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ENVIRONMENTAL HEALTH AND SAFETY
http://www.dartmouth.edu/~ehs/

Respiratory Protection Policy

2020 Revision

IMPORTANT NOTICE: NO ONE IS TO PURCHASE OR USE RESPIRATORY PROTECTION FOR POTENTIALLY HAZARDOUS AIRBORNE CONTAMINATES WITHOUT THE OVERSIGHT AND APPROVAL OF EHS. IF YOU HAVE CONCERNS OVER THE NEED FOR RESPIRATORY PROTECTION, READ THIS DOCUMENT AND CONTACT EHS FOR ASSISTANCE. *THANK YOU!*

Prepared in compliance with 29 CFR 1910.134

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Scope of Policy

This policy is applicable to all areas of Dartmouth College where respiratory protection may be required. The Dartmouth College Respiratory Protection Policy (DCRPP) has been written in compliance with 29 CFR 1910.134. A complete copy of the OSHA standard can be found at the following address:

(https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=12716&p_table=standards).

Respirators will only be issued by Environmental Safety and Health Department upon completion of a hazard assessment, medical clearance and fit testing is completed.

Exposure Reduction Strategy

Whenever feasible, consideration should be given to eliminating the use of the hazardous material or substituting a less hazardous material. When elimination or substitution is not possible, the use of engineering controls, such as local exhaust ventilation should be utilized. Work practice controls such as moving the task into a better-ventilated area or applying the material in a different manner is a third alternative to reduce exposure to airborne contaminants. The objectives of these methods are to remove the person from interaction with the chemical and/or the task. If this can be achieved, the need for a respirator is eliminated.

Medical Considerations

Prior to a Dartmouth College employee being issued a respirator, a licensed health care provider (LHCP) must medically clear that employee for respirator use.

Dartmouth College will provide the examining physician with the following information:

- Type of respiratory equipment to be used
- Type of work the individual will do while wearing the respirator
- Visual and audio requirements of the job
- Length of time the individual will wear the respirator
- Substances the individual will be exposed to.

The medical clearance procedure also requires the employee to complete the medical questionnaire in "**Appendix A".**

Along with the above mentioned job information, The applicant will submit the questionnaire to the LHCP (Dick's House) for review. Following the medical review, The LCHP will do one of the following:

- Return the cover sheet (first page of Appendix A) to EHS as "medically able to wear a respirator"
- Return the cover sheet (first page of Appendix A) to EHS " not medically able to wear a respirator"
- Contact the employee for further medical evaluation. This may require an on site medical exam. The extent of the on site exam will depend upon an employee's individual health conditions.

Employees who may wear respirators as part of their job are required to be medically cleared on an annual basis.

Selection of Respirators

Initial Assessment

Hazard Identification and Evaluation[1]. This typically involves a walk-through evaluation of the work environment or evaluation of the tasks/concerns posed by a given activity. The evaluation includes assessing the type of hazard (obvious or potential), the duration and frequency of use, and potential for acute or chronic exposures requiring the use of a respirator to control or limit potential exposures to within recognized, accepted occupational exposure limits$_2$. Industrial Hygiene monitoring will be performed when necessary in the hazard ID and evaluation.

Hazard analyses have indicated that the following shops will be pre-screened for respirator use since their job duties MAY require them to use a respirator.

- Building Repair Shop
- Science Facilities Shop
- Heat/Power Plant
- Refrigeration technicians
- Welding Shop
- Ground Crew
- Animal Lab Technicians
- Environmental Safety & Health

Annual fit testing will be required for Painters, Masons, Heat/Power Plant and Animal Lab Technicians.

Since most jobs in the shops listed above may not use a respirator for a period of time (several years), fit testing will be conducted at the time a respirator is to be used.

Should respiratory protection be required—a preliminary determination by type is made. For example, air purifying (chemical or HEPA), etc.

Respirator Issuance

Control over the selection and purchase of respiratory protection rests with EHS. No one is to purchase or use any type of respiratory protection (exceptions for nuisance dust masks only) without the expressed permission of EHS.

Supplied Air Respirators

The only employees who may potentially be exposed to an IDLH atmosphere are EHS staff members. EHS staff members are trained to monitor and wear self contained breathing apparatus (SCBA)[3] when necessary.

Members of the EHS staff are the only employees who may have a need to wear supplied air[4] or SCBA's. (Quantitative fit testing is conducted every two years using a Portacount™ or similar instrument using a third party vendor.)

Air Purifying Respirators

Air purifying respirators include negative pressure half or full face (cartridge respirators), Disposable N-95 particulate respirators, and powered air purifying respirators (PAPR).

As required, employees will be fitted with equipment that is specific to their needs. A determination will be made based upon the exposure, the environment where it will be used, the duration of exposure employee comfort and fit factor requirements.

Respirator cartridges are designed to filter against specific hazards. Selection of the proper cartridge is essential for proper protection against air contaminants. EHS is responsible to insure that employees received the proper filtering cartridge.

Whenever feasible filter cartridges with an end of service life indicator will be used.

Filter cartridges that have been used will be replaced on an annual basis or more often as use requires. Respirator cartridges with an end of service life will be replaced just prior to reaching the end of their service life.

Voluntary Use of Respirators

Individuals may use a respirator on a voluntary basis under the following conditions:

- The employee must be medically cleared (Appendix A) to wear a respirator
- The respirator must be appropriate for the hazard.
- EHS will issue the respirator to the employee for voluntary use.
- The employee must read and sign "**Appendix E**" of this policy. (Appendix D of 29 CFR1910.134). This form must be given to EHS prior to respirator issuance.
- Fit testing is not required, however, EHS will fit test if requested by the employee.

Training

At a minimum this training will include:

- The proper fit, use and limitations of the respirator they have been given (what it can and cannot do). In particular, what to do in the event of a potentially dangerous atmosphere that may overwhelm the respirator or be oxygen deficient.
- Appropriate instruction on the inspection, care, maintenance, cleaning and storage of the respirator they have been issued.
- Annual retraining is required. The curriculum is updated on an on-going basis to reflect additions in content, training materials and product improvements.
- Appendix B or C will be used as a training guide.

Responsibilities

Once issued, the employee (and their supervisor) is responsible for ensuring that the respirator is worn when required and used in accordance with manufacturer and EHS requirements.

Program Audit

On an on-going basis the program is evaluated for compliance and effectiveness. A formal review of the program is conducted periodically by EHS.

References

1 At Dartmouth, few tasks require the routine use of a respirator for personal protection. Please refer to the College's Hazard Communication and Chemical Hygiene Plans for additional information on chemical related safety and the use of respirators.
2 OSHA PELs, ACGIH TLV-TWAs, NIOSH RELs, etc. For purposes of OSHA compliance, the PELs are the enforceable standards.
3 This equipment is routinely inspected by the Hanover Fire Dept. in accordance with NFPA standards
4 A specific Standard Operating Procedure (SOP) for this equipment is followed by the users at the Heating Plant.

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Appendix A
Medical Questionnaire & Cover Sheet

EMPLOYEE -- Respirator Medical Evaluation Questionnaire
Adapted from Appendix C to Sec. 1910.134: OSHA

In order to meet the requirements in the Dartmouth College Respiratory Protection Program, you must complete the following questionnaire annually, after which it will be reviewed by a licensed clinical provider at Dick's House (646-9400) and then put into your Medical Record. Thank you.

INSTRUCTIONS: Complete Section A below as well as the attached medical questionnaire.

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Section A

Employee Name: ____

Employee ID Number:____

Dept:______________________ **Supervisor**: _________________________

Email:______________________ **Phone:**_____________________________

Job description while wearing respirator, to include estimated frequency and duration, expected airborne hazards:____

____

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A licensed healthcare provider at Dick's House will review the completed medical questionnaire. If you have questions or wish to discuss this evaluation with Dick's House, please call (603) 646-9400.

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Healthcare Provider Use Only (Return form to EHS prior to fit test)

____ This individual is medically able to wear a respiratory device at this time.

____ This individual is NOT medically able to wear a respiratory device at this time.

Health Service Provider signature: ___________________________________

Date of Review: ___________________

revised 2/2020
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Respiratory Protection Program, OSHA Mandatory Medical Questionnaire

1. Today's date: ____/____/_____

2. Name (last, first, MI)	3. Date of Birth	4. Sex	5. Height _____ ft _____ in
6. Weight Lbs.	7. Job title	8. Phone number where you can be reached by the health care professional who will review this questionnaire (include area code)	9. Best time to phone you at this number:
10. Has your employer told you how to contact the health care provider who will review this questionnaire? _____ yes _____ no	11. Type(s) of respirator you will use (mark all that apply): a. ____ N, R, or P disposable respirator (filter-mask, non-cartridge type only) b. ____ other type (for example, half- or full-facepiece type, powered-air purifying, supplied air, self contained breathing apparatus		12. Have you worn a respirator? ____ yes ____ no If yes, what type(s)

Medical History	YES	NO
Questions 1 through 9 below must be answered by every Employee who has been selected to use any type respirator. Please mark "X" yes or no for each.		
1. Do you currently smoke tobacco, or have you smoked tobacco during the past month?		
2. Have you ever had any of the following conditions?		
a. seizures (fits, convulsions, epilepsy)		
b. diabetes (high blood sugar disease)		
c. allergic reactions that interfere with your breathing		
d. claustrophobia (fear of closed-in places)		
e. trouble smelling odors		
f. latex (rubber) allergy		
3. Have you ever had any of the following pulmonary (lung) conditions?		
a. asbestosis		
b. asthma		
c. chronic bronchitis		
d. emphysema		
e. pneumonia		
f. tuberculosis		
g. silicosis		
h. beryllium disease		
i. sarcoidosis		
j. pneumothorax (collapsed lung)		
k. lung cancer		
l. broken ribs		
m. any chest injury or surgeries		
n. any other lung problem that you've told about		
4. Do you currently have any of the following symptoms of pulmonary or lung disease?		
a. shortness of breath		
b. shortness of breath when walking fast on level ground or walking normal speed up a slight hill or incline		
c. shortness of breath when walking with other people at an ordinary pace on level ground		
d. have to stop for breath when walking at your own pace on level ground		
e. shortness of breath when washing or dressing yourself		
f. shortness of breath that interferes with your job		

Medical History continued	YES	NO
g. coughing that produces phlegm (thick sputum)		
h. coughing that wakes you up early in the morning		
i. coughing that occurs mostly when you are lying down		
j. coughing up blood in the last month		
k. wheezing		
l. wheezing that interferes with your job		
m. chest pain when you breathe deeply		
n. any other symptoms that you think may be related to lung problems		
5. Have you ever had any of the following cardiovascular (heart) problems?		
a. heart attack		
b. stroke		
c. angina (heart pain)		
d. heart failure		
e. swelling in you legs or feet (not caused by walking)		
f. heart arrhythmia (irregular heart beat)		
g. high blood pressure		
h. abnormal stress test -- approximate date:		
i. cardiac (heart) catheterization – approximate date:		
j. any other heart problem about which you have been told		
6. Have you ever had any of the following cardiovascular (heart) symptoms?		
a. frequent pain or tightness in your chest		
b. pain or tightness in your chest during physical activity		
c. pain or tightness in your chest that interferes with your job		
d. in the past two years, have you noticed your heart skipping or missing a beat		
e. heartburn or indigestion that is not related to eating		
f. any other symptoms that you think may be related to heart or circulation problems		
7. Do you currently take any medication for any of the following problems?		
a. breathing		
b. heart trouble		
c. blood pressure		
d. seizures (fits, convulsions, epilepsy)		

Continued on page 2.

Respiratory Protection Program, OSHA Mandatory Medical Questionnaire

Medical History continued	YES	NO
Have you ever used a respirator? (If NO, skip to question 9.)		
8. If you have used a respirator, have you ever had any of the following problems?		
a. eye irritation		
b. skin allergies or rashes		
c. anxiety (caused by wearing respirator)		
d. general weakness or fatigue		
e. any other problem that interferes with your use of a respirator		
9. Would you like to talk to the healthcare professional who will review this questionnaire about your answers?		
Answer questions 10 through 15 below only if you use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA)		
10. Have you ever lost vision in either eye (temporarily or permanently)?		
11. Do you currently have any of the following vision problems?		
a. wear contact lenses		
b. wear glasses		
c. color blind		
d. any other eye or vision problems		
12. Have you ever had an injury to your ears, including a broken ear drum?		
13. Do you currently have any of the following hearing problems?		
a. difficulty hearing		
b. wear a hearing aid		
c. any other hearing or ear problem		
14. Have you ever had a back injury?		
15. Do you currently have any of the following musculoskeletal problems?		
a. weakness in your arms, legs, hands, or feet		
b. back pain		
c. pain or stiffness when you lean forward or backward at the waist		
d. difficulty fully moving your arms and legs		
e. difficulty moving your head up or down		
f. difficulty moving your head side-to-side		
g. difficulty bending at your knees		
h. difficulty squatting to the ground		
i. difficulty climbing a flight of stairs or a ladder carrying more than 25 pounds		
j. any other muscle or skeletal problem that interferes with using a respirator		
16. Any other health condition that you think may affect your ability to use a respirator safely? **If YES, please specify condition:**		
Signature of worker:		

Medical Clinic Use Only:	YES	NO
Medically fit to wear respirator *Any positive responses to questions 1-8 of the Medical History portion or physician's recommendation require a follow-up medical examination.		
Referred for further evaluation If, YES, specify condition or concern:		

Reviewed by: _____

Date: ____/____/_____

Examiner's comments on positive responses:

Targeted physical exam (performed upon physician's recommendation):

BP: _____/_____ Pulse: _____ Reg / Irreg	Normal	Abn
HEENT		
Neck – incl. carotid upstrokes and JVD		
Lungs		
Heart		
Extremities – incl. peripheral pulses and edema		
Other – specify:		

Medically fit to wear respirator?	**Yes**	**No**

Appendix B : Filtering Face Piece Training Checklist

_____ Inspection of respirators

Valves (if appropriate)
Rubber/neoprene (if appropriate)
Straps & fasteners
Cleanliness

_____ Discard faulty respirators

_____ Issue new respirators to those that need one

_____ Review straps and adjustment capabilities

_____ Discuss comfort concerns

_____ Review filter capabilities

_____ Review change-out schedule, when to discard & replace

_____Review proper storage of respirators

_____ Don Respirator

_____ Review user seal check per mfg. instructions

_____ Review need to conduct this check every time respirator is worn

_____ Make adjustments to mask placement if necessary

_____ Fit test using Bitrex or Saccharin: follow directions

_____ Fill out training form

_____ Question and answer period

_____ Forward Medical evaluation forms to Dicks House (HB 6143)

_____ Ensure EHS has copy of training record

Signature of Trainer: _____Date:_____

Signature of Trainee: _____Date:_____

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Appendix C : Tight Fitting Respirator Training Checklist

_____ Review selection process of respirator

_____ Inspection of respirators

Valves Rubber/neoprene Straps & fasteners
Cleanliness
Filter assembly
Filter changes and expiration dates
Proper storage of respirators

_____ Discard faulty respirators or replace defective parts

_____ Issue new respirators to those that need one

_____ Review straps and adjustment capabilities

_____ Discuss comfort concerns

_____ Review filter capabilities

_____ Review change-out schedule or end of service life indicators

_____ Don Respirator

_____ Perform User seal check procedures

_____ Review need to do this check every time respirator is worn

_____ Make adjustments if necessary

_____ Fit test using isoamyl acetate or stannic chloride while standing and:

- □ Breathing normally
- □ Breathing deeply
- □ Turning head from side to side
- □ Move head up and down – inhale in up position
- □ Talking - read Rainbow passage, count backward from 100, or recite something
- □ Bending over or jogging in place
- □ Breathing normally

(Each test exercise shall be performed for one minute)

_____ Fill out paperwork
_____ Question and answer period
_____ File forms in employee's folder

Signature of Trainer: _____ Date: _____

Signature of Trainee: _____ Date: _____

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Appendix D: Respirator Issuance Form

Employee Name: _____ **Employee ID Number**: _____

Title: _____

Filter Selection: Organic Vapor/Acid Gas Dust/Mist Filter HEPA Filter
(Circle all that apply)
Fume/Dust/Mist Filter Paint Spray/Pesticide Other: _____

Respirator Selection: Full Face Half Face Filtering face piece: N95 or P100 or N100
(Circle all that apply)
Self Contained Supplied Air Powered Air (PAPR)

Model: _____ **Size:** S M M/L L Regular none specified

Limitations: Beard Dentures Glasses None

Fitting: Negative/Positive Pressure test

☐ Pass ☐ Fail

☐ Isoamyl Acetate Test

☐ Stannic Chloride

☐ Bitrex/Saccharin

{# of squeezes_____}
sensitivity solution

RESPIRATOR SPECIFICATION FORM

Job Description: _____
(job while wearing mask)

Contaminant: _____ Concentration level: _____
ppm or mg/m3

Recommended Respiratory Protection (based on contaminant & fit test results)

NIOSH Approval Numbers: TC_____

Employee Signature_____ **Date:** _____

Instructors Name:_____

__Medical Eval. to Dick's House _Voucher to Dicks House _Employee seen at Occ. Med/DHMC

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Appendix E: Voluntary Use Form

OSHA 29CFR1910.134 Appendix D

Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

Please sign, retain one copy and return original to Environmental Health & Safety, Dartmouth College HB6216

Print Name: _____ Date: _____

Signed: _____