Scaffold Depot

Respiratory Protection Program

RESPIRATORY PROTECTION PROGRAM

PURPOSE

The purpose of this respirator program is to establish standard operating procedures to ensure the protection of all employees from respiratory hazards through proper selection and use of respirators. This program applies to all employees who are required to wear respirators during normal operations, non-routine tasks, or emergency operations such as a spill of a hazardous substance.

RESPONSIBILITIES

Program Administrator Duties

Scaffold Depot has designated _____ as the program administrator to oversee the respiratory protection program.

Duties of the program administrator include:

- Identifying work areas, processes or tasks that require workers to wear respirators, and evaluating hazards
- Selection of respiratory protection options
- Monitoring respirator use to ensure that respirators are used in accordance with their certifications
- Arranging for and/or conduct training
- Ensuring proper storage and maintenance of respiratory protection equipment
- Conducting or arranging for fit testing
- Administering the medical surveillance program
- Maintaining records required by the program
- Evaluating the program
- Updating written program as needed

Supervisors Duties

Supervisors are responsible for ensuring that the respiratory protection program is implemented in their particular areas. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure that the program is understood and followed by the employees under their charge.

Duties of the supervisor include:

- Ensuring that employees under their supervision (including new hires) have received appropriate training, fit testing, and medical evaluation
- Ensuring the availability of appropriate respirators and accessories
- Being aware of tasks requiring the use of respiratory protection
- Enforcing the proper use of respiratory protection when necessary
- Ensuring that respirators are properly cleaned, maintained, and stored according to the respiratory protection plan
- Ensuring that respirators fit well and do not cause discomfort
- Continually monitoring work areas and operations to identify respiratory hazards
- Coordinating with the program administrator on how to address respiratory hazards or other concerns regarding the program

Employees Duties

Each employee has the responsibility to wear his or her respirator when and where required and in the manner in which they were trained. Employees must also:

- Care for and maintain their respirators as instructed and store them in a clean sanitary location
- Inform their supervisor if the respirator no longer fits well, and request a new one that fits properly
- Inform their supervisor or the Program administrator of any respiratory hazards that they feel may not be adequately addressed in the workplace and of any other concerns that they have regarding the program

PROGRAM ELEMENTS

Hazard Identification, Assessment and Control

A written hazard assessment must be completed, communicated and understood by all individuals involved in the work area. The written hazard assessment is important to determine if respiratory protection is needed and the selection of the correct type.

In order to determine the presence of a respiratory hazard and to assist in selection of an appropriate respirator, a hazard assessment of the work area shall be conducted by the supervisor. The hazard assessment of a respiratory hazard includes the following:

- Identification of contaminants (chemical, biological) that may be present in the workplace;
- Identification of physical states of all airborne contaminants;
- Determination of the likelihood of inhalation of the contaminants;
- Measurement or estimation of the concentration of the contaminants;
- Determination of oxygen level (potential oxygen deficiency);
- Identification of appropriate occupational exposure limit for each airborne contaminant;
- Determination of whether the atmosphere is immediately dangerous to life and health (IDLH);
- Determination of existence of adequate warning properties;
- Determination of skin or eye absorption and irritation characteristics.

In instances where exposure cannot be identified or reasonably estimated, the atmosphere shall be considered IDLH.

The hierarchy of controls will dictate the controls needed to minimize the hazard. Engineering controls are the preferred control method to eliminate or minimize the risk of airborne hazards. Personal Protective Equipment (PPE), like respiratory protection, is normally the last resort in minimizing the hazards of airborne contaminants.

Airborne Hazards

Respiratory hazards may include airborne contaminants such as dusts, mists, fumes, and gases, or oxygen-deficient atmospheres. While there are many non-occupational sources of airborne contaminants, there are also many materials that become airborne in an occupational setting. Inhalation is generally viewed as the most significant route of entry for toxic materials in most workplaces. The specific airborne hazards that workers are exposed to will vary and depend upon their occupation.

Airborne hazardous materials can be separated into 4 different classifications:

- Particulates/aerosols (solid particles, dusts, fibres, mists, droplets, fumes)
- Gases and/or vapours (gaseous contaminants, vapours)
- Oxygen-deficient atmospheres (containing less than 19.5 % oxygen).
- Combination (any combination of particulates, gases, and/or vapours, including oxygen deficient atmospheres)

Hazard Assessment and Control

Hazard assessment is a formal process for identifying all existing and potential hazards at a work site and then determining the degree of danger (the risk) the hazards pose to workers.
Hazards can be classified into the following categories:

- Physical hazards – lifting, slipping & tripping, fire electricity, noise working at heights, moving parts of machinery etc.
- Chemical hazards – solvents, acids, cleaners etc.
- Biological hazards – tissues, bacteria, blood and body fluids etc.

All categories should be considered for inclusion in the hazard assessment. Once workplace hazards have been identified and rated, hazard controls must be put in place to reduce the risk workers face from exposures to the hazards. In general terms there are three types of control available to reduce the risk due to exposure to hazards and they are listed here in the appropriate hierarchy:

- ***First: Engineering Controls***
- ***Second: Administrative Controls***
- ***Third: Personal Protective Equipment (PPE)***

Sometimes a hazard cannot be adequately controlled by a single type of control (engineering, administrative or PPE). A combination of these methods may be required to effectively control the hazard.

Engineering Control Methods

Engineering control measures remove or reduce the hazard by initial engineering design specifications or by applying methods of substitution, isolation or ventilation. Well designed and maintained engineering controls are the preferred methods of controlling worker exposure to hazardous contaminants in the air.
Engineering control methods include:

- Mechanical ventilation;
- Adding clean air to oxygen-deficient space;
- Enclosure or Isolation of the process or work equipment;
- Proper control and use of process equipment; and
- Process modifications including substitution with less hazardous materials where possible.

Administrative Control Methods

Administrative controls may be used in addition to engineering controls. Administrative control methods minimize worker exposure by scheduling reduced work times in contaminant areas, good work practices and worker training. Appropriate training includes hazard recognition and work practices specific to the worker's job that can assist in reducing exposures. These control measures have many limitations since the hazard is not eliminated or removed. Administrative controls are not generally favored because they can be difficult to implement, maintain, and are not reliable.

Personal Protective Equipment

Protective equipment may only be used where airborne hazards cannot be eliminated or sufficiently reduced with engineering or administrative controls. Respirators are the least satisfactory means of exposure control because they only provide good protection if they are properly selected, fit tested, worn by the workers, and replaced when their service life is over. In addition, some workers may not be able to wear a respirator due to health or physical limitations. Respirators can also be cumbersome to use and hot to wear, and they may reduce vision and interfere with communication.
Despite these difficulties, respirators are the only form of protection available in the following situations:

- During the installation or implementation of feasible engineering and work practice controls.
- In work operations, such as maintenance and repair activities for which engineering and work practice controls are not yet sufficient to reduce exposure to or below the Occupational Exposure Limit (OEL).

- In emergencies.

Personal protective equipment can be used in conjunction with engineering controls and other methods of control to minimize potential exposures.

Every worker in an area with airborne contaminants that are or may potentially be over 50% of the Occupational Exposure Limit must wear appropriate personal protective equipment. Workers must use:

- Appropriate respiratory protective equipment

- Protective clothing (laboratory coats, Tyvek suits etc) to reduce the risk of contaminating street clothing, skin and hair; and

- Other protective equipment such as eye protection, hard hats, hearing protection and steel toe footwear as site conditions, regulations, or the hazard assessment requires.

The supervisor must ensure that personal protective equipment provided to workers will not cause medical problems (e.g. latex allergies, breathing difficulties).

Types of Respiratory Protective Equipment

Respiratory protective devices can be described based on their capabilities and limitations and places in three classes:

- Self-Contained Breathing Apparatus (SCBA)
- Air-Supplying Respirators
- Air-Purifying Respirators

Self-Contained Breathing Apparatus (SCBA)

The self-contained breathing apparatus (SCBA) provides respiratory protection against gases, vapours, particles, and an oxygen deficient atmosphere.

The wearer is independent of the surrounding atmosphere because the breathing gas is carried by the wearer. SCBA may be used in IDLH (immediately dangerous to life and health) situations and oxygen-deficient atmospheres either as escape-only devices or for entry into and escape from these atmospheres.

There are two major types of SCBAs:

- Closed-Circuit SCBA
- Open-Circuit SCBA

Closed-Circuit SCBA

In a closed-circuit SCBA, all or a percentage of the exhaled gas is scrubbed and re-breathed. Closed-circuit SCBAs are designed to provide 30 minutes to 4 hours of service.

Open-Circuit SCBA

In an open-circuit SCBA, the exhaled breath is released to the surrounding environment rather than being recirculated. The breathing gas is generally compressed breathing air. Typically they are designed to provide 30-60 minutes of service. Only full-face piece, pressure demand (positive pressure) SCBAs are approved for immediately dangerous to life and health (IDLH) atmospheres.

Escape SCBA

Some SCBAs are designed for escape only and are similar in design to the closed-circuit and open-circuit SCBA types. Their time of use tends to be shorter, typically 5, 7, or 10 minutes. Escape-only units CAN NOT be used to enter into a hazardous atmosphere.

Air-Supplying Type

Air-supplying types of respirators provide a respirable atmosphere to the wearer, independent of the ambient air. The breathing source is supplied from an uncontaminated source through a hose connected to the wearer's face piece or head enclosure from a compressor or compressed air cylinders. These devices may only be used in non-IDLH atmospheres or atmospheres in which the wearer can escape without the use of a respirator. If the air supply fails, the wearer may have to remove the respirator to escape from the area.
In IDLH and oxygen deficient atmospheres, a combination SCBA and air-line respirator may be used since the auxiliary SCBA can be switched to in the event the primary air supply fails to operate and allows the wearer to escape from the IDLH atmosphere.

Air-Purifying Respirators

Air-purifying devices clean the contaminated atmosphere. Ambient air passes through an air-purifying element (by filtration or absorption) that can remove specific gases and vapours, aerosols, or a combination of these contaminants. This type of device is limited in its use to those environments where there is sufficient oxygen and the contaminant's airborne concentration level is within the maximum use concentration of the device. The useful life of an air-purifying device is limited by the concentration of the air contaminants, the breathing rate of the wearer, temperature and humidity levels in the workplace, and the removal capacity of the air-purifying medium.
Air-purifying respirators can be of three types:

- Aerosol (Particle) Removing Respirator
- Gas/Vapor Removing Respirator
- Combination Aerosol Filter/Gas or Vapour-Removing Respirator

Air-purifying respirators cannot be used in IDLH environments because there are limits to the amount of contaminants they can remove. Air-purifying respirators are not appropriate for use in oxygen-deficient atmospheres since they do not supply oxygen and may only be used when the ambient atmosphere contains at least 19.5% oxygen.

Air-purifying respirators are not appropriate for use as protection against materials with poor warning properties (substances that cannot be detected by the respirator wearer by smell, taste or feel) since concentrations inside the respirator may unknowingly reach unsafe levels. The detection of contaminants inside a respirator is called breakthrough.

There are some exceptions to this rule; asbestos, silica and radioactive particles are both potential carcinogens with no warning properties but for which the use of air-purifying respirators are adequate up to certain concentrations.

Half Face Respirators

Half face respirators fit under the chin to the bridge of the nose. They are more comfortable in some situations, but may be more difficult in terms of fitting well around a worker's nose, chin and cheeks. Air is drawn through the cartridge or filter by negative pressure that is created inside the respirator face piece when the user inhales.

Full-Face Respirators

Full-face respirators provide a higher level of protection and a better fit than half-face respirators. Full face respirators fit over the entire face, from the hairline to under the chin, and offer eye protection. Air is drawn through the cartridge or filter by negative pressure that is created inside the respirator face piece when the user inhales.

Dust Masks

Dust masks are disposable half face particulate filter respirators. They are also known as a filtering face piece respirator commonly used in health care and construction/renovation applications. Air is drawn through the filter by negative pressure that is created inside the dust mask when the user inhales.

Powered Air-Purifying Respirators

Powered air-purifying respirators (PAPR) are a variation on air-purifying respirators. A PAPR utilizes a battery-powered blower that draws the contaminated air through the cartridge or filter. The cleaned air is then forced through a hose to the face piece which may be tight-fitting or a helmet or a hood that does not seal tightly against the face of the wearer. PAPRs supply purified air at a positive pressure, which means if a leak occurs in the face piece, helmet, or hood, air should move outward. PAPRs provide the same level of protection as a negative-pressure air-purifying respirator.

Respirator Selection

The employer, in consultation with the worker and the occupational health and safety committee, if any, or the worker health and safety representative, if any, must select appropriate respiratory protective equipment in accordance with *CSA Standard CAN/CSA-Z94.4-93, Selection, Use, and Care of Respirators*.

Only respiratory protective equipment which meets the requirements of a standard acceptable to WorkSafeBC may be used for protection against airborne contaminants in the workplace. The Program Administrator will conduct a hazard evaluation for each operation process, or work area where airborne contaminants may be present in routine operations or during an emergency. ***The hazard evaluation will include***:

- Identification of the hazardous substances used in the workplace, department or work process;

- Review of work processes to determine where potential exposures to these hazardous substances may occur; and

- Exposure monitoring to quantify potential hazardous exposures.

The results of the hazard evaluation are located _____
(Insert location/department) for employee review.

The program administrator will revise and update the hazard assessment as needed (i.e., any time work process changes which may potentially affect exposure).

General requirements

- The employer shall select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed and workplace and user factors that affect respirator performance and reliability.

- The respirator shall be used in compliance with the conditions of its certification.

- The employer shall identify and evaluate the respiratory hazard(s) in the workplace; this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Where the employer cannot identify or reasonably estimate the employee exposure, the employer shall consider the atmosphere to be IDLH.

- The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

How to Select the Correct Respirator

The type and brands of respirators vary widely ranging from simple dust masks to supplied air respirators like the kind firemen wear.

The following is description of the main types of respirators.

Dust Masks (filtering face pieces)

These simple, two-strap disposable dust masks are designed only for dusts. They are not as protective as other respirators, but do an adequate job in many cases, unless the dust is really toxic or copious. Don't confuse these two-strap masks with the less protective one-strap dust mask designed only for pollen or non-toxic dust.

Half-Face Air-Purifying Respirator

These respirators are sometimes called “half-face” or “half-mask” respirators since they cover just the nose and mouth. They have removable cartridges that filter out either dust, chemicals or both. Selecting the correct cartridges is essential since they are designed for particular types of chemicals or dust.

A reputable respirator vendor can assist you in selecting the correct cartridges. These cartridges are typically removable and sometimes interchangeable.

Cartridges are available for solvents, ammonia, chlorine, acids and other chemicals. The cartridges must be changed out or replaced periodically, especially for chemicals, since they can absorb only so much contaminant before breakthrough occurs.

A few cartridges are equipped with end-of-service indicators that show when a cartridge should be replaced. Most cartridges don’t have this indicator and you must develop a change-out schedule to prevent breakthrough. The change-out schedule is based on the chemical concentration, physical work effort, temperature and humidity. Many respirator manufacturers have cartridge change schedule calculators available on the Internet.

Full-Face Air-Purifying Respirator

In some situations, you may need or want to use full-face respirators. This type of respirator is used when the air contaminant irritates the eyes. They also provide somewhat higher protection to the lungs since they tend to fit tighter and are less prone to leaking. These respirators also have replaceable cartridges that must be changed on a regular basis as described above for half-face respirators.

Powered Air Purifying Respirator (PAPR)

Powered Air Purifying Respirators have a battery pack that draws air through replaceable cartridges and blows into a full face piece, helmet or hood.

These respirators are often more comfortable in hot weather and some can provide more protection, depending on the type. The cartridges must be changed regularly as describe for half-face respirators above.

Airline Respirator

Tank-type respirator (SCBA)

Supplied Air Respirators and Self-Contained Breathing Apparatus (SCBA)

In a few situations, you may need to provide a supplied air respirator to your employees. These situations include large chemical spills or leaks, entering a confined space where there is lack of oxygen or high levels of air contaminants, or working around extremely toxic chemicals.

They may also be necessary working at hazardous waste sites, during sandblasting or in some spray painting operations. “Supplied air,” means that clean air is provided by means of an air hose from a compressor or a pressurized air tank.

Supplied air respirators are required when a respiratory hazard is considered “immediately dangerous to life or health” (also called “IDLH”). Respiratory hazards are classified as IDLH as follows:

- There is a lack of oxygen (less than 19.5% oxygen)
- There is too much oxygen (more than 23.5% - a fire hazard)
- You know there are toxic chemicals in the air, but you don’t know how much
- The amount of chemical in the air is known or expected to be above the IDLH level for that chemical.

Levels of chemicals above IDLH can occur in confined spaces, or enclosed spaces where there is little or no ventilation.

Respirators for Immediately Dangerous to Life and Health (IDLH) atmospheres

1. If a worker is required to enter or work in an IDLH or oxygen deficient atmosphere the worker must

    a. wear a full face piece positive pressure respirator which is either an SCBA, or an airline respirator with an auxiliary self- contained air cylinder of sufficient capacity to permit the worker to escape unassisted from the contaminated area if the air supply fails, and

    b. be attended by at least one other worker stationed at or near the entrance to the contaminated area who is similarly equipped and capable of effecting rescue.

2. Subsection (1)(a) applies if there is a significant risk of accidental release into a worker's breathing zone of quantities of an air contaminant sufficient to produce an IDLH atmosphere.

Respirators for atmospheres that are not IDLH

- The employer shall provide a respirator that is adequate to protect the health of the employee and ensure compliance with all other statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations.

Medical Evaluation

If a worker is required to use a respirator and there is doubt about the worker's ability to use a respirator for medical reasons, the worker must be examined by a physician, and the examining physician must be provided with sufficient information to allow the physician to advise the employer of the ability of the worker to wear a respirator.

A licensed health care professional at _____
(Name of healthcare provider) will provide the medical evaluation to employees.
Medical evaluation procedures are as follows:

NOTE: All examinations and questionnaires are to remain confidential between the employee and the physician.

Protection factors

A respirator must not be used for protection against concentrations of an air contaminant greater than the maximum use concentration, which is the concentration determined by multiplying the exposure limit for the air contaminant by the appropriate respirator protection factor selected from Table 1, or as otherwise determined by WorkSafeBC.

Table 1 - Respirator protection factors

Respirator type	Protection Factor
Air purifying	
Half face piece, non-powered	10
Full face piece, non-powered	50
Full face piece, powered (PAPR), equipped with HEPA filters for exposure to asbestos	100
Full face piece, powered (PAPR), equipped with HEPA filters and/or sorbent cartridge or canister for exposure to contaminants other than asbestos	1 000
Loose-fitting face piece, powered (PAPR)	25
Air supplying	
Airline - demand (negative pressure)	
Half face piece	10
Full face piece	50
Airline - continuous flow	
Loose-fitting face piece/hoods	25
Half face piece	50
Full face piece	1 000
Helmet/hood	1 000
Airline - pressure demand (positive pressure)	
Half face piece	50
Full face piece	1 000
Full face piece, with egress bottle	10 000
Self-contained breathing apparatus (SCBA)	
Demand (negative pressure)	50
Pressure demand (positive pressure)	10 000
Other factors such as warning properties, IDLH levels, and cartridge/canister limitations must also be taken into account when determining the maximum use concentration. Refer to the manufacturer's instructions and standards acceptable to the Board for further information.	

Fit tests

A respirator which requires an effective seal with the face for proper functioning must not be issued to a worker unless a fit test demonstrates that the face piece forms an effective seal with the wearer's face.

Fit tests must be performed in accordance with procedures in *CSA Standard CAN/CSA-Z94.4-02, Selection, Use, and Care of Respirators.*

_____ **Scaffold Depot** requires employees to be fit tested at the following times and with the same make, model, style, and size of respirator that they will be using and...

A fit test must be carried out...

(a) before initial use of a respirator,

(b) at least once a year,

(c) whenever there is a change in respirator face piece, brand, model, and size, and

(d) whenever changes to the user's physical condition could affect the respirator fit.

Note: Other personal protective equipment that is to be worn at the same time as a respirator and which could interfere with the respirator fit must be worn during a fit test.

Fit Testing Procedures - Please refer to Respiratory Fit Test Instructions and User Record

_____ ***(Name of responsible person or department)*** will ensure that fit-test(s) will be administered by qualified person(s) only.

The company has established a record of the fit tests administered to employees including:

- The name or identification of the employee tested;
- Type of fit test performed;
- Specific make, model, style, and size of respirator tested;
- Date of test; and
- The pass/fail results

Use of Respirators

General Use Procedures

Employees will use their respirators under conditions specified by this program, and in accordance with the training they receive on the use of each particular model.

In addition, the respirator shall not be used in a manner for which it is not certified.

Face seal

Except for specialty eyewear approved by WorkSafeBC for use with positive pressure full face piece respirators, nothing is permitted which intrudes between the face piece and the face, or which interferes with the face seal of the face piece.

A worker required to wear a respirator which requires an effective seal with the face for proper functioning must be clean shaven where the respirator seals with the face.

All employees shall be permitted to leave the work are to maintain their respirator for the following reasons: to clean their respirator if the respirator is impeding their ability to work, change filters or cartridges, replace parts, or to inspect respirator if it stops functioning as intended. Employees should notify their supervisor before leaving the area.

Employees are not permitted to wear tight fitting respirators if they have any condition, such as facial hair, facial scars, or missing dentures that prevents them from achieving a good seal. Employees are not permitted to wear headphones, jewelry, or other articles that may interfere with the facepiece to face seal.

Voluntary Respirator Usage

In circumstances where ***section 8.32*** of the WCB regulation does not apply, and either an employer chooses to provide a respirator to a worker or the worker chooses to use a personal respirator, then the requirements of ***sections 8.3, 8.7 and 8.33(2)*** apply.

This company will provide (or allow employee-owned) respirators to employees for voluntary usage for the following work processes:

_____

The Program Administrator shall authorize voluntary use of respiratory protective equipment as requested by all other workers on a case-by-case basis, depending on specific workplace conditions and the results of the medical evaluations.

Emergency Procedures

The following work areas have been identified as having foreseeable emergencies: ***(FILL IN AS REQUIRED)***

- _____
- _____
- _____

Emergency escape respirators are located: _____ ***(Insert Location)***.

Immediately Dangerous to Life or Health (IDLH) Procedures

The Program Administrator has identified the following area(s) as presenting the potential for IDLH conditions: ***(FILL IN AS REQUIRED)***

- _____
- _____
- _____

Respirator Malfunction

For any malfunction of a respirator (e.g., such a breakthrough, facepiece leakage, or improperly working valve), the respirator wearer should inform his or her supervisor that the respirator no longer functions as intended, and go to a safe area to maintain the respirator. The supervisor must ensure that the employee receives the needed parts to repair the respirator, or is provided with a new respirator.

Emergency escape respirators

If the nature or quantity of an air contaminant and the nature of the work area could prevent a worker escaping from a contaminated area without assistance, the worker must carry an emergency escape respirator.

The emergency escape respirator must be

(a) carried on the worker's person or be within arm's reach at all times, and

(b) sufficient to permit the worker to leave the contaminated area without assistance.

Emergency Escape Respirators

Emergency escape respirators, as the name implies, can only be used for one thing – to escape or exit from a room or building in an emergency, usually a large chemical release, leak or spill, or when a supplied air respirator fails or runs out of air.

An escape respirator is typically a small bottle or tank of air connected to a face piece that supplies 5-10 minutes of air. Some supplied air respirators will have an auxiliary bottle of air for escape that connects to the existing face piece.

How do you decide which type of respirator to select? First, it must be the correct type for the air contaminant. Second, it must fit properly. Third, it must provide adequate protection for the amount of chemical in the air. The more toxic or more concentrated the chemical is in the air, the higher the level of protection the respirator must provide.

Different respirators provide different protection. Depending on the amount of chemical in the air, you may need to use a respirator that provides more protection. Respirators are rated by their “assigned protection factor” (APF) which is a number between 10 and 10,000. The higher the number, the greater the protection.

A respirator with a protection factor of 10 will provide adequate protection to levels of the chemical in the air 10 times the safe limit of that chemical.

Table 1 - Respirator protection factors for further details.

Table 2 below provides selection information regarding air-purifying respirators for Particle, Vapor, or Gas contaminants.

Table 2 Selecting Air-purifying Respirators	
If the contaminant is a:	Then
Gas or vapor  	Provide a respirator with canisters or cartridges equipped with a NIOSH-certified, end-of-service-life indicator (ESLI) (*note: there just a few of these)* or If a canister or cartridge with an ESLI is not available, develop a cartridge change schedule to make sure the canisters or cartridges are replaced before they are no longer effective (*note: most cartridge respirators fit in this category)* or Select an air-supplying respirator
Particle, such as a dust, spray, mist, fog, fume, or aerosol 	Select respirators with filters certified to be at least 95% efficient by NIOSH. For example, N95s, R99s, P100s, or High Efficiency Particulate Air filters (HEPA) Or You may select respirators NIOSH certified as “dust and mist,” “dust, fume, or mist,” or “pesticides.” You can only use these respirators if particles primarily have a mass median aerodynamic diameter of at least 2 micrometers *Note: These latter respirators are no longer sold for occupational use, but some employers may still be using them.*

Maintenance and Care Procedures

Inspection of compressed air cylinders must be done in accordance with CSA Standard CAN/CSA-Z94.4-02, Selection, Use, and Care of Respirators.

Self-contained breathing apparatus, including regulators, must be serviced and repaired by qualified persons.

Compressed air cylinders must be hydrostatically tested in accordance with CSA Standard CAN/CSA-B339-96, Cylinders, Spheres, and Tubes for the Transportation of Dangerous Goods.

In order to ensure continuing protection from the respirators being use, it is necessary to establish and implement proper maintenance and care procedures and schedules. A lax attitude toward maintenance and care will negate successful selection and fit because the devices will not deliver the assumed protection unless they are kept in good working order.

Cleaning & Disinfecting

Our company provides each respirator user with a respirator that is clean, sanitary, and in good working order. We ensure that respirators are cleaned and disinfected _____ ***(Indicate Frequency, e.g., Daily, Weekly, etc.)*** or as often as necessary to be maintained in a sanitary condition. Respirators are cleaned and disinfected using the procedures specified in Appendix
B-2 of the standard or manufacturer's recommendations.

Respirators are cleaned and disinfected:

- As often as necessary when issued for the exclusive use of one employee;
- Before being worn by different individuals;
- After each use for emergency use respirators; and
- After each use for respirators used for fit testing and training.

Storage

Storage of respirators must be done properly to ensure that the equipment is protected and not subject to environmental conditions that may cause deterioration. We ensure that respirators are stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture,, and damaging chemicals. They are packed and stored in _____ ***(Indicate methods use for storage and location)***, in accordance with any applicable manufacturer's instructions.

Emergency respirators are stored:

- To be accessible to the work area;
- In compartments marked as such; and
- In accordance with manufacturer's recommendations.

Respirator Inspection

All respirators will be inspected after each use and at least monthly. Should any defects be noted, the respirators will be taken to the program administrator or supervisor. Damaged respirators will be either repaired or replaced.

Respirators shall be inspected as follows:

- All respirators used in routine situations shall be inspected before each use and during cleaning;

- All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with manufacturer's recommendations, and shall be checked for proper function before and after each use; and

- Emergency escape-only respirators shall be inspected before being carried into the workplace for use.

Respirator inspections shall include the following:

- A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters; and

- Check of elastomeric parts for pliability and signs of deterioration**.**

The following checklist will be used when inspecting respirators:

1. Facepiece:

    - cracks, tears, or holes
    - facemask distortion
    - cracked or loose lenses/faceshield

2. Headstraps:

    - breaks or tears
    - broken buckles

3. Valves:

    - residue or dirt
    - cracks or tears in valve material

4. Filters/Cartridges:

    - approval designation
    - gaskets
    - cracks or dents in housing
    - proper cartridge for hazard

5. Air Supply Systems:

    - breathing air quality/grade
    - condition of supply hoses
    - hose connections
    - settings on regulators and valves

Training

_____ **(Name of responsible person or department)** will be responsible to provide training to respirator users or their supervisors on the contents of the Respiratory Protection Program and their responsibilities under it.

Workers will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to using a respirator in the workplace or prior to supervision of employees that must wear respirators.

The training will cover the following topics:

- ***Scaffold Depot*** Respiratory Protection Program
- Respiratory hazards encountered and their health effects
- Proper selection and use of respirators
- Limitations of respirators
- Respirator donning and user seal (fit) checks
- Fit testing
- Emergency use procedures
- Maintenance and storage
- Medical signs and symptoms limiting the effective use of respirators

Employees will be retrained annually or as needed (e.g., if they need to use a different respirator). Employees must demonstrate their understanding of the topics covered in the training utilizing a hands-on exercise and a written test. Respirator training will be documented by the Program Administrator and the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

Program Evaluation

The program administrator will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluation will include regular consultations with employees who use respirators and their supervisors, site inspections, air monitoring and review of records.

Identified problems will be noted and addressed by the Program Administrator.
These findings will be reported to management, and the report will list plans to correct deficiencies in the respirator program and target dates for the implementations of those corrections.

Documentation and Recordkeeping

As per ***WCB regulation 8.44***, The employer must maintain a record of;

(a) fit test results and worker instruction,

(b) maintenance for air supplying respirators, powered air purifying respirators, and for sorbent cartridges and canisters, and

(c) maintenance and repairs for each self-contained breathing apparatus and all air cylinders in accordance with the requirements of *CSA Standard CAN/CSA-Z94.4-02, Selection, Use, and Care of Respirators*.

A written copy of this program is part of the company Occupational Health & Safety Program and is available to all employees who wish to review it.

Also maintained are copies of training and fit test records. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted.

The Program Administrator will also maintain copies of the medical records for all employees covered under the respirator program. The completed physician's documents and recommendations are confidential and will remain at _____ ***(Location, e.g., clinic)***.

The company will only retain the physician's written recommendation regarding each employee's ability to wear a respirator.

Respirator Fit-Test Instructions

NEGATIVE AND POSITIVE FIT CHECKS:

Fit-checking and testing is done to find both a style and a size of respirator that fits the individual best and most comfortable. Before an irritant smoke or banana oil test is carried out, a positive and negative pressure fit-check is required. These checks will give the individual a general indication that the respirator provides a seal.

Once a seal is obtained, then a smoke or banana oil test must be done.

The pressure fit-checks are also done each time the individual puts on a respirator to make sure there is a proper seal.

NOTE: SOME RESPIRATOR FILTERS OR CARTRIDGES MAY BE TOO LARGE TO SEAL OFF WITH THE PALM OF THE HAND. THIS MEANS A NEGATIVE PRESSURE FIT-CHECK CANNOT BE DONE. IF THIS IS THE CASE, DO A POSITIVE PRESSURE FIT-CHECK.

Fit Check Procedure

Close off the inlet to the filter or cartridge by lightly pressing the palms against it, or by squeezing or covering the breathing tube (on an air line respirator or full-face respirator gas mask).

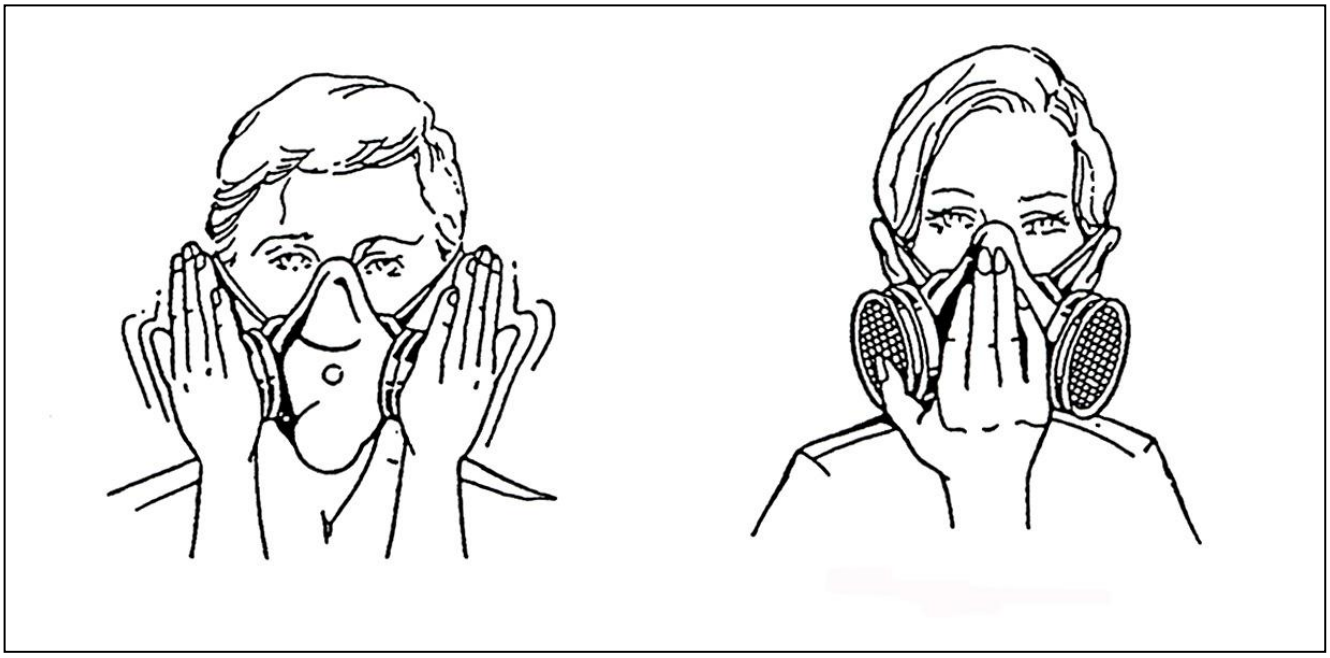
Inhale gently to build a slight negative pressure in the respirator. Hold for ten (10) seconds. If the face piece remains slightly collapsed and no inward leakage is detected, the respirator is probably sealed properly.

If leakage does occur adjust straps or adjust the face piece and try again.

For a positive pressure fit check cover the exhalation valve, or the end the breathing tube on an airline respirator or full face respirator. Gently blow out and hold for ten (10) seconds.

The fit-check is satisfactory if there is no outward leakage.

During both tests, care should be taken that the respirator is not distorted (too firm a pressure will do this).



ISOAMYL ACETATE (Banana Oil) FIT TEST

For fit-testing the respirator must have an organic vapour cartridge in place. For filters, use irritant smoke.

After the user has completed step "A" above, saturate a cotton swab with banana oil or break a capsule or ampoule and pass it near the respirator along the face seal while the wearer:

- Performs side to side and nodding head movements.
- Breathes deeply as during heavy exertion.
- Speaks or reads loudly enough to be understood.

If the user reports smelling banana oil, the test must be repeated after adjusting the face-piece or selecting another respirator.

After obtaining a satisfactory fit, fill out the fit-test record.

Irritant Smoke Fit Test

Irritant smoke tests are done on respirators fitted with particle filter (dust, mist, fume or HEPA type). Irritant smoke is also used on full face respirators including air line respirators and Self-Contained Breathing Apparatus (SCBA).

NOTE: IT IS ACCEPTABLE TO USE BANANA OIL FOR FIT-TESTING IF THE PARTICLE FILTERS ARE REMOVED AND REPLACED WITH ORGANIC VAPOUR CARTRIDGES.

After the user has completed step "A" above, break the ends off the irritant smoke tube, attach the small bulb, and squeeze the smoke along the face seal while the user:

- Performs side to side and nodding head movements.
- Breathes deeply as during heavy exertion
- Speaks or reads loudly enough to be understood.

NOTE: THE USER MUST CLOSE HIS OR HER EYES DURING THIS TEST.

KEEP THE SMOKE TUBE ABOUT 15 CM (6") FROM THE FACE. SLOWLY WAVE THE TUBE TO DIRECT THE SMOKE TOWARDS THE RESPIRATOR. IF THE USER REPORTS SMELLING THE IRRITANT SMOKE, THE TEST MUST BE REPEATED AFTER ADJUSTING THE FACE-PIECE OR SELECTING ANOTHER RESPIRATOR.

After obtaining a satisfactory fit, fill out the fit-test record.

NOTE: THE SMOKE TUBE CONTAINS VERY IRRITATING CHEMICALS. SEE THE MATERIAL SAFETY DATA SHEET. NEVER PICK UP A BROKEN TUBE WITH BARE HANDS.

Respirator Fit Test Record

Name: _____ **Initials**: _____

Type of qualitative/quantitative fit test used: _____

Name of test operator: _____ **Initials**: _____

Date: _____

Respirator Mfr./Model/Approval no. Size Pass/Fail or Fit Factor

Note: "Fit factor" is numerical result of quantitative fit test from instrument reading

1. _____ S M L P F _____
2. _____ S M L P F _____
3. _____ S M L P F _____
4. _____ S M L P F _____

Clean Shaven? Yes___ No___ (Fit-test cannot be done unless clean-shaven)

Test Agent Used: **Irritant smoke:** ☐ **Banana oil:** ☐

see "Respirator Fit-Test Instructions " for further detail

Medical Evaluation Completed? Yes___ No___

NOTES:

_____

_____

_____

_____

This record indicates that you have passed or failed a qualitative or quantitative fit test as shown above for the particular respirator(s) shown. Other types will not be used until fit tested.

Employee Respirator Training Record

_____

Employee Name (printed)

I certify that I have been trained in the use of the following respirator(s):

This training included the inspection procedures, fitting, maintenance and limitations of the above respirator(s). I understand how the respirator operates and provides protection. I further certify that I have heard the explanation of the respirator(s) as described above and I understand the instructions relevant to use, cleaning, disinfecting and the limitations of the respirator(s).

_____

Employee Signature

_____

Instructor Signature

_____

Date

Employer-Provided Information for Medical Evaluations

This form may be used by the employer to give to your medical provider, information on respirator use by your employees, but it is not a required form. You can also consult directly with your medical provider and discuss the information below. You must also give the medical provider a copy of your written respiratory program and copy of the Respirators Rules.

Specific Respirator Use Information

Employee Name: _____

Company/Employer: _____

Employee job title: _____

Company Address: _____

Company contact person and phone

Name:_____#:_____

1. Will the employee be wearing protective clothing and/or equipment (other than the respirator) when using the respirator?

   Yes/No _____ If "Yes," describe protective clothing and/or equipment:
   _____
   _____
   _____
   _____

2. Will employee be working under hot conditions (temperature exceeding 77°F)?

   Yes/No _____ If "Yes", describe nature of work and duration:
   _____
   _____
   _____
   _____

3. Will employee be working under humid conditions? Yes / No_____

4. Describe any special or hazardous conditions the employee could encounter when using the respirator (for example, confined spaces, life-threatening gases).
   _____
   _____
   _____
   _____
   _____

Respiratory Protection Hazard Assessment and Selection Form

Agency/Institution: _____

Worksite: _____

General Description of Job Task: _____

_____

Job Classification(s) _____

Level of physical exertion required to perform job: _____

_____

Respiratory hazard(s) present: _____

_____

_____

PEL: _____ ACGIH TLV (if applicable: _____

Is monitoring data available? _____Yes _____No
If yes, attach to this form.

Contaminant concentrations present in the workplace:

Contaminant(s): _____ Concentration: _____

Contaminant(s): _____ Concentration: _____

Contaminant(s): _____ Concentration: _____

Does data indicate levels that exceed applicable limits? _____Yes _____No

Do data indicate IDLH concentrations? _____Yes _____ No

Note: Wherever hazardous exposure(s) cannot be identified or reasonably quantified, the atmosphere must be considered IDLH.

Does data indicate oxygen deficiency (less than 19.5%)? _____Yes _____No

Is the respirator for routine use or emergency use?_____

Additional factors (i.e. temperature and humidity levels, etc.): _____

_____

Communication requirements: _____

_____

Are engineering/ administrative controls feasible? _____Yes _____No

If no, describe reasons: _____

_____

Type of respirator selected: _____ air purifying _____ atmosphere supplying

Style of respirator selected: _____ tight-fitting _____ loose-fitting

Make:_____

Model#_____

Type of canister or cartridge to be used: _____

Cartridge/canister change schedule if applicable _____

_____

Name of
Evaluator:_____Date:_____

Title: _____

Work Phone:_____ Other:_____