



The University of Western Ontario
Respiratory Protective Equipment Program

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Occupational Health and Safety
Human Resources

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Program Overview

The respiratory protective equipment program has the following governing principles:

1. Ensures that the University of Western Ontario meets or exceeds the regulations and standards established in Ontario for the issuing of respiratory protective equipment.
2. Promotes the use of engineering controls over the use of respiratory protection for controlling hazards.

Occupational Health & Safety will:

1. Maintain records for all respirator users. A spreadsheet record of users and hard copies of documents will be maintained.
2. Issue all respiratory protective equipment except by prior agreement with OH&S.
3. Appoint Lab Safety Coordinator as the Program Administrator.

RESPIRATORY PROTECTIVE EQUIPMENT POLICY

PURPOSE

The Respiratory Protective Equipment Policy is designed to ensure that the correct respiratory protection is provided and properly used by personnel at the University as dictated by the use situation. Compliance to this policy will ensure the University is meeting the requirements of all applicable codes and regulations.

PROGRAM ADMINISTRATOR

The Laboratory Safety Coordinator is responsible for administering this program, which includes developing and implementing an effective Respiratory Protection Program with respect to hazardous material exposure.

RESPONSIBILITY

The supervisor is responsible for identifying the need for a respirator. The selection of the proper respiratory protective equipment is the responsibility of the Laboratory Safety Coordinator or qualified alternate in Occupational Health and Safety.

COMPLIANCE

Compliance to this policy is the responsibility of the Deans, Budget Unit Heads, Supervisors or Individual Researchers. Any costs associated with compliance to this policy will be carried by the individual budget unit or researcher.

All persons required to use a respirator will use it in accordance with the instructions received. The user will take all necessary measures to care for the respirator provided and will report any damage or malfunctions to his or her immediate supervisor.

DEFINITIONS

CSA

The Canadian Standards Association, a widely recognized standards setting body.

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH)

An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape. This condition is assumed under any one of the following conditions:

- I. A known contaminant at an IDLH concentration;
- II. A known contaminant at an unknown concentration;
- III. An unknown contaminant;
- IV. An oxygen deficiency (less than 19.5 %);
- V. Contaminants at or above lower explosive limit; or
- VI. A confined space which has not been tested for a safe atmosphere.

NIOSH

National Institute of Occupational Safety and Health, a standards setting body which is based in the United States. This body sets standards for respirator construction and use.

Qualitative Fit-Test (QLFT)

A pass/fail test method that relies on the subject's sensory response to detect a challenge agent in order to assess the adequacy of the respirator fit.

Quantitative Fit-Test (QNFT)

A fit-test method that uses an instrument to assess the amount of leakage into the respirator in order to assess the adequacy of respirator fit.

REQUIREMENTS

- a) Engineering controls will be considered the primary means of controlling respiratory hazards. Respiratory protective equipment will only be used as a means of supplementing the protection provided by engineering controls or when engineering controls are:
 - I. not in existence or not obtainable
 - II. not reasonable or practical due to frequency, duration or nature of the operation or procedure
 - III. rendered ineffective due to a temporary breakdown
 - IV. ineffective to control in an emergency situation such as a spill

- b) The Laboratory Safety Coordinator will assess the need for the respiratory protective equipment and will select the appropriate type for the use situation. The selection criteria used will follow CSA Standard Z94.4 -.02.

Only respirators accepted and approved by NIOSH or equivalent will be used.

- c) A qualitative fit-test is the minimum fit-test required. The results of the fit test shall be used to select the specific model and size of facepiece for the individual user. For an IDLH atmosphere a quantitative fit-test must be used. Fit-tests must be repeated:
 - I. At least every two years.
 - II. Whenever there is a change in respirator facepiece (eg, brand, model or size)
 - III. Whenever there is a change in the user's physical condition that could affect the respirator fit.

Under no circumstances shall a respirator be worn if a satisfactory fit test has not been achieved

- d) Respirator users must be clean-shaven where the respirator's face piece seals to the skin.
- e) As well as the respirator user, the following persons must be trained to ensure the proper use of respirators:
 - I. The supervisor of the respirator user
 - II. The person issuing respirators
 - III. The person performing fit-checks
 - IV. The person maintaining and repairing respirators

The training must be repeated at least annually. The training program content will comply with CSA Standard Z94.4-.02.

- f) All respirators shall be sanitized, inspected and maintained in accordance with CSA Standard Z94.4-.02 after use on each shift, or more often as necessary, when issued exclusively for one worker, or after each use when used by more than one worker.
- g) All records of respirator fit-tests and training will be maintained by Occupational Health and Safety.
- h) Compressed breathing air and air compressors used for supplied-air respirators or self contained breathing apparatus shall comply with CSA Standard Z180.1-00.
- i) All personnel required to use respirators are required to undergo an appropriate medical examination by a physician where there is doubt about the fitness or ability of the person to wear a respirator. The Laboratory Safety Coordinator will inform Workplace Health when there is a question of fitness. This examination will be equivalent to the baseline examination defined in CSA Standard Z94.4-.02. The physician will inform the Laboratory Safety Coordinator whether or not a person has the fitness or ability to be assigned a task requiring the use of a respirator. Details of any medical examination will not be disclosed unless consent has been obtained from the person examined.

Respirator Issuing Instructions

1. Review UWO Respirator User form. Ensure all questions have been answered. If any questions have been answered yes refer the individual to Workplace Health for an assessment.
2. Review UWO Respirator Record. Ensure the use conditions have been completed by the supervisor and that there is an account number supplied.
3. Go over the Respirator User Instructions with the employee demonstrating where necessary.
4. Have the individual perform the positive and negative fit checks.
5. Perform the qualitative fit check with either Bitrix or Saccharin.
6. Complete the UWO Respirator Record. Ensure all parts that have been issued are listed. Ensure the individual has signed the form.
7. Review the Acknowledgement of Respirator Limitations and Requirements and have the individual sign the form.
8. Staple the completed forms together with the UWO Respirator Record on top and file in the Respirator Records binder.

UWO Respirator Record

| | | | | | | | | | | | | |
|---------------|--|-------|--|--|--|--|--|--|--|--|--|--|
| Name (Print): | UWO ID#: | Date: | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; height: 15px;"></td> <td style="width: 15%; height: 15px;"></td> <td style="width: 15%; height: 15px;"></td> <td style="width: 15%; height: 15px;"></td> <td style="width: 15%; height: 15px;"></td> <td style="width: 15%; height: 15px;"></td> <td style="width: 15%; height: 15px;"></td> <td style="width: 15%; height: 15px;"></td> <td style="width: 15%; height: 15px;"></td> <td style="width: 15%; height: 15px;"></td> </tr> </table> | | | | | | | | | | | |
| | | | | | | | | | | | | |

Part A - Supervisor Authorisation *(shaded areas to be completed prior to test being performed)*

| | |
|---|-------------|
| Supervisor's Name: | Department: |
| Reason for Respirator (tasks, materials, attach MSDS – required for trade named products) | |
| | |
| | |
| Bill to Account: _ _ _ _ _ | |

Part B - Issuing Respirator (Completed by OH&S)

| |
|-----------------------------|
| Person performing Fit Test: |
|-----------------------------|

Background:

| |
|--|
| Medical Conditions (refer to Workplace Health) |
| Limitations: |
| Replacement: |
| Maintenance: |
| Cleaning: |

Fit Check:

| | | |
|--|--|--|
| Positive Pressure Check <input type="checkbox"/> | Negative Pressure Check <input type="checkbox"/> | Sensitivity Test # Squeezes <input type="checkbox"/> |
| Bitrix <input type="checkbox"/> | Saccharin <input type="checkbox"/> | |
| Normal Breathing <input type="checkbox"/> | Deep Breathing <input type="checkbox"/> | Side to side <input type="checkbox"/> |
| Nodding Up and Down <input type="checkbox"/> | Talking <input type="checkbox"/> | Normal Breathing <input type="checkbox"/> |

| Parts Issued (Description & Part #) | Quantity |
|-------------------------------------|----------|
| | _____ |
| | _____ |
| | _____ |
| | _____ |
| | _____ |

Fit Recertification

| |
|--|
| Recertification Date (Two Years from Date of Issue): |
|--|

Users Statement

| |
|---|
| I understand that my use of this respirator must be in accordance with UWO procedures and manufacturer's instructions and applicable OHSA Regulations and Standards. The respirator is issued to the individual employee and is not to be shared by others. |
|---|

| | |
|------------------|-------|
| Users Signature: | Date: |
|------------------|-------|

UWO Respirator User’s Health Conditions

Check Yes or No boxes only. Do not specify. Condition (complete prior to respirator fitting)

a) Some conditions can seriously affect your ability to safely use a respirator. Do you or do you experience any of the following, or another condition which may affect respirator use? Yes No

- | | | | |
|---------------------------------|--------------------------------|------------------------|--------------------|
| Shortness of breath | Breathing difficulties | Chronic bronchitis | Emphysema |
| Lung disease | Chest pain on exertion | Heart problems | Allergies |
| Hypertension | Cardiovascular disease | Thyroid problems | Diabetes |
| Neuromuscular disease | Fainting spells | Dizziness/nausea | Seizures |
| Temperature susceptibility | Claustrophobia/fear of heights | Hearing impairment | Dentures |
| Panic attacks | Colour blindness | Asthma | Pacemaker |
| Vision impairment | Reduced sense of smell | Reduced sense of taste | Back/neck problems |
| Facial features/skin conditions | | | |

b) Do you take prescription medication(s) to control a condition which you believe may affect respirator use? Yes No

c) Do you have any other medical condition(s) which you believe may affect respirator use? Yes No

d) Have you had previous difficulty using a respirator? Yes No

e) Do you have any future concerns about your ability to use a respirator safely? Yes No

A yes answer to “a” “b” “c” “d” or “e” requires a further assessment by a health care professional and the bottom section of the form completed, prior to respirator use **Note medical information is Not to be offered on this form.**

Name of Respirator User: _____

Signature of Respirator User: _____

Date: _____

To be completed by Workplace Health

| | | |
|------------------------------------|------------------------------|-----------------------------|
| Employee is fit for respirator use | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------------|------------------------------|-----------------------------|

Signature of Workplace Health Representative

Date

Acknowledgement of Respirator Limitations and Requirements

I _____ (name, print) acknowledge the following limitations of the respirator I have been issued.

- 1) The half face respirator and cartridges have been selected and issued for the set of conditions outlined on the individual UWO Respirator Record. If:
 - a. the use changes or
 - b. the materials being used changecontact the staff in Occupational Health and Safety to ensure the proper protection is being used.
- 2) The respirator cartridge purifies the inhaled air by filtering. It does not supply oxygen and must never be used in an oxygen deficient atmosphere such as may occur in a fire or confined space.
- 3) Respirators are personal protective equipment and are issued and fitted to individuals. **They must not be loaned to others.**
- 4) Respirators must be maintained and cleaned as directed for continued proper performance. Follow the directions you were given with the respirator. If there is any questions about the functioning of the respirator bring the respirator back to Occupational Health and Safety for a check.
- 5) These respirators only provide protection when there is an adequate seal to the face. The area of the fit of the respirator seal on the face must be clean shaven. The respirator fit must be tested prior to each use by performing the negative pressure (inhalation) and positive pressure (exhalation) fit checks as instructed.

Respirator User's Signature: _____

Date: _____ -

Acknowledgement of Respirator Limitations and Requirements (N95)

I _____ (name, print) acknowledge the following limitations of the respirator I have been issued.

- 1) The respirator have been selected and issued for the set of conditions outlined on the individual UWO Respirator Record. If:
 - a. the use changes or
 - b. the materials being used changecontact the staff in Occupational Health and Safety to ensure the proper protection is being used.
- 2) The respirator purifies the inhaled air by filtering. It does not supply oxygen and must never be used in an oxygen deficient atmosphere such as may occur in a fire or confined space.
- 3) The employee must wear the type and model of respirator they have been fit-tested with.
- 4) The respirator is disposable and has a limited use time. They must be replaced every 4 hours or when they become damaged.
- 5) If a medical condition develops or you experience difficulty while using the respirator, contact Workplace Health Services.

Respirator User's Signature: _____

Date: _____ -

Respirator Use Instructions

- 1) The respirator has been issued for situations and materials listed on your individual UWO Respirator Record. If use conditions or materials change contact Occupational Health and Safety to ensure the proper respirator is being used.
- 2) Never use the respirator in an oxygen deficient atmosphere such as may occur in a fire situation or a confined space.
- 3) Never share your respirator with others. Respirators must be fitted to individuals for proper protection.
- 4) Cartridges have a limited life expectancy. Absorbing cartridges must be replaced after 8 hours of continuous use. Filtering cartridges (P100) must be replaced at least every 2 years. All cartridges must be replaced when you can taste or smell the contaminant inside the face piece or when breathing becomes difficult.
- 5) The face area in contact with the respirator seal must be kept clean shaven.
- 6) Respirators must be inspected prior to each use. Particular attention must be given to the inhalation and exhalation valves to ensure these are intact and functioning properly.
- 7) Always perform the negative pressure (inhalation check) and positive pressure (exhalation check) each time you put the respirator on.
- 8) Never modify the respirator or use parts from different manufacturers with the respirator you have been issued.
- 9) Always wash the respirator face piece after each use. The best method is to use warm soapy water. The face piece should be dried and stored in a plastic bag.
- 10) Cartridges should be stored in plastic bags separate from other respiratory equipment.
- 11) If you have any questions about the use or condition of your respirator contact Occupational Health and Safety.
- 12) If a medical condition develops or you experience difficulty while using the respirator, contact Workplace Health

Respirator Use Instructions (N95)

- 1) The respirator has been issued for situations and materials listed on your individual UWO Respirator Record. If use conditions or materials change contact Occupational Health and Safety to ensure the proper respirator is being used.
- 2) Never use the respirator in an oxygen deficient atmosphere such as may occur in a fire situation or a confined space.
- 3) Never share your respirator with others. Respirators must be fitted to individuals for proper protection.
- 4) The respirator you have been fitted with is _____ (brand and model). If you use another type it will need to be fit tested.
- 5) The face area in contact with the respirator seal must be kept clean shaven.
- 6) The respirator is disposable and has a limited use time. They must be replaced every 4 hours or when they become damaged.
- 7) Always perform the positive pressure (exhalation check) each time you put the respirator on.
- 8) Never modify the respirator.
- 9) If you have any questions about the use or condition of your respirator contact Occupational Health and Safety.
- 10) If a medical condition develops or you experience difficulty while using the respirator, contact Workplace Health

Record Keeping

Electronic

A spread sheet data base will be maintained by Occupational Health and Safety. This will include the user information, the hazard, the type of respirator issued, and the date of the next required fit check.

Hard Copy

A copy of the UWO Respirator Record, UWO Respirator User's Health Conditions, and Acknowledgement of Respirator Limitations and Requirements will be kept on file by Occupational Health and Safety.

Emergency Situation Affecting the Operation of the University

In the case of an emergency situation affecting the operation of the University e.g. a pandemic influenza situation, OHS may not be able to provide respirator fit testing in a timely manner. Respirator fit testing will be prioritised according to the needs of the situation and the availability of staff to perform the fit testing.