



INDIANA UNIVERSITY

OFFICE OF THE EXECUTIVE VICE PRESIDENT
FOR UNIVERSITY ACADEMIC AFFAIRS

University Environmental Health and Safety

Formaldehyde Hazard Communication Program

March 15, 2017

1. INTRODUCTION

1.1. Purpose

Indiana University Environmental Health and Safety (IUEHS) has developed this Program to ensure a safe work environment and to protect the health and safety of IU faculty and staff who utilize or are potentially exposed to formaldehyde. On May 27, 1992, the Occupational Safety and Health Administration (OSHA) promulgated a final rule [29 CFR 1910.1048](#). This standard applies to all occupational exposures to formaldehyde - formaldehyde gas, its solutions, and materials that release formaldehyde.

1.2. Scope

This Program applies to all Indiana University faculty and staff who have exposure to formaldehyde.

2. AUTHORITY AND RESPONSIBILITY

2.1. University Environmental Health and Safety is responsible for:

- 2.1.1. Developing, implementing, and administering this Program;
- 2.1.2. Collaborating with departments to identify work areas within Indiana University facilities that contain formaldehyde;
- 2.1.3. Collaborating with departments to determine employees who are covered by the OSHA regulation;
- 2.1.4. Performing all exposure assessments;
- 2.1.5. Providing training to employees who are covered by the OSHA regulation;
- 2.1.6. Determining appropriate personal protective equipment (PPE), work practices, and engineering controls;
- 2.1.7. Maintaining exposure and training records;
- 2.1.8. Reviewing and updating the Program whenever new information is available; and
- 2.1.9. Ensuring compliance with all federal, state, and local regulations related to formaldehyde exposure.

2.2. Departments and/or Supervisors are responsible for:

- 2.2.1. Identifying those that are working with or are exposed to formaldehyde;
- 2.2.2. Providing the appropriate PPE, work practices, and engineering controls;
- 2.2.3. Ensuring that all faculty and staff who are assigned to workplaces where there is exposure to formaldehyde have received the proper training;
- 2.2.4. Providing medical screening at no cost to the employee; and
- 2.2.5. Reporting any spills or releases to IUEHS.

2.3. Employees are responsible for:

- 2.3.1. Participating in a training session concerning formaldehyde hazards and use;
- 2.3.2. Complying with all elements of this Program including their departmental procedures for safely handling formaldehyde;
- 2.3.3. Reporting signs and symptoms of exposure to their supervisor; and
- 2.3.4. Reporting an exposure incident or formaldehyde solution spill to their supervisor.

- 2.4. Medical Service Provider** as identified by each respective campus, shall be responsible for:
- 2.4.1. Providing medical consultations and examinations of employees who are overexposed to formaldehyde or those who have signs and symptoms believed to be from an exposure to formaldehyde;
 - 2.4.2. Providing a written opinion for each examination and include limitations on exposure if necessary;
 - 2.4.3. Providing IUEHS with recommendations for remediation or health concerns as necessary; and
 - 2.4.4. Making recommendations for medical removal from workplace exposure when appropriate.

3. PROGRAM ELEMENTS

3.1. Health Effects of Formaldehyde

The following are the health hazards as reported in [Appendix A](#) of the OSHA regulation. Specific information about commercial mixtures or formulations may be obtained from manufacturers' safety data sheets (SDS's).

3.1.1. Acute Effects of Exposure

- 3.1.1.1. **Ingestion (Swallowing):** Liquids containing 10 to 40% formaldehyde cause severe irritation and inflammation of the mouth, throat, and stomach. Severe stomach pains will follow ingestion with possible loss of consciousness and death. Ingestion of dilute formaldehyde solutions (0.03-0.04%) may cause discomfort in the stomach and pharynx.
- 3.1.1.2. **Inhalation (Breathing):** Formaldehyde is highly irritating to the upper respiratory tract and eyes. Concentrations of 0.5 to 2.0 ppm may irritate the eyes, nose and throat of some individuals. Concentrations of 3 to 5 ppm also cause tearing of the eyes and are intolerable to some persons. Concentrations of 10 to 20 ppm cause difficulty in breathing, burning of the nose and throat, cough, and heavy tearing of the eyes. Concentrations of 25 to 30 ppm cause severe respiratory tract injury leading to pulmonary edema and pneumonitis. A concentration of 100 ppm is immediately dangerous to life and health. Deaths from accidental exposure to high concentrations of formaldehyde have been reported.
- 3.1.1.3. **Skin (Dermal):** Formalin (4 - 12% aqueous formaldehyde) is a severe skin irritant and a sensitizer. Contact with formalin causes white discoloration, smarting, drying, cracking, and scaling. Prolonged and repeated contact can cause numbness and a hardening or tanning of skin. Previously exposed persons may react to future exposure with an allergic eczematous dermatitis or hives.
- 3.1.1.4. **Eye Contact:** Formaldehyde solutions splashed in the eye can cause injuries ranging from transient discomfort to severe, permanent corneal clouding and loss of vision. The severity of the effect depends on the concentration of formaldehyde in the solution and whether or not the eyes are flushed with water immediately after the accident.

Note - The perception of formaldehyde by odor and eye irritation becomes less sensitive with time as one adapts to formaldehyde. This can lead to overexposure if a worker is relying on formaldehyde's warning properties to alert him or her to the potential for exposure.

3.1.2. Chronic Effects of Exposure

- 3.1.2.1. Carcinogenicity: Formaldehyde has the potential to cause cancer in humans. Repeated and prolonged exposure increases the risk. Various animal experiments have conclusively shown formaldehyde to be a carcinogen in rats. In humans, formaldehyde exposure has been associated with cancers of the lung, nasopharynx and oropharynx, and nasal passages.
- 3.1.2.2. Mutagenicity: Formaldehyde is genotoxic in several in vitro test systems showing properties of both an initiator and a promoter.
- 3.1.2.3. Toxicity: Prolonged or repeated exposure to formaldehyde may result in respiratory impairment. Rats exposed to formaldehyde at 2 ppm developed benign nasal tumors and changes of the cell structure in the nose as well as inflamed mucous membranes of the nose. Structural changes in the epithelial cells in the human nose have also been observed. Some persons have developed asthma or bronchitis following exposure to formaldehyde, most often as the result of an accidental spill involving a single exposure to a high concentration of formaldehyde.

3.2. Exposure Limits and Regulatory Requirements

OSHA has set employee exposure limits for formaldehyde. The action level (AL) is 0.5 parts per million (ppm) calculated as an eight hour time weighted average (TWA); the permissible exposure limit (PEL) as an eight hour TWA is 0.75 ppm; and the 15-minute short term exposure limit (STEL) is 2 ppm. The following table identifies regulatory requirements based on exposure limits:

TABLE 1

| Formaldehyde Airborne Level | Type of Limit | Exposure Duration | Requirements |
|-----------------------------|----------------------------------|---------------------------------|---|
| At or above 0.1 ppm | Exposure Threshold (REL-C) | Any period of time | Annual Formaldehyde Training |
| At or above 0.5 ppm | “Action” Level (AL) | 8-hour time weighted average | Same as above plus: <ul style="list-style-type: none"> • Employee medical surveillance • Periodic exposure monitoring |
| At or above 0.75 ppm | Permissible Exposure Limit (PEL) | 8-hour time weighted average | Same as above plus: <ul style="list-style-type: none"> • Establish and post regulated areas • Use respiratory protection • Implement work practice and engineering controls to lower exposure below the PEL and STEL as feasible |
| At or above 2.0 ppm | Short-Term Exposure Limit (STEL) | 15 minute time weighted average | |

3.3. Exposure Monitoring

Areas that have formaldehyde must monitor employees to determine exposures to formaldehyde. Monitoring is not required if it can be documented that the presence of formaldehyde cannot result in airborne concentrations that would cause an employee exposure at or above the AL of 0.5 ppm or the 15-minute STEL of 2 ppm.

3.3.1. Initial monitoring

Initial monitoring shall be conducted to determine who may be exposed to airborne concentrations at or above the AL or STEL. Employee exposure to less than 0.1 ppm indicates a minimal exposure requiring no further action or training.

3.3.2. Periodic Monitoring

Periodic monitoring shall be conducted for those employees with initial monitoring results at or above the AL or STEL. Those exposed to 0.1-0.5 ppm are required to attend an information and training program but no additional air sampling is required. For employees exposed at greater than 0.5 ppm (or 2.0 ppm for a 15-minute STEL), there are several actions required.

This group must attend an information and training session and repeat air sampling will be conducted every six months. In addition, standard industrial hygiene methods will be employed to reduce occupational exposure.

Air sampling will be repeated when there is a change in procedure, equipment, personnel, or control measures. Air sampling will also be repeated when an employee reports respiratory or dermal conditions believed to be caused by formaldehyde.

3.3.3. Termination of Monitoring

Periodic monitoring shall be discontinued if the results from two consecutive sampling periods (at least seven days apart) show that the employee exposure is below the AL and the STEL.

3.3.4. Employee Notification

Employees shall be notified within 15 days of when the test results are received of their personal exposure results. If personal exposure is greater than the PEL-TWA of 0.75 ppm or 2.0 ppm for a STEL, a written plan developed by IUEHS and the Medical Service Provider to reduce exposure must be provided to the affected employee.

3.4. Engineering and Work Practice Controls

Engineering controls and work practices shall be analyzed by each department for each task or area. This information shall be provided to the users of formaldehyde and appropriate procedures shall be implemented to reduce exposure.

3.4.1. Engineering Controls

Engineering controls relate primarily to proper ventilation to control or dilute employee exposure to formaldehyde at or below the Action Level, TWA and STEL. Depending on the task, proper ventilation may be a chemical fume hood, slot area ventilators, or general room ventilation. Local exhaust methods such as fume hoods or slot ventilators shall be used if the formaldehyde source is small enough that the vapors can be contained by such a device.

3.4.2. Work Practice Controls

Work practice controls are those measures which reduce exposure by altering the manner in which tasks are performed. This may include limiting splashing of formalin solutions, washing formaldehyde-soaked materials in water, and maintaining the covers on containers that emit formaldehyde as much as possible. Surfaces contaminated with formalin solutions shall be cleaned as soon as possible in order to limit skin and inhalation exposures. Food and drink consumption and storage is prohibited in areas where formaldehyde is used and stored to eliminate the potential for ingestion.

3.5. Regulated Areas

Regulated areas shall be established where the concentration of airborne formaldehyde exceeds the TWA or STEL. Signs shall be posted at all entrances and access ways with signs bearing the following information:

**DANGER
FORMALDEHYDE
May Cause Cancer
Causes skin, eye, and respiratory irritation
AUTHORIZED PERSONNEL ONLY**

All affected employees must be notified of access restrictions for these regulated areas. Access to regulated areas shall be limited to authorized persons who have been trained to recognize the hazards of formaldehyde.

3.6. Labeling

Specific label information is required for the following materials: formaldehyde gas, mixtures or solutions containing greater than 0.1% formaldehyde, and any other material capable of releasing formaldehyde into the air at concentrations of 0.1 ppm or greater.

Containers coming from a manufacturer will include a label that has the manufacturer's name and address, the concentration of formaldehyde in the product, and appropriate health hazard information. For containers lacking manufacturer's labeling or for formaldehyde solutions mixed in the lab and stored in transfer containers, the label must include, at a minimum:

**DANGER
FORMALDEHYDE
May Cause Cancer
Causes Skin, Eye, and Respiratory Irritation**

3.7. Safety Data Sheets (SDS)

Departments using formaldehyde shall keep a SDS readily available to all employees on all shifts.

Safety data sheets (SDS) are the primary data source intended to outline the special precautions and controls necessary for handling specific hazardous chemicals. The purpose of the safety data sheet is to provide health and safety data about specific hazardous substances. A safety data sheet must be kept for each hazardous chemical or product used in the workplace.

Safety data sheets are readily available upon request 24 hours a day and shall be accessible by one of the following methods:

- Accessing MSDS Online from your EHS campus website;
- Accessing www.toxnet.nlm.nih.gov;
- Contacting the chemical manufacturer; or
- Contacting University Environmental Health and Safety.

3.8. Personal Protective Equipment (PPE)

Protective equipment shall be provided by the department according to the task or area where formaldehyde is used or stored. Parts of the body that may need to be protected include eyes, nose and mouth, hands, arms and the trunk of the body. Butyl and nitrile rubber are materials that are effective in limiting penetration of formalin solutions to the skin.

If an employee might be splashed in the eyes with formalin solutions, goggles are the appropriate eye protection. If significant splashing is likely, a face shield in combination with goggles is recommended. Gloves of appropriate material and thickness for the task shall be used to protect hands. For a task that may produce splashes to the trunk of the body, an impermeable suit or rubber apron shall be worn to prevent work or street clothing from becoming contaminated and formaldehyde contacting the skin.

If an employee must work in an area where the formaldehyde concentration cannot be controlled within the TWA or STEL, a respirator must be worn. Respirator use requires a medical examination, training, and fit testing prior to its first use. Please refer to the [Indiana University Respiratory Protection Program](#) for specific information. Other than for emergency situations, this shall not be necessary if appropriate work practices and engineering controls are implemented.

3.9. Emergency, Spill Clean-up, and Disposal Procedures

3.9.1. Exposure *Emergency*

For areas where formaldehyde solutions of 1% or greater are used or stored, an emergency shower must be conveniently located. Areas that use formaldehyde solutions of 0.1% or greater must have an emergency eyewash located within the immediate work area.

If a person's eyes, skin, or clothing are splashed with a formalin solution, the affected area shall be washed with water for at least 15 minutes. For overexposure to formaldehyde gas, the affected person shall be moved away from the source into fresh air. If there are symptoms of overexposure, the person shall report to the Medical Service Provider for their respective campus.

3.9.2. *Spill Cleanup*

Formaldehyde spills may create exposure for those cleaning up the spills. Therefore, a spill shall be reported to the Indiana University Police Department for the respective campus for the proper notification of those that will be handling the spill clean-up and disposal.

3.9.3. *Disposal*

Aqueous formaldehyde solutions up to 10% in concentration may be disposed by means of the sanitary sewer system. Solutions shall be carefully poured into the drain without significant splashing and followed by flushing with cold water for at least five minutes. For formaldehyde concentrations greater than 10% and any other questionable solutions, please contact IUEHS for your respective campus to make arrangements for proper disposal.

3.10. Medical Surveillance Program

The medical surveillance program is available to all employees exposed to concentrations at or above the AL or above the STEL, to employees who develop signs and symptoms of overexposure, and to employees exposed during emergencies. All medical procedures covered by this program will be performed by or under the supervision of a licensed physician without cost to the employee.

3.10.1. Medical Disease Questionnaire

A medical disease questionnaire must be administered to employees prior to assignment and annually for a job where exposure to formaldehyde is at or above the AL or STEL and for employees experiencing signs and symptoms of overexposure. The questionnaire asks for information including work history, smoking history, upper respiratory irritation or disease, and allergic skin conditions or dermatitis. Results of the questionnaire will guide the physician in determining whether a medical exam is necessary. See Appendix B of this Program.

3.10.2. Medical Examinations

A medical examination shall be provided to the appropriate people as a result of the questionnaire and to those required to wear a respirator to reduce exposure to formaldehyde. The medical exam will cover the following:

- 3.10.2.1. A physical exam with emphasis on irritation or sensitization of the skin or respiratory system, shortness of breath, or irritation of the eyes.
- 3.10.2.2. Pulmonary function testing for respirator wearers.
- 3.10.2.3. Any other testing which the examining physician deems necessary.
- 3.10.2.4. Counseling employees who have medical conditions that may be aggravated by or lead to impairment of their health by formaldehyde exposure.

A medical exam shall also be provided to employees exposed to formaldehyde during an emergency. This exam shall include a medical and work history with emphasis on any evidence of upper or lower respiratory, problems, allergic conditions, skin reactions or

hypersensitivity, and any evidence of eye, nose, or throat irritation. The examining physician may also conduct any testing deemed necessary to evaluate the employee's health effects relative to formaldehyde exposure.

3.10.3. Physician's Written Opinion

For each exam performed involving formaldehyde exposure, a written opinion will be completed by the examining physician. The opinion will contain only results that pertain to formaldehyde exposure. Results of the medical exam must be retained and a copy of the written opinion must be provided to the affected employee within 15 days of completion. The written opinion shall include:

- 3.10.3.1. A statement about whether the employee has any medical condition that would place the employee at an increased risk of material impairment of health from exposure to formaldehyde.
- 3.10.3.2. Any recommended limitations on employee's exposure or changes in use of personal protective equipment.
- 3.10.3.3. A statement that the employee has been notified of the first two requirements.

3.10.4. Medical Removal

Under certain conditions, it may be medically necessary to reassign an employee to a comparable position with significantly less exposure to formaldehyde. Medical removal provisions apply only to those employees who report significant irritation of the upper respiratory system or eyes, respiratory sensitization, and dermal irritation or sensitization attributed to workplace formaldehyde exposure. Medical removal does not apply to skin irritation or sensitization caused by products containing less than 0.05% formaldehyde. The following steps must be taken and conditions met to qualify for medical removal:

- 3.10.4.1. The employee reports signs or symptoms of exposure to the Medical Service Provider for the respective campus.
- 3.10.4.2. If a medical exam is deemed unnecessary by the physician, a two-week evaluation/remediation period begins to ascertain if symptoms subside.
- 3.10.4.3. If conditions get worse during the two-week period, the employee shall return to the Medical Service Provider for the respective campus prior to expiration of the two weeks.
- 3.10.4.4. If symptoms have not subsided after two weeks, the employee shall be examined by the Medical Service Provider for the respective campus.
- 3.10.4.5. If the exam indicates significant irritation or sensitization, the Medical Service Provider for the respective campus will make recommendations of restriction or removal.
- 3.10.4.6. For removal, IU shall transfer the employee from the current formaldehyde exposure and if possible, transfer the employee to work having no or significantly less exposure to formaldehyde.
- 3.10.4.7. The employee shall be transferred to comparable work for which the employee is qualified or can be trained in a short period (up to 6 months), where the formaldehyde exposures are as low as possible, but not higher than the action level.
- 3.10.4.8. If comparable work is unavailable, IU shall maintain earnings, seniority and benefits until such work becomes available, until the employee is determined to be unable to return to workplace exposure, until the employee is determined to be able to return to his original job status, or for six months, whichever comes first.
- 3.10.4.9. If the affected employee is removed, he will undergo a second medical exam within six months.
- 3.10.4.10. Compensation during removal may be reduced if the employee receives compensation from a public or employer program or from outside employment.

The affected employee may designate a second physician to review his case and repeat exams or tests as deemed necessary. If the employee-designated physician and the Medical Service Provider for the respective campus do not agree on their findings and recommendations, a third physician who is a specialist in the field will be selected by the two involved physicians. Involved parties will comply with the findings and recommendations of the third physician unless an agreement was mutually accepted that was consistent with recommendations of at least one of the three physicians.

4. TRAINING & RECORDKEEPING

4.1. Training and Information

Information and training will be provided to all employees exposed to formaldehyde at or above 0.1 ppm. This training must be provided at the time of initial assignment, when a new exposure or procedure is introduced, and at least annually. Information and training shall include the following:

- 4.4.1. Location and explanation of this Formaldehyde Hazard Communication Program and the safety data sheet(s) for formaldehyde-containing products;
- 4.4.2. A description of the health hazard of formaldehyde;
- 4.4.3. Procedures to follow if signs or symptoms of exposure appear;
- 4.4.4. Where formaldehyde is used and stored in the workplace;
- 4.4.5. Work practices and engineering controls to limit exposure;
- 4.4.6. Personal protective equipment (PPE) necessary for the job; and
- 4.4.7. Emergency procedures for exposures, spills, and cleanup.

4.2. Recordkeeping

Personal exposure monitoring records will be maintained by IUEHS for at least 30 years. All medical surveillance records will be maintained by the Medical Service Provider for each respective campus for the duration of employment and retained by the Medical Service Provider for a period of 30 years thereafter. Respirator fit test records will be maintained by IUEHS until replaced by a more recent record. Records of training will be kept by IUEHS.

All records must be made available to the Department of Labor - IOSHA upon request. Personal exposure records are available to the subject employee or his representative. Medical records shall be provided upon request to the subject employee or to anyone with the subject employee's written consent.

5. REFERENCES

- [Occupational Health and Safety Administration's \(OSHA's\) final rule – 29 CFR 1910.1048](#)
- [IU Respiratory Protection Program](#)
- [IU Hazard Communication Program](#)

6. REVISIONS

Revised: March 17, 2017

APPENDIX A – GLOSSARY

Action Level (AL) – a concentration of 0.5 part formaldehyde per million parts of air (0.5ppm) calculated as an eight (8) – hour time-weighted average (TWA) concentration. Exposures at or above the AL trigger the initiation of:

- Employee medical surveillance
- Exposure monitoring (every 6 months)

Authorized Person – any person required by work duties to be present in regulated areas, or authorized to do so by the employer or by the OSH Act of 1970.

Eczematous Dermatitis - is an inflammatory response of the skin to any of multiple exogenous and endogenous agents. Also known as eczema.

Emergency – any occurrence, such as but not limited to equipment failure, rupture of containers, or failure of control equipment that results in an uncontrolled release of a significant amount of formaldehyde.

Employee Exposure – the exposure to airborne formaldehyde which would occur without corrections for protection provided by any respirator that is in use.

Formaldehyde – the chemical substance, HCHO, Chemical Abstracts Service (CAS) Registry No. 50-00-0.

Formalin – an aqueous solution of formaldehyde that contains 4-12% formaldehyde.

Permissible Exposure Limit (PEL) – a concentration of 0.75 parts formaldehyde per million parts of air (0.75 ppm) calculated as an eight (8) - hour time-weight average (TWA). The PEL is a concentration that nearly all workers may be exposed to daily during a 40-hour workweek for a working lifetime without adverse effect. Exposures exceeding the PEL or STEL trigger the initiation of:

- Regulated areas that require controlled access and warning posters
- Training (annual)
- Use of respiratory protection
- Implementation of work practices and engineering controls to lower exposure below the PEL as feasible
- Employee medical surveillance
- Exposure monitoring (every 6 months)

Recommended Exposure Limit – Ceiling (REL-C) – A ceiling concentration of 0.1 parts formaldehyde per million parts of air (0.1 ppm) calculated over a 15 minute period. The REL-C shall not be exceeded at any time during the workday. Exposures exceeding the REL-C trigger the initiation of training (annual).

Responsible Party – the manufacturer of the chemical.

Short Term Exposure Limit (STEL) – a concentration of 2 parts formaldehyde per million parts of air (2 ppm) calculated over a 15-minute time period. The STEL shall not be exceeded at any time during the workday. Exposures exceeding the STEL or PEL trigger the initiation of:

- Regulated areas that require controlled access and warning posters
- Training (annual)
- Use of respiratory protection
- Implementation of work practices and engineering controls to lower exposure below the STEL as feasible
- Employee medical surveillance
- Exposure monitoring (annual)

APPENDIX B - FORMALDEHYDE MEDICAL DISEASE QUESTIONNARIE

This questionnaire will be used for all employees prior to assignment to a job where a formaldehyde exposure is at or above the action level or the STEL or when an employee experiences signs and symptoms indicative of possible overexposure to formaldehyde. All medical information is considered confidential.

| | | | | |
|--|------------|--------------------|-----------------|---------|
| Name: | | | ID/SSN: XXX-XX- | |
| DOB: / / | Sex: M / F | Age: | Height: | Weight: |
| Are you: IU Employee ___ MD ___ IUSOM Faculty ___ Resident/Fellow ___ Student ___ | | | | |
| Department: | | Manager: | Job Title: | |
| How best to reach you: | | Best time to call: | Phone/Pager: | |
| Medical History | | | | |
| <i>Please check the appropriate box below</i> | | | NO | YES |
| 1. Have you ever been in the hospital as a patient? If "Yes", what kind of problem were you having? _____ | | | | |
| 2. Have you ever had any kind of operation? If "Yes", what kind? _____ | | | | |
| 3. Do you take any kind of medicine regularly? If "Yes", what kind? _____ | | | | |
| 4. Are you allergic to any drugs, foods, or chemicals? If yes, what kind of allergy is it? _____ What causes the allergy? _____ | | | | |
| 5. Have you ever been told that you have asthma, hayfever, or sinusitis? | | | | |
| 6. Have you ever been told that you have emphysema, bronchitis, or any other respiratory problems? | | | | |
| 7. Have you ever been told that you have hepatitis? | | | | |
| 8. Have you ever been told that you have cirrhosis? | | | | |
| 9. Have you ever been told that you have cancer? | | | | |
| 10. Have you ever had arthritis or joint pain? | | | | |
| 11. Have you ever been told that you had high blood pressure? | | | | |
| 12. Have you ever had a heart attack or heart trouble? | | | | |
| Medical History Update | | | | |
| <i>Please check the appropriate box below</i> | | | NO | YES |
| 1. Have you been in the hospital as a patient any time within the past year? If so, for what condition? _____ | | | | |
| 2. Have you been under the care of a physician during the past year? If so, for what condition? _____ | | | | |
| 3. Is there any change in your breathing since last year? (check what applies) <input type="checkbox"/> Better <input type="checkbox"/> Worse <input type="checkbox"/> No change If change, do you know why? _____ | | | | |
| 4. Is your general health different this year from last year? | | | | |
| 5. Have you in the past year or are you now taking any medication on a regular basis? Name Rx _____ Condition being treated _____ | | | | |

| Occupational History | | | |
|--|--|-----------|------------|
| 1. How long have you worked for your present employer? Years - _____ Months - _____ | | | |
| 2. What jobs have you held with this employer? Include job title and length of time in each job. | | | |
| 3. In each of these jobs, how many hours a day were you exposed to chemicals? | | | |
| 4. What chemicals have you worked with most of the time? | | | |
| Please check the appropriate box below | | NO | YES |
| 5. Have you ever noticed any type of skin rash you feel was related to your work? | | | |
| 6. Have you ever noticed that any kind of chemical makes you cough? | | | |
| 7. Have you ever noticed that any kind of chemical makes you wheeze? | | | |
| 8. Have you ever noticed that any kind of chemical makes you become short of breath or cause your chest to become tight? | | | |
| 9. Are you exposed to any dust or chemicals at home? If yes, explain: _____ | | | |
| 10. In other jobs, have you ever had exposure to: | | | |
| a. Wood Dust | | | |
| b. Nickel or Chromium | | | |
| c. Silica (foundry, sand blasting) | | | |
| d. Arsenic or Asbestos | | | |
| e. Organic Solvents | | | |
| f. Urethane Foams | | | |
| Occupational History Update | | | |
| Please check the appropriate box below | | NO | YES |
| 1. Are you working on the same job this year as you were last year? If not, how has your job changed? _____ | | | |
| 2. Have you noticed any skin rash within the past year you feel was related to your work? If so, explain circumstances: _____ | | | |
| 3. Have you noticed that any chemical makes you cough, be short of breath, or wheeze? If so, can you identify it? _____ | | | |
| 4. What chemicals are you exposed to on your job? | | | |
| Miscellaneous | | | |

| Please check the appropriate box below | NO | YES |
|--|-----------|------------|
| 1. Do you smoke? (check all that apply) | | |
| <input type="checkbox"/> Pipe How much? For how long? | | |
| <input type="checkbox"/> Cigars How much? For how long? | | |
| <input type="checkbox"/> Cigarettes How much? For how long? | | |
| 2. Do you drink alcohol in any form? If so, how much, how long, and how often? | | |
| 3. Do you wear glasses or contact lenses? | | |
| 4. Do you get any physical exercise other than that required to do your job? If so, explain: _____ | | |
| 5. Do you have any hobbies or "side jobs" that require you to use chemicals, such as furniture stripping, sand blasting, insulation or manufacture of urethane foam, furniture, etc.? If so, please describe, giving type of business or hobby, chemicals used and length of exposures. | | |

Symptoms Questionnaire

| Please check the appropriate box below | NO | YES |
|--|-----------|------------|
| 1. Do you ever have any shortness of breath? | | |
| a. If yes, do you have to rest after climbing several flights of stairs? | | |
| b. If yes, if you walk on the level with people your own age, do you walk slower than they do? | | |
| c. If yes, if you walk slower than a normal pace, do you have to limit the distance that you walk? | | |
| d. If yes, do you have to stop and rest while bathing or dressing? | | |
| 2. Do you cough as much as three months out of the year? | | |
| a. If yes, have you had this cough for more than two years? | | |
| b. If yes, do you ever cough anything up from chest? | | |
| 3. Do you ever have a feeling of smothering, unable to take a deep breath, or tightness in your chest? | | |
| a. If yes, do you notice that this on any particular day of the week? | | |
| b. If yes, what day or the week? | | |
| c. If yes, do you notice that this occurs at any particular place? | | |
| d. If yes, do you notice that this is worse after you have returned to work after being off for several days? | | |
| 4. Have you ever noticed any wheezing in your chest? | | |
| a. If yes, is this only with colds or other infections? | | |
| b. Is this caused by exposure to any kind of dust or other material? If yes, what kind? _____ | | |
| 5. Have you noticed any burning, tearing, or redness of your eyes when you are at work? If so, explain circumstances: _____ | | |
| 6. Have you noticed any sore or burning throat or itchy or burning nose when you are at work? If so, explain circumstances: _____ | | |
| 7. Have you noticed any stuffiness or dryness of your nose? | | |
| 8. Do you ever have swelling of the eyelids or face? | | |
| 9. Have you ever been jaundiced? | | |
| a. If yes, was this accompanied by any pain? | | |

| | | |
|---|--|--|
| 10. Have you ever had a tendency to bruise easily or bleed excessively? | | |
| 11. Do you have frequent headaches that are not relieved by aspirin or Tylenol? | | |
| a. If yes, do they occur at any particular time of the day or week? | | |
| If yes, when do they occur? _____ | | |
| 12. Do you have frequent episodes of nervousness or irritability? | | |
| 13. Do you tend to have trouble concentrating or remembering? | | |
| 14. Do you ever feel dizzy, light-headed, excessively drowsy or like you have been drugged? | | |
| 15. Does your vision ever become blurred? | | |
| 16. Do you have numbness or tingling of the hands or feet or other parts of your body? | | |
| 17. Have you ever had chronic weakness or fatigue? | | |
| 18. Have you ever had any swelling of your feet or ankles to the point where you could not wear your shoes? | | |
| 19. Are you bothered by heartburn or indigestion? | | |
| 20. Do you ever have itching, dryness, or peeling and scaling of the hands? | | |
| 21. Do you ever have a burning sensation in the hands, or reddening of the skin? | | |
| 22. Do you ever have cracking or bleeding of the skin on your hands? | | |
| 23. Are you under a physician's care? | | |
| If yes, for what are you being treated? _____ | | |
| 24. Do you have any physical complaints today? | | |
| If yes, explain? _____ | | |
| 25. Do you have other health conditions not covered by these questions? | | |
| If yes, explain? _____ | | |

***You may talk to the health care professional who will review this questionnaire.
Please contact EHS for your respective campus for contact information.***

Employees Signature: _____ **Date:** _____