

RESPIRATORY PROGRAM



Uchiyama Manufacturing America LLC

Respiratory Program

Voluntary Use

RESPIRATORY PROGRAM

PROGRAM INTRODUCTION

- 1) The objective of this Respiratory Protection Program is to prevent or minimize harmful exposures to contaminated air, which could cause occupational disease by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors.
- 2) The following documentation shall provide detailed procedures for establishing, operating, an effective Respiratory Program.
- 3) Uchiyama MFG America, LLC will attempt to limit exposures using feasible engineering controls, administrative controls and appropriate Personal Protective Equipment (PPE).

PROGRAM PURPOSE AND SCOPE

- 1) The practices and procedures described here constitutes the programs under which respirators utilized in operations affected by potential respiratory hazards.
- 2) These program guidelines are in accordance with OSHA standards Respiratory Protection 29 CFR 1910.134.

RESPIRATOR PROTECTION GUIDELINES AND REQUIREMENTS

- 1) The employer shall have a written standard operation procedure for the selection and use of respirators during routine operations and emergencies.
- 2) Selection of respirators shall be based on employee exposure to airborne hazards.
- 3) The employee shall be instructed in the proper use and limitations of respirators.
- 4) When possible, the respirator shall be assigned to individuals employees for their exclusive use.
- 5) Respirators will be regularly cleaned and disinfected.
- 6) Respirators will be stored in a convenient, clean, and sanitary place.
- 7) Respirators used routinely shall be inspected during cleaning.
- 8) Worn or deteriorated parts shall be inspected during cleaning.
- 9) Emergency respirators will be inspected thoroughly at least once a month or before and after each use.
- 10) Appropriate monitoring of work area conditions and degree of employee exposure will be maintained .
- 11) Persons shall not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to preform the work and use the required equipment.
- 12) The user of the respiratory equipment should have a medical status review prior to issuance of respirator (which will include pulmonary testing).
- 13) The medical status review may be requested at any time the physical condition of the user changes that may limit his/her ability to wear a respirator.
- 14) Only NIOSH approved respirators shall be used at the UMA. The respirator furnished shall provide adequate respiratory protection against the particular hazard for which it is designed in accordance with standards established by competent authorities. These authorities are:
 - a) OSHA
 - b) National Institute of Occupational Safety and Health (NIOSH)

PROGRAM RESPONSIBILITIES

- 1) The PESM shall be the respiratory protection program administrator.
- 2) An Industrial Hygienist is available to provide consultation support to the program administrator.
- 3) The administrator is responsible for the following:
 - a) Coordinating effective employee respiratory protection
 - b) Identifying need for respiratory selection
 - c) Provide selection of respirator types
 - d) Screening employees for potential medical problems
 - e) Schedule Fit Tests with approved provider

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- f) Coordination of Medical Surveillance testing with approved medical provider
- g) Implementing training and instruction program
- h) Periodically inspect and check the use and maintenance of respirators (implementing revisions as necessary)
- i) Measuring and documenting exposure levels with Industrial Hygienist
- j) Annual review and update of the overall program if necessary
- k) Insuring records are properly maintained for:
 - 1. Medical Surveillance
 - 2. Fit Testing
 - 3. Employee Training
 - 4. Exposure Measurement Testing
 - 5. Inspection Records of Respirators
 - 6. Periodic Audits on Use and Maintenance of Respirators
- l) Informing contractors of hazards to which their employees may be exposed
- m) Reviewing records of contractors training for his/her employees

SUPERVISOR RESPONSIBILITIES

- 1) Insuring that respirators are available as needed
- 2) Insuring employees under their supervision wear respirators when required
- 3) Conduct annual training on the proper use, storage, and maintenance of respirators in his/her employees.

EMPLOYEE RESPONSIBILITIES

- 1) Using the respirator supplied in accordance with the instructions in this program
- 2) Maintain his/her personal respirator in clean storage and working condition and reporting malfunctions to his/her supervisor
- 3) Participating in annual training
- 4) Participating in medical surveillance testing and fit testing
- 5) Performing a documented inspection of his/her respirator
- 6) Performing an inspection of his/her respirator before and after each use

AVAILABILITY OF RESPIRATORS

- 1) If a task requires a respirator, the employee shall be issued a respirator at company expense.
 - a) This includes replacement parts, cartridges, and filters.
- 2) Each respirator user shall be trained in how to use and maintain the respirator.
- 3) Respirators that are issued for permanent possession are the responsibility of the employee.

SELECTION OF RESPIRATORS

- 1) Only respirators approved or accepted by NIOSH/MSHA or OSHA shall be used.
- 2) Respirators shall be selected based on airborne exposures to employees.
- 3) This selection process will take into consideration the type of operations, exposure limits, and the comfort of the employee.
- 4) Uchiyama MFG America LLC. shall provide the appropriate respirators and maintain a supply of replacement cartridges.
- 5) It is the responsibility of the Safety Manager to ensure the selection of respirator is approved for the task.

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VOLUNTARY USE OF RESPIRATORS

- 1) OSHA requires that the voluntary use of respirators (i.e. when respirators are not required by UMA), be controlled as strictly as if their use were required
- 2) So, any employee wearing a respirator voluntarily shall fall under this respiratory protection program, be issued a copy of Appendix D of 1910.134, and fill out a medical questionnaire (Appendix C) and have it evaluated by an appropriate individual.
- 3) Training will be conducted on the proper storage, cleaning, and maintenance of the respirator.
- 4) All steps will be taken to ensure that the respirator does not pose a health risk to the person donning it.
- 5) Exception: Employees whose only use of respirators involves voluntary use of filtering (non-sealing) face pieces (dust masks, with one OR two straps) do not fall under this program.
- 6) These personnel are still trained on the proper wear and use without medical evaluation.

RESPIRATOR MAINTENANCE

- 1) All half faced respirators shall be maintained in good working order.
- 2) To facilitate this the following steps are to be followed:
 - a) Respirators must be cleaned after each use and stored in a clean dry area
 - b) The respirator shall be cleaned and disinfected
 - c) Cartridges must be replaced when they become dirty
 - d) The face plate should be cleaned with clean wipes after each use
 - e) Respirators shall be inspected before use each time
 1. Inspection items will include but is not limited to the following:
 - a. Tightness/Effectiveness of connections
 - b. Condition of faceplate
 - c. Condition of headbands/straps
 - d. Condition of filters/holders
 - e. Condition of valves, both inlet and outlet
- 7) Any problems with respirator shall be reported to the supervisor.

TRAINING OF EMPLOYEES

- 1) Effective training for employees who are required to use respirators is essential.
- 2) The training must be comprehensive, understandable, and recur annually and more often if necessary.
- 3) Training will be provided prior to requiring the employee to use a respirator in the workplace.
- 4) The training shall ensure that each employee can demonstrate knowledge of at least the following:
 - a) Potential Hazards of contaminants in work area
 - b) Who must respirators, and under which conditions
 - c) Decryption of respirator
 - d) Limitations of respirators
 - e) Proper wearing, adjustment, and testing for fit
 - f) Hands on experience in use of respirator
 - g) Inspection, cleaning, storage, and maintenance procedures
 - h) Emergency situations
 - i) Review of written respirator program
- 5) Retraining shall be conducted annually and when:
 - a) Changes in the workplace or the type of respirator render previous training obsolete
 - b) Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill
 - c) Other situation arises in which retraining appears necessary to ensure safe respirator use.

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- 6) Training will be conducted by instructors who have adequate knowledge of OSHA training requirements.
- 7) Training is divided into the following sections:
 - a) **Classroom Instruction**
 1. Overview of UMA Respiratory Protection Program & OSHA Standard
 2. Respiratory Protection Safety Procedures
 3. Respirator Selection
 4. Respirator Operation and Use
 5. Why the respirator is necessary
 6. How improper fit, usage, or maintenance can compromise the protective effect
 7. Limitations and capabilities of the respirator
 8. How to use the respirator effectively in emergency situations, including respirator malfunctions
 9. How to inspect. Put on and remove, use, and check the seals of the respirator
 10. What the procedures are for maintenance and storage of the respirator
 11. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators
 12. Change out schedule and procedure for air purifying respirators (APR)

FITTING OF RESPIRATORS

- 1) Proper fitting of respirators is essential if employees are to receive the protection for which this program is designed.
 - a) To insure good face seal, employees must be fitted for the respirator.
- 2) Individual employee fit testing of respirators using qualitative and/or quantitative fitting methods shall be performed to select the proper brand and size of respirator for a good fit.
- 3) Proper fit shall be checked each time the respirator is worn. Respirators may not be worn when projections across the face piece prevent a good face seal (such as facial hair or beard).
- 4) Only respirators approved or accepted by NIOSH or OASHA shall be used for fitting.
- 5) Respirators may only be NIOSH approved respirator type.

Note: Make sure a proper fit is achieved before entering a potentially hazardous area.

RECORDS

- 1) The following records shall be maintained:
- 2) Exposure measurement data for facility
- 3) Program evaluation
- 4) Fit test results, employee training, medical surveillance, inspections of respirators, and respirator compliance and maintenance
- 5) The following records will be kept for the corresponding time frame:
 - a) Exposure Measurement Data
 - b) Program Evaluation
 - c) Respirator Fitting
 - d) Medical Surveillance
 - e) PM Records
 - f) Training Records

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PHYSICAL AND MEDICAL QUALIFICATIONS

- 1) Records of medical evaluations must be retained and made available in accordance with 29 CFR 1910.1020.
- 2) Medical Evaluation Required
 - a) Using a respirator may place a physiological burden on employees that varies with the type or respirator worn, this job and workplace conditions in which the respirator is used, and the medical status of the employee.
 - b) UMA provides a medical evaluation to determine the employee's ability to use a respirator , before the employee is fit tested or required to use the respirator in the workplace.
- 3) Medical Evaluation Procedures
 - a) The employee will be provided a medical questionnaire by the PESM and deliver it completely filled out to a designated Occupational Health Care Provider.
- 4) Follow-up Medical Examination
 - a) UMA shall ensure that a follow-up medical examination is provided for an employee who gives a positive response to any question among question in Part B of the questionnaire or whose initial medical examination demonstrates the need for a follow-up medical examination.
 - b) The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the Physician deem necessary to make a final determination.
- 5) Administration of the Medical Questionnaire and Examinations
 - a) The medical questionnaires and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee.
 - b) The medical questionnaire shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee.
 - c) The medical questionnaire shall be administered in a manner that ensures that the employee understands its content.
 - d) UMA shall provide the employee with an opportunity to discuss the questionnaire and examination results with the Physician.
- 6) Supplemental Information for the Physician
 - a) The following information must be provided to the Physician before the Physician makes a recommendation concerning an employee's ability to use a respirator
 - b) The type and weight of the respirator to be used by the employee
 - c) The duration and frequency of respirator use (including use for rescue and escape)
 - d) The expected physical work effort
 - e) Additional protective clothing and equipment worn
 - f) Temperature and humidity extremes that may be encountered
 - g) Any supplemental information provided previously to the Physician regarding an employee need not to be provided for a subsequent medical evaluation if the information and the Physician remain the same.
 - h) UMA has provided the Physician with a copy of the written respiratory protection program.
- 7) Medical Determination
 - a) In determining the employee's ability to use a respirator, UMA shall obtain a written recommendation regarding the employee's ability to use the respirator from the Physician.

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- b) The recommendation shall provide only the following information:
 - 1. Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace condition in which the respirator will be used, including whether or not the employee is medically able to use a respirator
 - 2. The need, if any, for follow-up medical evaluations
 - 3. A statement that the Physician has provided the employee with a copy of the Physician's written recommendation
 - 4. If the respirator is a negative pressure respirator and the Physician finds a medical condition that may place the employee's health at risk if the respirator is used, UMA shall provide an APR if the Physician's medical evaluation finds that the employee is medically able to use a negative pressure respirator, then UMA is no longer required to provide an APR.

8) Addition Medical Evaluation

At a minimum, UMA shall provide additional medical evaluations that comply with the requirements of this section if:

An employee reports medical signs or symptoms that are related to ability to use a respirator

A Physician, supervisor, or the respiratory protection

Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation

A change occurs in workplace conditions (physical work effort, protective clothing, temperature, etc..) that may result in a substantial increase in the physiological burden placed on an employee.

RESPIRATOR FILTER & CANISTER REPLACEMENT

- 1) An important part of the Respiratory Protection Program includes identifying the useful life of cartridges and filters used on air-purifying respirators.
- 2) Each filter and cartridge shall be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant.
 - a) If there is no ESLI appropriate for the conditions, a change schedule for canisters and cartridges based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life shall be implemented.
- 3) Filter & Cartridge Change Schedules
 - a) Stock of spare filters and cartridges shall be maintained to allow immediate change when required or desired by the employee.
- 4) Cartridges shall be changed based on the most limiting factor below:
 - a) Prior to expiration date
 - b) Manufacturers recommendations for the specific use and environment
 - c) After each use
 - d) When requested by employee
 - e) When contaminate odor is detected
 - f) When restriction to air flow has occurred as evidenced by increase effort by using to breath normally
- 5) Cartridges shall remain in their original sealed packages until needed for immediate use.

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- 6) Filters shall be changed on the most limiting factor below:
 - a) Prior to expiration date
 - b) Manufacturers recommendations for the specific use and environment
 - c) When requested by employee
 - d) When contaminate odor is detected
 - e) When restriction to air flow has occurred as evidenced by increase effort by using to breath normally
 - f) When discoloring of the filter media is evident
- 7) Filter shall remain in their original sealed package until needed for immediate use

RESPIRATOR FIT TESTING

- 1) Before an employee is required to use any respirator with a negative or positive pressure tight fitting face piece, the employee must be fit tested with the same make, model, style, and size of respirator will be used.
- 2) UMA shall ensure that an employee using a tight fitting face piece respirator is fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model, or make) is used, and at least annually thereafter
- 3) UMA has established a record of the qualitative and quantitatively fit (if necessary) tests administered to employees including :
 - a) The name or the identification of the employee tested
 - b) Type of fit test performed
 - c) Specific make, model, style, size of respirator tested
 - d) Date of test
 - e) The pass fail results for QLFTs or the fit factor and strip chart recording of the test results for QNFTs
- 4) Additional fit tests will be conducted whenever the employee reports, or UMA, Physician supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respiration fit.
 - a) Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.
- 5) If after passing a QLFT or QNFT, the employee notifies UMA, program administrator, supervisor, or Physician that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be retested.

TYPES OF FIT TESTS

- 1) The fit test shall be administered using an OSHA- accepted QLFT or QNFT protocol. The OSHA- accepted QLFT and QNFT protocol and procedure are contained in Appendix A of OSHA Standard 29 CFR 1910.134.
 - a) **QLFT** - may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.
 1. If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tightfitting half face pieces, or equal to or greater than 500 for tight fitting full face pieces, the QNFT has been passed with that respirator.
 - b) **Fit testing of tight-fitting** - atmosphere-supplying respirators and tight fitting powered air-purifying respirators shall be accomplished by preforming quantitative and qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

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- c) **Qualitative Fit Testing** - of these respirators shall be accomplished by temporarily converting the respirator user's actual face piece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator face piece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator face piece.
 - d) **Quantitative fit testing** - of these respirators shall be accomplished by modifying the face piece to allow sampling inside the face piece in the breathing zone of the user., midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate face piece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the face piece.
- 2) Any modifications to the respirator face piece for fit testing shall be completely removed, and the face piece restored to NIOSH approved configuration, before that face piece can be used in the workplace.
 - 3) Fit test records shall be retained for respirator users until next fit test is administered.
 - 4) Written materials required to be retained shall be made available upon request to affected employees .

RESPIRATOR OPERATION AND USE

- 1) Respirators will only be used following the respiratory protection safety procedures established in this program.
- 2) The Operations and Use Manuals for each type of respirator will be maintained by the Program Administrator and be available to all qualified users.
- 3) Surveillance by the direct supervisor shall be maintained of work area conditions and degree of employee exposure or stress.
- 4) When there is a change in work area conditions or degree or employee Exposure or stress that may affect respirator effectiveness, UMA shall reevaluate the continued effectiveness of the respirator.
- 5) For continued protection of respirator users, the following general use rules apply:
 - 1. Users shall not remove respirators while in a hazardous environment
 - 2. Respirators are to be stored in sealed containers out of harmful atmospheres
 - 3. Store respirators away from heat and moisture
 - 4. Store respirators such that the sealing area does not become distorted or warped
 - 5. Store respirator such that the face piece is protected
- 6) Face piece seal protection
 - a) UMA does not permit respirators with tight fitting face pieces to be worn by employees who have:
 - 1. Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function
 - 2. Any condition that interferes with the face-to-face piece seal or valve function
- 7) If an employee wears corrective glasses or goggles or other personal protective equipment, UMA shall ensure that such equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user.

CONTINUING EFFECTIVENESS OF RESPIRATORS

- 1) UMA shall ensure that employees leave the respirator use area:
 - a) To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use
 - b) If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage or the face piece
 - c) To replace the respirator or the filter, cartridge, or canister elements.
- 2) If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece, UMA will replace or repair the respirator before allowing the employee to return to the work area.

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PROCEDURES FOR IDLH ATMOSPHERES (N/A AT THIS TIME)

- 1) For all IDLH atmospheres, UMA shall ensure that:
 - a) One employee or, when needed, more than one employee is located outside the IDLH atmosphere
 - b) Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere.
 - c) The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue
 - d) UMA or designee authorized to do so by UMA, once notified, provides necessary assistance appropriate to the situation.
- 2) Employee(s) located outside the IDLH atmosphere will be equipped with:
 - a) Pressure demand or other positive pressure SCBA's, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA
 - b) Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry
 - c) Equivalent means for rescue where retrieval equipment is not required.

CLEANING & DISINFECTING

- 1) UMA shall provide each respirator user with a respirator that is clean, sanitary, and in good working order.
- 2) UMA shall ensure that respirators are cleaned and disinfected using Standard Operating Procedure (SOP): Cleaning and Disinfecting .
- 3) The respirator shall be cleaned and disinfected when:
 - a) Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
 - b) Respirators issued to more than one employee shall be cleaned and disinfected after each use.
 - c) Respirators maintained for emergency use shall be cleaned and disinfected after each use.
 - d) Respirators used in fit testing and training shall be cleaned and disinfected after each use.
- 4) Cleaning and Storage of respirators assigned to specific employees is the responsibility of that Employee.

RESPIRATOR INSPECTION

- 1) All respirators will be inspected after each use and at least monthly.
- 2) Should any defects be noted, the respirator will be taken to the Program Administrator.
 - a) Damaged respirators will be repaired or replaced.
- 3) The inspection of respirators loaned on "Permanent Checkout" is the responsibility of that trained Employee.
- 4) Respirators shall be inspected as follows:
 - a) All respirators used in routine situations shall be inspected before each use and during cleaning
 - b) All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use.
 - c) Emergency escape-only respirators shall be inspected before being carried into the workplace for use
- 5) Respirator inspections include the following:
 - a) A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head strap, valves, connecting tube, and cartridges, canisters, or filters.
 - b) A check of elastomeric parts for pliability and signs of deterioration

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- 6) For Emergency Use Respirators the Additional Requirements apply:
 - a) Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator
 - b) Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files.
 - c) This information shall be maintained until replaced following a subsequent certification.

RESPIRATOR STORAGE

- 1) Respirators are to be stored as follows:
 - a) All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals they shall be packed or stored to prevent deformation of the face piece and exhalation valve.
 - b) Emergency respirators (when applicable) shall be:
 1. Kept accessible to work area
 2. Stored in compartments or in covers that are clearly marked as containing emergency respirators
 3. Stored in accordance with any applicable manufacturer instructions

RESPIRATOR REPAIR

- 1) Respirator that fail an inspection or otherwise found to be defective will be removed from service to be discarded, repaired, or adjusted in accordance with the following procedures:
 - a) Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator.
 - b) Repairs shall be made according to the manufacturer's recommendations and specification for the type and extent of repairs to be performed
 - c) Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

CONTRACTOR COMPLIANCE

- 1) All contractors shall be expected to abide by this written program.
- 2) The sponsor of the contractor is responsible for informing the contractor of any hazards his/her employees may be exposed to prior to performing any work on the plant site.
- 3) The contractor is responsible for providing the following information to the Safety Manager before performing any work, which requires the use of respirator:
 - a) Documentation of fit testing for each employee wearing a respirator
 - b) Documentation or required training on the use and care of respirators given to his/her employees
 - c) Disposal respirator should be replaced as needed.