Function of Beauty 5570 Snydertown Rd. Paxinos, PA 17824

Respiratory Protection

1.0 Purpose

The purpose of this Respiratory Protection Program is to coordinate the proper selection, medical evaluation, training, use, and maintenance of respiratory protective equipment necessary to protect employees from exposure to airborne contaminants.

2.0 Scope

This procedure applies to all full-time, part-time, including all contractors and temporary employees who are hired to perform a specific task that may require the use of a respirator at Function of Beauty.

3.0 Program Responsibilities

3.1. EHS Department

3.1.1. Function of Beauty's EHS Department is designated and will function as the Respiratory Protection Program Administrator.

3.1.2. The Program Administrator has been selected to make decisions and implement changes in the respiratory protection program, when appropriate.

3.1.3. Program development and implementation.

3.1.4. Supervision of respirator selection.

3.1.5. Respirator user instruction and training.

3.1.6. Establishment of a medical evaluation program and fit test.

3.1.7. Ensuring medical clearance.

3.1.8. Establishment of a continuing program of equipment cleaning, inspection, and cartridge change-out schedules.

3.1.9. Designation of proper respirator storage areas.

3.1.10. Periodic evaluation of the respiratory protection program to assure continued functioning and effectiveness.

3.1.11. Conduct periodic audits to inspect each respirator to assure that these devices are properly used, stored, maintained and cleaned;

3.1.12. Recordkeeping.

3.2. Management

3.2.1. Support and ensure that all elements of this procedure are implemented for the protection of employees.

3.2.2. Assist the EHS Department with efforts to implement, maintain, and enforce this program;

3.2.3. Ensure respiratory standard operating procedures are being implemented and enforced;

3.2.4. Ensure employees that are required to wear respirators have obtained the required training and medical clearance prior to wearing a respirator.

3.3.

3.4. Employees
- 3.4.1. Participate in respiratory protection training;
- 3.4.2. Complete the medical evaluation questionnaire and obtain a written medical clearance prior to wearing a respirator;
- 3.4.3. Use respiratory protection as instructed during training and according to specific manufacturer recommendations;
- 3.4.4. Clean and disinfect their respirator to keep it in good working condition and to prevent contamination;
- 3.4.5. Store the respirator as instructed, to prolong the life of the equipment and maximize effectiveness;
- 3.4.6. Follow the procedures and guidelines outlined in this program, as they relate to their defined duties;
- 3.4.7. Wear respiratory protection as required; and
- 3.4.8. Contact their Manager/Supervisor and/or the EHS Department if there are any questions or concerns in regard to procedures defined in the program.

4.0 Definitions

4.1. Assigned Protection Factor (APF)
- 4.1.1. A laboratory-determined protection factor assigned to a specific respiratory protection system or type of respirator.

4.2. Canister or Cartridge
- 4.2.1. A specific manufacturer-supplied container with a filter, sorbent, catalyst, or combination of these items, which filters specific contaminants from the air as the air passes through the container. Also referred to as an air-purifying filter or element.

4.3. Dust Mask
- 4.3.1. A negative pressure particulate respirator with a filter as an integral part of the face-piece or with the entire face-piece composed of the filtering medium (with no exhalation valves present). Also referred to as a filtering facepiece.

4.4. Emergency Situations
- 4.4.1. An occurrence such as, but not limited to, equipment failure, ruptures of containers, or failure of control equipment that may result in exposure to an airborne contaminant.

4.5. Employee Exposure
- 4.5.1. Exposure to an airborne contaminant concentration that would occur if the employee were not using respiratory protection.

4.6. Fit Test

4.6.1. A protocol used to qualitatively or quantitatively evaluate the fit of a respirator on an individual. Required only for tight-fitting facepiece respirators.

4.7. High-Efficiency Particulate Air (HEPA) filter

4.7.1. A filter that is 99.97% efficient in removing mono-dispersed particles of 0.3 micrometers (um) in diameter or less. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

4.8. Immediately Dangerous to Life or Health (IDLH)

4.8.1. An atmospheric contaminant concentration that poses a potential immediate threat to life, could cause irreversible health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

4.9. Maximum Use Concentration (MUC)

4.9.1. The highest concentration of a contaminant that a specified respirator-filter cartridge combination can provide protection against.

4.10. Negative Pressure Respirator (tight-fitting)

4.10.1. Respirator in which the air pressure inside the respirator facepiece is negative during inhalation with respect to the ambient air pressure outside the facepiece.

4.11. Oxygen deficient atmosphere

4.11.1. An atmosphere with an oxygen content below 19.5%, by volume.

4.12. Permissible Exposure Limit (PEL) – OSHA (Occupational Safety & Health Administration)

4.12.1. An occupational exposure limit assigned to a specific hazardous substance and enforced by OSHA. Most OSHA PELs are expressed as 8-hour time-weighted average (TWA) concentrations. Also, see TLV.

4.13. Physician or Other Licensed Health Care Professional (PLHCP)

4.13.1. An individual whose legally permitted scope of practice, e.g., license, registration, or certification, etc., allows him or her to independently provide, or be delegated the responsibility to provide, the health care services required in this procedure.

4.14. Positive Pressure Respirator

4.14.1. A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

4.15. Respiratory Inlet Covering

4.15.1. That portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a face-piece, helmet, hood, suit, or a mouthpiece respirator with a nose clamp.

4.16. Service Life

4.16.1. The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

4.17. Threshold Limit Values (TLVs) – American Conference of Governmental Industrial Hygienists (ACGIH)Airborne concentration of a substance and the conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects.

4.17.1. Similar to an OSHA, PEL, a TLV constitutes a time-weighted average concentration for an 8-hour work period, 40-hour workweek as listed by the ACGIH.

4.18. Tight-Fitting Face-Piece

4.18.1. Respiratory inlet covering that forms a complete seal with the face.

4.19. Time-Weighted Average (TWA)

4.19.1. Airborne exposure concentration for a conventional 8-hour workday and a 40-hour workweek.

4.20. User Seal Check

4.20.1. An action conducted by the user to determine if the respirator is properly sealed to the face.

5.0 General Procedure

5.1. Respirator Requirements

5.1.1. Respirators must be NIOSH/CSA certified.

5.1.2. Selected respirators must be the appropriate type selected to protect against the physical form and/or chemical state of the contaminant, e.g., a dust mask is not suitable for chemical vapors.

5.1.3. Respirator class, e.g., half mask or full facepiece, including any filtering media selected must NOT be used in any environment where the airborne chemical concentration exceeds the calculated maximum use concentration (MUC) for the respirator type and contaminate loading. MUC is as follows:

5.1.3.1. MUC = Assigned Protection Factor X Applicable Occupational Exposure Level

5.1.3.2. If the calculated MUC exceeds the established IDLH, the ensemble must NOT be worn into the IDLH environment.

5.1.4. Respirator filtering media having an end-of-service life (ESLI) indicator should be selected. If the device does not have an ESLI, the ESLI must be researched for determining both the correct chemical cartridge as well as the cartridge change-out schedule.

5.1.5. In addition to the requirements expressed in this procedure, specific chemical guidelines can be found within the specific chemical procedures found in Function of Beauty's chemical management procedures.

5.2. Cartridge Requirements

5.2.1. Included in the respirator selection is cartridge selection.

5.2.2. Cartridges have a shelf life of 5 years when kept in the packaging.

5.2.3. In addition, a standard change-out schedule is 30 days of use.

5.2.4. Respirator cartridges selected for protection against a chemical material having an established occupational exposure which is BELOW the documented odor threshold must be changed out at least daily, e.g., benzene has a PEL of 5 ppm with an established odor threshold of approximately 32 ppm.

5.3. Employee Wear Requirements

5.3.1. Employees who wear tight-fitting, negative pressure air-purifying respirators must NOT:

5.3.1.1. Have any facial hair that interferes with the seal of the face-piece and skin.

5.3.1.2. Wear jewelry, headgear, or other PPE that interferes with a firm seal.

5.3.2. Respirator users must be medically cleared, fit-tested, and trained before being permitted to wear a respirator.

5.3.3. Respirators must be inspected before use, cleaned regularly, and stored in a clean, protected environment.

5.3.4. Respirators must be individually assigned.

5.3.5. Dust masks must be discarded when **D**irty, **D**efective, **D**amaged when breathing becomes **D**ifficult, and at least **D**aily.

5.3.5.1. These 5-ds apply to all disposable dust masks and can also be applied for a chemical cartridge filter media.

5.3.6. A contact lens must not be worn under a full facepiece respirator.

5.3.7. Spectacle kits can be provided for eyeglass users who wear full facepiece units.

6.0

7.0 Evaluation of Hazards

7.1. Baseline Evaluation

7.1.1. Industrial hygiene (IH) data review and/or additional personal exposure monitoring (when necessary) must be conducted in order to quantify employee exposure to contaminants of concern.

7.1.2. Exposure monitoring must be conducted following established IH monitoring guidelines.

7.1.3. Exposure samples must be analyzed by an American Industrial Hygiene Association (AIHA) accredited laboratory.

7.1.4. Additional exposure monitoring of employee groups and/or processes pertinent to company operations should be conducted in the direction of the EHS Department.

7.2. Other Evaluations

7.2.1. In the absence of IH monitoring data, e.g., new process, new production set-up, equipment, etc., and before IH monitoring can be performed, Function of beauty EHS must adhere to general guidelines when determining if respiratory protection is necessary.

7.2.2. This information can also be used as respirator selection criteria:

7.2.2.1. Identify contaminant(s) of concern;

7.2.2.2. Review corresponding product Safety Data Sheet (SDSs);

7.2.2.3. Evaluate job tasks associated with the contaminant (s) of concern;

7.2.2.4. Quantify airborne contaminant concentrations per job task, e.g., review similar or identical tasks; and

7.2.2.5. Receive input from potential respirator users.

7.2.3. For new production or manufacturing processes and before obtaining the IH data to verify the need for respiratory protection, employees who have been medically evaluated, fit-tested and trained must wear the proper respirator pending the results of industrial hygiene data.

8.0 Mandatory Respiratory Protection Requirements

8.1. This section outlines requirements for respiratory protection based on hazard risk analysis, industrial hygiene testing, safety data sheet (SDS) requirements, and other relevant factors based on job function or task(s)

8.2. Use of adequate respiratory protection is required for:

8.2.1. All batching, pre-weigh, hair goals, etc. employees when

8.2.1.1. Working, in any way, with solid, semi-solid, flakes, or other materials that have the potential to release particulate into the immediate atmosphere or breathing zones

8.2.1.2. Working near others that are working in any way, with solid, semi-solid, flakes, or other materials that have the potential to release particulate into the immediate atmosphere or breathing zones

8.2.1.3. For such employees, adequate respiratory protection is minimally defined as a N95 rated disposable or reusable tight fitting respiratory of the brand or type matching that which they have been medically cleared and fit tested to wear

9.0 Employee Medical Clearance

9.1. Medical Evaluation Requirements

9.1.1. Function of Beauty has established a relationship with local occupational clinics at each operating location to administer the medical evaluation program and a quantitative fit test.

9.1.2. A medical evaluation is required for ALL respirator users except for employees who voluntarily use a dust mask or other type of similar disposable particulate respirator.

9.1.3. Employees who refuse to be medically evaluated cannot be assigned to work in areas where they would otherwise be required to wear a respirator.

9.1.4. Medical evaluations must be conducted by a physician or licensed healthcare professional (PLHCP) to determine the employee's ability to use a respirator before the employee is required to use the respirator in the workplace.

9.2. Initial Medical Assessment

9.2.1. The medical assessment must be provided during the employee's normal working hours or at a time and place convenient to the employee, and at no cost to the employee.

9.2.2. The initial assessment must be performed by providing a **FOB-EHS-014-001 - Respirator Medical Evaluation Questionnaire** to each potential respirator user.

9.2.3. Responses to this questionnaire are confidential.

9.2.4. Based on the questionnaire responses, the medical provider must decide if additional information and/or diagnostic testing are necessary to determine the individual's ability to safely wear respiratory protection.

9.2.5. Such testing may include a combination of any of the following:

9.2.5.1. Patient physical;

9.2.5.2. Patient vitals, e.g., blood pressure, pulse, etc.;

9.2.5.3. Pulmonary Function Test (PFT);

9.2.5.4. Chest X-ray; and
9.2.5.5. Sputum cytology.
9.2.6. **FOB-EHS-014-002 - Medical Clearance for Respirator Use** form is provided and must be given to the PLHCP, signed by the PLHCP and employee, and returned to be retained by the EHS department.

9.3. Subsequent Medical Assessments
9.3.1. Function of Beauty requires annual medical assessments to be completed for all employees enrolled in the respiratory protection program, in order to ensure nothing has changed that could impact their ability to use a respirator effectively.

9.4. Additional Cause for Medical Evaluation
9.4.1. The EHS Department may require additional medical assessments under the following circumstances:
9.4.1.1. An employee reports medical signs or symptoms that are related to their inability to use a respirator;
9.4.1.2. A Manager/Supervisor informs an employee that they need to be re-evaluated;
9.4.1.3. Any audit of the program indicates a need for re-evaluation;
9.4.1.4. Changes occur in the workplace conditions, e.g. physical work effort, protective clothing, temperature, etc., that may result in a substantial increase in the physiological burden placed on an employee; and
9.4.1.5. Noticeable change(s) in the physical condition of the employee wearing a respirator.

10.0 Fit Testing

10.1. Fit Test Procedure
10.1.1. Fit testing is required for all employees using negative or positive pressure tight-fitting respirators. Fit testing is NOT required for voluntary use of particulate type dust masks.
10.1.2. Fit testing scheduling and completion, including scheduling, using a fit test kit or portacount, is left to the discretion of the EHS department for completion.
10.1.3. Fit testing must be performed before the respirator is actually used in the workplace.
10.1.4. Fit testing is required annually and/or sooner if a different respirator facepiece is used or a change in the employee's physical condition, e.g., weight loss, dental repair, etc., that could affect respirator fit.

10.1.5. QNFT (Quantitative fit testing) is recommended for all employees as best practice. Qualitative fit testing (QLFT) can be used to fit test negative pressure APR if they are used in environments less than 10X the corresponding occupational exposure limit.

10.1.6. Fit-testing must be documented on **FOB-EHS-014-003 - Respirator Fit Test Record Sheet**

10.1.7. Fit testing must NOT be performed if there is any facial hair, e.g., stubble beard growth, beard, mustache, or sideburns, which may impact the respirator sealing surface.

10.1.8. Fit testing must NOT be performed if the test subject exhibits any difficulty in breathing during the test.

10.1.9. The test subject must be referred to a licensed health care provider to determine whether he/she can wear a respirator while performing their job duties.

11.0 Limitations of Respiratory Protective Equipment

11.1. General Limitations

11.1.1. The following limitations apply to the use of all respiratory protection which is not self-contained breathing apparatus and/or supplied-air respirators:

11.1.1.1. Respirators at Function of Beauty are not designed for use in atmospheres containing less than 19.5% oxygen.

11.1.1.2. These respirators must only be used in adequately ventilated areas containing sufficient oxygen to support life.

11.1.2. Employees should immediately leave the area they are working in if:

11.1.2.1. Breathing becomes difficult; and/or

11.1.2.2. Dizziness or other distress occurs.

11.1.3. These devices are not designed for use in atmospheres where concentrations of contaminants exceed the MUC and/or contain concentrations of contaminants which are IDLH.

11.1.4. These devices must only be used in accordance with manufacturer instructions and within the limitations pertaining to that type of respirator.

11.1.5. Respirator devices must never be altered or modified.

12.0 Respirator Maintenance

12.1. Cleaning

12.1.1.

12.1.2. Respiratory protection must be thoroughly cleaned and disinfected as often as necessary to remain sanitary based on the duration of use and task-specific conditions. If used by more than one worker, the respirator must be thoroughly cleaned and disinfected after each use or more often as necessary.

12.1.3. All cleaning and disinfecting must be as per the manufacturer's instructions.

12.1.4. Respirators must be air-dried prior to storage.

12.1.5. Spent filters can be disposed of in the ordinary trash unless they are contaminated with asbestos.

12.2. Storage

12.2.1. Respirators and all components must be properly stored in a clean environment preferably stored inside a sealed plastic bag. Employees must ensure their respirator is protected from:

12.2.2. Damage and contamination;

12.2.3. Dust, sunlight and extreme temperatures and moisture;

12.2.4. Damaging chemicals; and

12.2.5. Deformation of the facepiece and/or other critical components.

12.2.6. Boxes of particulate masks or similar type disposable particulate respirators must be stored in a clean, non-contaminated locker or cabinet.

12.3. Inspection

12.3.1. Respirators must be inspected as per manufacturer instruction before each use and during cleaning.

12.3.2. In addition, any respirator that has been dropped, shows signs of damage, rough treatment, etc., must be removed from service and inspected.

12.4. Repair

12.4.1. Only the manufacturer or individual trained by the manufacturer may repair defective respirators. Respirator parts from different manufacturers are not interchangeable; components of the selected respirator must NEVER be substituted, omitted, modified, or added. Only identical replacement parts must be used.

12.4.2. A respirator approval will be invalid if an air hose, gasket or any other part has been replaced from a different brand of a respirator.

13.0 Program Evaluation

13.1. Evaluation Requirements

13.1.1. Annually, the EHS Department will assess the program's effectiveness.

13.1.2. The program evaluation will serve to audit the following:

13.1.3. Employee's knowledge of respirator training,
13.1.4. Employee's knowledge of the proper respirator use; and
13.1.5. Employee's knowledge of proper respirator maintenance.
13.1.6. The annual evaluation must include, but not be limited to, the following:
13.1.7. Compliance with 29 CFR 1910.134;
13.1.8. Adequacy of the respirator selection criteria, the respirators are being used appropriately for the hazards, any additional job tasks that require respirators, as per Appendix 2-Respirator Selection and Use;
13.1.9. Compliance with components of this written procedure;
13.1.10. Adequacy of training program; and adequacy of recordkeeping.
13.1.11. Any problems found during the evaluation must be corrected.

14.0 Voluntary Use of Respiratory Protection

14.1. Voluntary User Requirements

14.1.1. Voluntary use of respiratory protection (with the exception of dust mask respirators) should NOT be standard practice. The need to voluntarily wear any respirator other than a dust mask requires written direction from the employee's physician and an evaluation by the EHS Department.
14.1.2. Particulate masks or similar type disposable particulate respirators can be provided at the request of employees even when they are not required, as long as such respirator does not itself create a hazard.
14.1.3. The EHS Department must be contacted and must visually evaluate the tasks performed where the particulate dust mask or other type of similar disposable particulate respirator will be used on a voluntary basis. FOB-SAF-POL - Voluntary Use of a Respirator must be provided to employees requesting and voluntarily using a particulate mask or similar device.
14.1.4. Employees must read, sign, and return a copy of the Voluntary Use of a Respirator to the EHS Department. Medical evaluation and fit testing are not required when voluntary use involves a particulate dust mask or similar disposable particulate respirator.
14.1.5. The use of respirators on a voluntary basis is limited to a particulate dust mask or other type of similar disposable particulate respirator.

15.0 Training

15.1. Initial Training

15.1.1. Employees who wear respiratory protective equipment must be provided initial training based on the guidelines outlined in this written procedure.
15.1.2. Respirators users will receive the following information and training:

15.1.3. Information: Employees will be informed of:
- 15.1.3.1. Individual roles and responsibilities;
- 15.1.3.2. Specific hazards for which respiratory protection is required;
- 15.1.3.3. Function of the respiratory protection devices, including their limitations;
- 15.1.3.4. Identification of signs and symptoms that may affect the ability to safely use a respirator;
- 15.1.3.5. Respirator maintenance and storage procedures; and
- 15.1.3.6. Potential health implications of not properly wearing respiratory protective equipment

15.1.4. Training: Employee training will include the following:
- 15.1.4.1. Proper way to don and doff a respirator;
- 15.1.4.2. Effective use of the respirator in emergency situations, e.g., situations in which the respirator malfunctions; and
- 15.1.4.3. Proper ways to inspect, clean, and maintain the equipment.

15.1.5. Each employee that requests a particulate dust mask or disposable particulate respirator when performing tasks particles or shavings that do not exceed the occupational exposure is considered voluntarily use and must receive the following information and training:
- 15.1.5.1. The function of the respiratory protection equipment, including the limitations;
- 15.1.5.2. Procedures for fit, maintenance, and storage;
- 15.1.5.3. Disposal; and
- 15.1.5.4. Information contained in Function of Beauty's Voluntary Use of a Respirator Form.

15.2. Refresher Training

15.2.1. Refresher training will be conducted under the following circumstances:
- 15.2.1.1. Annually after the initial assignment of the respirator.
- 15.2.1.2. If changes in the workplace render previous training obsolete;
- 15.2.1.3. If inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill or when any other situations arise in which retraining appears necessary to ensure safe respirator use;
- 15.2.1.4. If the type(s) of respiratory protection used changes.

15.2.2. Note: Refresher training will incorporate the topics discussed during the initial training with emphasis on any inadequacies/concerns noted on the annual program review.

16.0 Temporary/Part Time Employees and Contractors

16.1. Temporary and/or part-time employees will be permitted to wear respiratory protection if:

16.1.1.1. The temporary agency has a respiratory protection program that complies with OSHA 29 CFR 1910.134-Respiratory Protection. Appropriate documentation must be provided to the EHS Department prior to any on-site respirator use; and

16.1.1.2. The temporary provider allows their employee to participate in the respiratory program; or

16.1.1.3. The EHS Department authorizes the use of a respirator and the temporary or part-time employee is medically cleared, fit-tested, and trained to properly wear a respirator.

16.1.2. Contractors must have a respiratory protection program that complies with OSHA 29 1910.134-Respiratory Protection. Contractors must supply their own respirators.

17.0 Recordkeeping

17.1. The EHS Department will maintain the following records:

17.1.1. Letters of recommendation from the PLHCP for duration of employment, plus 30 years;

17.1.2. Air sampling results for those tasks that require the use of a respirator (retained indefinitely);

17.1.3. Employee training records and certifications retained in the employee's training file for the duration of employment, plus 30 years;

17.1.4. Respirator inspection logs, cartridge change out documentation; and

17.1.5. The most recent copy of this written program.

18.0 References

18.1. OSHA 29 CFR Subpart I 1910.134 – Respiratory Protection, and Appendices.

18.2. FOB-SAF-POL - Voluntary Use of a Respirator

18.3. FOB-SAF-POL - Medical Clearance for Respirator Use

18.4. FOB-SAF-POL - Respirator Medical Evaluation Questionnaire

18.5. Appendix 1: Maximum Use Concentration

19.0 Document Review and Approval

19.1. Date Devised: 11-23-20

19.2. Reviewed Date: 03-2023

19.3. Date Approved: 03-2023

19.4. Approved By: Ed Noter, Director, EHS

18.0 Appendices

APPENDIX 1

Maximum Use Concentration

Example 1—Toluene—aromatic hydrocarbon which is a colorless liquid at room temperature and pressure having a sweet, pungent, benzene-like odor.

OSHA PEL = 200 ppm as an 8-Hour Time weighted Average

IDLH = 2000 ppm

Odor threshold = 0.16 ppm

Limitation of Organic Vapor Cartridge = 0.1% or 1000 ppm.

Select Half Mask Face Piece with Organic Cartridge.

Assigned Protection Factor for a Half Mask Face Piece = 10

MUC = Assigned Protection Factor X PEL

MUC= 10 X 200

MUC = 2000 ppm

By calculation, the MUC = 2000. Note: (1) this MUC equals the IDLH which means that this half mask can NOT be safely worn in this environment; however, (2) the limiting factor is NOT the IDLH but the fact that the cartridge itself is only adequate up to 1000 ppm. Consequently, this half facepiece chemical cartridge can not be worn above 1000 ppm of airborne toluene vapor. Note: The low odor threshold of 0.16 ppm indicates that toluene would have good warning properties. Should the vapor break through the chemical cartridge, the worker could detect toluene and know the cartridge is now saturated.

Example 2—Benzene—aromatic hydrocarbon very similar in chemical structure to toluene. Benzene is a colorless to light yellow liquid at room temperature and pressure and has a pleasant aromatic odor. Unlike toluene, benzene is a regulated carcinogen.

OSHA PEL = 1.0 ppm with a 0.5 ppm Action Level (AL) as an 8-hour time-weighted average.

IDLH = 500 ppm.

Odor threshold > 10 ppm.

Limitation of Organic Vapor Cartridge = 0.1% or 1000 ppm.

Select Half Mask Facepiece with Organic Cartridge.

Assigned Protection Factor for a Half Mask Facepiece = 10

MUC = Assigned Protection Factor X PEL

MUC= 10 X 1

MUC = 10 ppm

By calculation, the MUC is 10 ppm. Well below the IDLH and within the limitation of the organic vapor cartridge. Note: Benzene has a poor warning property. The lowest reported odor threshold is > 10 ppm which is 10 X the PEL and 20 X the AL. By the time someone could detect the odor of benzene inside the respirator, they are overexposed. The cartridge change schedule for cartridges used to protect against benzene would have to be researched and well developed.