ventilation, respiratory protection, and/ or additional personal protective equipment.

V. PROCEDURES

High concentrations (37%) of formaldehyde can cause severe skin burns and eye damage. Lower concentrations (10%) are highly irritating to the eye, nose and throat, and can cause respiratory irritation. Chronic over-exposure to formaldehyde containing materials can result in allergic sensitization, nasal or nasopharyngeal cancer.

Training

Training is required for all employees assigned to workplaces where there is exposure to formaldehyde. For UR employees who work in laboratory settings generic formaldehyde awareness training is included the annual EH&S Laboratory Safety Training required for all laboratory staff. For clinical staff formaldehyde awareness is included in the Mandatory In-Service Education Program required of all UR Medical staff annually.

Exposure Monitoring

An initial exposure assessment is required by OSHA for each operation where there is potential exposure to formaldehyde. Many formaldehyde handling tasks at

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ENVIRONMENTAL HEALTH & SAFETY

Policy No.: OS008	Approved by: Michael Liberty
Title: Formaldehyde Exposure Compliance	Date: 7/14/2022
Revision No.: 1	Page 3 of 5
Prepared by: Katherine Root	
EH&S Department Use Only: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	UR Website: <input checked="" type="checkbox"/> Public <input type="checkbox"/> Restricted

UR are similar in nature, such as placing tissue specimens in small, covered containers containing formaldehyde. If quantitative exposure monitoring has been conducted previously for a similar operation, and objective data confirms that exposure is below the Action Limit, then reference to previous exposure monitoring is sufficient. **This determination is made by EH&S.**

For those tasks that have not had initial exposure monitoring, EH&S will conduct exposure monitoring that is representative of all employees performing similar tasks within that exposure group. It is the responsibility of the supervisor or PI to inform EH&S of formaldehyde handling operations.

Periodic exposure monitoring is required for any employee (or exposure group) where initial exposure monitoring indicated exposure at or above the Action Level or STEL. In addition, airborne concentrations at this level requires the establishment of a "Regulated Area", associated hazard signage, restricted access, respiratory protection and the implementation of feasible engineering and work practice exposure controls.

Labels

All containers of formaldehyde (solutions, or potentially formaldehyde releasing mixtures) must be labeled with hazard warning information. Labels must comply with the Globally Harmonized System of Chemical Classification and Labeling (GHS).

Medical Evaluation

Medical evaluation shall be made available for any employee exposed to formaldehyde at or above the Action Level or STEL.

Staff Work Practices and Exposure Controls

- a. Review the SDS and obtain laboratory / area specific training / orientation for formaldehyde handling operations before beginning work. SDSs must be readily available. ([MSDSOnline](#))
- b. All containers must utilize tight fitting lids.
- c. Keep containers closed as much as possible.
- d. Use the smallest quantities for the experiment / task being performed.
- e. Formaldehyde handling tasks must be performed in well ventilated spaces (minimum of 8 air changes per hour).
- f. Ensure there is an accessible eye wash station in the area.

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ENVIRONMENTAL HEALTH & SAFETY**

Policy No.: OS008	Approved by: Michael Liberty
Title: Formaldehyde Exposure Compliance	Date: 7/14/2022
Revision No.: 1	Page 4 of 5
Prepared by: Katherine Root	
EH&S Department Use Only: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	UR Website: <input checked="" type="checkbox"/> Public <input type="checkbox"/> Restricted

- g. Perform formaldehyde handling tasks in a laboratory fume hood or utilizing local exhaust ventilation if available.
- h. Wear personal protective equipment (PPE) as specified in local procedures. All contact of the skin and eyes with liquids containing 1% or more formaldehyde shall be prevented by the use of chemical protective clothing, eye and / or face protection. Nitrile or neoprene gloves should be worn when handling formaldehyde. **Latex gloves are not recommended.**
- i. Utilize a tray to capture any potential spills.
- j. Do not eat, drink, smoke, handle contact lenses or apply cosmetics where formaldehyde is handled.
- k. Minimize quantities ordered and stored.
- l. In case of accidental skin or eye exposure wash the exposed area in an eye wash, sink or safety shower for at least 15 minutes. If inhalation exposure occurs move to fresh air immediately. Notify supervisor and seek medical evaluation. Report the exposure utilizing the [Employee Incident Reporting System](#).

Spills

Spills of formaldehyde can be classified as either a minor (<100mL) cleanup procedure or a major spill. Based on prior evaluation, it is not anticipated that minor spill cleanup will expose laboratory / clinical employees to significant additional exposure. Minor spills should be cleaned up immediately by staff wearing the appropriate personal protective equipment. Major spill cleanup should not be attempted by laboratory / clinical personnel. Contact Public Safety, 585-275-3333 or extension 13) to arrange for the University's Spill Response Team.

VI. REFERENCES

- *OSHA Formaldehyde Standard, 29CFR 1919.1048*
<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1048>
- *UR Employee Incident Reporting System*
<http://www.safety.rochester.edu/SMH115.html>
- *Formaldehyde Spill Protocol for Patient Care Locations*
<https://www.safety.rochester.edu/ih/formaldehyde/FormaldPatientCare.html>

**UNIVERSITY OF ROCHESTER
ENVIRONMENTAL HEALTH & SAFETY**

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Revision No.: 1	Page 5 of 5
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- *Formaldehyde Spill Protocol for Laboratory Personnel*
<https://www.safety.rochester.edu/labsafety/formaldehyde/FormaldProtocol.html>

VII. APPENDICES/FORMS

VIII. REVISION HISTORY

Date	Revision No.	Description
7/14/2022		New