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# Respiratory Protection Program for Auto Refinish Shops - Final -

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## **Foreword**

The purpose of this document is to assist auto body shops in developing a respiratory protection program that protects the health of their employees and meets the requirements of OSHA's Respiratory Protection standard, 29 CFR 1910.134. This document is formatted with checklists and blank spaces to allow the individual shop to adapt the contents of the written program to the specific hazards and respiratory protection needs of its workforce.

The program as presented, addresses typical auto refinishing activities that may require the use of respiratory protection, including vehicle prep work, mixing and application of coatings, and related clean-up operations. The program's contents are based on observations made during EPA's outreach visits to auto refinish shops. However, each shop must review all of their activities to evaluate respiratory hazards and must develop a respiratory protection program that addresses each activity requiring respiratory protection at the worksite. In addition to the activities listed in this document, other shop activities that may require the use of respiratory protection include but are not limited to sanding related to body work, welding, and buffing.

## **DISCLAIMER**

This document provides one example of how an auto refinish shop could implement the OSHA Respiratory Protection standard. The document does not address all options available to the shop owner in developing and implementing a program in their own shop. For example, the medical evaluations section of this document mentions the use a licensed physician while the OSHA standard allows the use of a physician or other licensed health care professional. Shop owners should refer to the OSHA Respiratory Protection standard while using this document to ensure they develop a program that meets their needs and complies with the OSHA standard.

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**RESPIRATORY PROTECTION PROGRAM**

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**Date Last Revised**

# TABLE OF CONTENTS

	<b>Page</b>
1.0	PURPOSE . . . . . 1
2.0	SCOPE AND APPLICATION . . . . . 2
3.0	RESPONSIBILITIES . . . . . 3
3.1	Program Administrator . . . . . 3
3.2	Employees . . . . . 4
4.0	PROGRAM ELEMENTS . . . . . 5
4.1	Respirator Selection Procedures . . . . . 5
4.1.1	Hazard Evaluation . . . . . 5
4.1.2	Reviewing and Updating the Hazard Evaluation . . . . . 5
4.1.3	NIOSH Certification . . . . . 6
4.1.4	Voluntary Respirator Use . . . . . 6
4.2	Medical Evaluations . . . . . 7
4.2.1	Initial Medical Evaluation . . . . . 7
4.2.2	Additional/Periodic Medical Evaluations . . . . . 8
4.3	Fit Testing . . . . . 12
4.4	Respirator Use . . . . . 13
4.4.1	General Use Procedures . . . . . 13
4.4.2	Emergency Procedures . . . . . 13
4.4.3	Respirator Malfunction . . . . . 14
4.5	Breathing Air Quality . . . . . 14
4.6	Cleaning, Maintenance, Change Schedules, and Storage . . . . . 15
4.6.1	Respirator Cleaning . . . . . 15
4.6.2	Respirator Maintenance . . . . . 16
4.6.3	Filter/Cartridge Change Schedules . . . . . 17
4.6.4	Respirator Storage . . . . . 17
4.6.5	Defective Respirators . . . . . 18
4.7	Training . . . . . 18
5.0	PROGRAM EVALUATION . . . . . 19
6.0	DOCUMENTATION AND RECORDKEEPING . . . . . 19
	Table 1 - Required Respirator Use . . . . . 3
	Table 2 - Work Activities and Hazardous Substances . . . . . 10
	Table 3 - Employee Work Practices and Respirator Use--Information for Healthcare Providers..11
	Attachment A - Results of Hazard Evaluation
	Attachment B - Respirator Medical Evaluation Questionnaire

## 1.0 PURPOSE

The purpose of this Respiratory Protection Program is to protect this facility's employees from exposure to respiratory hazards in the workplace and to comply with the requirements of OSHA's Respiratory Protection standard, 29 CFR 1910.134. This facility has determined that employees are exposed to respiratory hazards while performing the following routine operations in the refinish area:

- dry sanding
- solvent wipe-down
- paint mixing
- spray painting
- spray gun cleaning
- other tasks: \_\_\_\_\_.

A detailed hazard evaluation discussing the respiratory hazards associated with each of these tasks is provided in Attachment A of this program.

Engineering controls, such as local exhaust ventilation, or substitution of hazardous materials are the primary means of protecting workers from respiratory hazards at this facility. However, for some operations, engineering controls either are not feasible, or they do not completely control the identified hazards. In these situations, the shop requires employees to use respirators and other protective equipment to reduce exposure. Table 1 below lists the processes for which respirators are required at this facility and describes the appropriate type of respirator for each process.

In addition, some employees may wish to wear respirators voluntarily while performing certain operations for which respirators are not required under this program. This facility will review each request for voluntary use of respirators on a case-by-case basis. As a general policy, if the voluntary use of respiratory protection in a specific case will not jeopardize the health or safety of the worker, the shop will provide a respirator for voluntary use during that operation. As outlined in the Scope and Application section of this program, voluntary respirator use is subject to certain requirements of this program.

## **2.0 SCOPE AND APPLICATION**

This respiratory protection program applies to all employees who perform tasks that require the use of respirators during normal work operations. A list of these tasks and the required respiratory protection is summarized in Table 1 below. The hazard evaluation in Attachment A of this program provides a more detailed discussion of the hazards associated with each task and the required respiratory protection.

Some sections of this program also apply to employees who use respirators voluntarily for tasks where respirator use is not required. Specifically, voluntary respirator users must receive the information presented in Appendix D of OSHA's Respiratory Protection standard. In addition, unless employees are wearing only a paper dust mask, they are subject to the medical evaluation and respirator cleaning, maintenance, and storage requirements of this program.

Employees participating in the respiratory protection program do so at no cost to themselves. The company pays for all training, medical evaluations, and respiratory protective equipment.

**Table 1 - Required Respirator Use at \_\_\_\_\_**

(shop name)

Note, use the hazard evaluation information developed in Attachment A to complete this table.

Processes Requiring Respirator Use* (check ✓ all processes that apply)	Required Respirator Type* (check ✓ applicable type of respirator)
<input type="checkbox"/> Dry sanding	<input type="checkbox"/> Half-facepiece air-purifying respirator (APR) with N100 filters (R100 or P100 filters are also acceptable) <input type="checkbox"/> Other: _____
<input type="checkbox"/> Solvent wipe-down performed outside the booth	<input type="checkbox"/> Half-facepiece air-purifying respirator (APR) with organic vapor cartridges <input type="checkbox"/> Other: _____
<input type="checkbox"/> Paint mixing	<input type="checkbox"/> Half-facepiece air-purifying respirator (APR) with organic vapor cartridges <input type="checkbox"/> Other: _____
<input type="checkbox"/> Spray painting in automotive spray booth	<input type="checkbox"/> Continuous flow supplied-air respirator (SAR) with hood or tight-fitting facepiece <input type="checkbox"/> Other: _____
<input type="checkbox"/> Spray gun cleaning	<input type="checkbox"/> Half-facepiece air-purifying respirator (APR) with organic vapor cartridges <input type="checkbox"/> Other: _____
<input type="checkbox"/> Changing spray booth filters	<input type="checkbox"/> Half-facepiece air-purifying respirator (APR) with N95 filters <input type="checkbox"/> Other: _____
<input type="checkbox"/> Other: _____	<i>(List appropriate respirator type)</i>
<input type="checkbox"/> Other: _____	<i>(List appropriate respirator type)</i>
* See Attachment A, Hazard Evaluation, for further information.	

**3.0 RESPONSIBILITIES**

**3.1 Program Administrator**

The shop's owner, \_\_\_\_\_, has designated the following shop employee, \_\_\_\_\_, as the Respiratory Protection Program Administrator. Duties of the Program Administrator include:

- Identifying work areas, processes, or tasks for which the use of respiratory protection is required, and evaluating the associated hazards;



- Evaluating new or modified processes to identify potential respiratory hazards;
- Evaluating alternative methods of worker protection (i.e., substituting with a less hazardous substance, installing ventilation);
- Selecting appropriate respiratory protection and ensuring the equipment is available in the shop;
- Monitoring respirator use to ensure that respirators are used in accordance with their limitations and certifications;
- Arranging for and/or conducting training;
- Ensuring proper storage and maintenance of respiratory protective equipment;
- Arranging for and/or conducting qualitative respirator fit testing;
- Administering the medical evaluation program;
- Maintaining records required by the respiratory protection program;
- Ensuring that employees enrolled in the program (including new hires) receive appropriate training, annual fit testing, and periodic medical evaluation;
- Evaluating this program annually; and
- Updating this written program, as needed.

### **3.2 Employees**

Employees must wear respirators as required. Employees must also:

- Care for and maintain their respirators as instructed and store them in a clean, dry, sanitary location away from direct sunlight, in a sealed bag or container (especially for organic vapor cartridges);
- Inform the Program Administrator if the respirator no longer fits well or is damaged; and
- Inform the Program Administrator of any hazards they feel are not adequately controlled in the workplace and of any other concerns they have regarding the respiratory protection program.

## **4.0 PROGRAM ELEMENTS**

### **4.1 Respirator Selection Procedures**

The Program Administrator will select respirators to be used in the shop, based on the identified hazards and in accordance with applicable OSHA standards.

#### **4.1.1 Hazard Evaluation**

The Program Administrator will conduct a hazard evaluation using the hazard evaluation form in Attachment A. In the hazard evaluation, the Program Administrator will evaluate each operation, process, and work area to identify respiratory hazards that may be present during routine operations or in foreseeable non-routine (maintenance or emergency) situations. The hazard evaluation process includes:

1. Listing all hazardous substances, such as paints, hardeners, reducers, and solvents used in the workplace, by operation (e.g., surface preparation, paint mixing, spraying, etc.). This information may be obtained by surveying the workplace, reviewing material safety data sheets (MSDSs), and talking with employees. (See Attachment A and Table 2.)
2. Reviewing work processes to determine where and how exposures to these hazardous substances may occur.
3. Reviewing work practices and engineering controls, such as ventilation units and booths, to determine whether modifications or maintenance could further reduce respiratory hazards.
4. Conducting exposure monitoring to quantify hazardous exposures. This work is performed by \_\_\_\_\_ (e.g., the shop's Workers' Compensation insurance carrier, whose services may be free or offered at a reduced rate, or an industrial hygiene services contractor).

The results of the current hazard evaluation for this facility are contained in Attachment A. (Note: Attachment A also contains a form that can be copied and used by the Program Administrator for evaluating new or additional tasks.)

#### **4.1.2 Reviewing and Updating the Hazard Evaluation**

The Program Administrator will review and update the hazard evaluation as needed, for example, when process changes potentially affect exposure, or in response to employee concerns. The Administrator must be informed whenever the refinish shop adds new equipment, changes work processes, or uses new

materials (such as a new type of paint or solvent). Additionally, any employee who feels that respiratory protection is needed during a particular activity should speak to the Program Administrator. The Program Administrator will evaluate the potential hazard, arranging for outside assistance (e.g., evaluation by an industrial hygiene consultant) as necessary. If results indicate a need for respiratory protection, the Program Administrator will notify employees by providing them with a copy of the results. All other elements of this program will be in effect for those tasks and this program will be updated accordingly.

#### **4.1.3 NIOSH Certification**

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and must be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval. The label must not be removed or defaced while it is in use. As required by the NIOSH approval, employees will use only filters and cartridges made by the manufacturer of the respirator facepiece. The filters of one manufacturer will not be used on the facepiece made by another manufacturer.

#### **4.1.4 Voluntary Respirator Use**

Some employees may wish to wear respirators voluntarily while performing tasks that the Program Administrator has determined do not require respiratory protection. This shop will provide respirators at no charge to employees for voluntary use as follows: (Check all that apply.)

- Employees may wear a half-facepiece APR with an organic vapor cartridge when performing solvent wipe-down activities *inside the ventilated spray booth*.
- Employees may wear an N95 dust mask while sweeping shop floors.
- Employees in the shop may wear N95 dust masks while sanding is performed by another employee in the shop.
- Other voluntary respirator use: \_\_\_\_\_

All employees who voluntarily wear any of the above respirators will receive a copy of Appendix D of the OSHA standard. (This appendix details the requirements for voluntary use of respirators by employees.) Employees voluntarily choosing to wear APRs must comply with the procedures for

medical evaluations and respirator use, cleaning, maintenance, and storage. These additional provisions do not apply to employees voluntarily wearing dust masks.

The Program Administrator will authorize voluntary use of respiratory protective equipment requested by other workers, or for other processes, on a case-by-case basis. The decision will be based on specific workplace conditions and, if necessary, the results of the medical evaluations.

## **4.2 Medical Evaluations**

Employees who are required to wear respirators, or who voluntarily wear respirators other than dust masks, must have a medical evaluation before they can wear a respirator on the job.

### **4.2.1 Initial Medical Evaluations**

Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use.

A licensed physician at the following medical clinic, \_\_\_\_\_, which provides all company medical services, will provide the medical evaluations required for respirator use. Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using the questionnaire in Appendix C of the OSHA Respiratory Protection standard (provided as Attachment B to this program). The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.
- The company will assist employees who are unable to read the questionnaire.
- All affected employees will be given a copy of the medical questionnaire to fill out, along with a stamped and addressed envelope for mailing the questionnaire directly to the company physician. Employees will be permitted to fill out the questionnaire on company time.
- Follow-up medical exams will be granted to employees as required by the OSHA standard, and/or as deemed necessary by the physician.
- Upon request, employees will be granted the opportunity to discuss their questionnaire and exam results with the physician.

- The Program Administrator has provided the physician with a copy of this program; a copy of OSHA's Respiratory Protection standard; the list of hazardous substances used at this site, grouped by task (see Table 2); and for each employee requiring evaluation, a completed copy of Table 3 with the following information: the employee's work area or job title, proposed respirator type and weight, length of time the employee is required to wear the respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing and equipment to be worn.
- Any employee required for medical reasons to wear a positive-pressure air-purifying respirator will be provided with a powered air-purifying respirator (PAPR). (Note that this substitution does not apply to spray painting activities; spray painting activities always require the use of a SAR operated in the positive pressure mode.)

#### 4.2.2 Additional/Periodic Medical Evaluations

After an employee has received clearance and has begun to wear a respirator, medical evaluations will be provided according to the following schedule: \_\_\_\_\_ (e.g., annually). The Program Administrator worked with the licensed physician to determine this required frequency based on an evaluation of the shop's respiratory hazards and related respirator use. Additional medical evaluations will be provided under the following circumstances:

- Employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing;
- The physician or supervisor informs the Program Administrator that the employee needs to be reevaluated;
- Information from this program, including observations made during fit testing and program evaluation, indicates a need for reevaluation; or
- A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

This facility will receive from the physician a written clearance indicating only whether or not the employee is medically qualified to wear a respirator. **All completed medical questionnaires, medical records, and the results of exams and any medical tests will remain confidential between the employee and the physician.**

The following employees are currently included in the shop's medical surveillance program for respirator users. (Include names of voluntary users except those using paper dust masks only.)

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**Table 2 - Work Activities and Hazardous Substances at \_\_\_\_\_**

(shop name)

Note: The table lists hazardous substances used in a representative auto refinishing shop. Refer to your MSDSs for the products used in each task to identify other hazardous materials that your employees may be exposed to while performing each task.

Task	Hazardous substances (and ingredients listed on selected MSDSs)
Dry sanding	<u>Dust</u> : generated by sanding hardened epoxy and polyurethane paint and small amounts of body filler, which may contain lead Other: _____
Solvent wipe-down	<u>Solvent wipe solution</u> (acetone, methyl ethyl ketone, toluene, xylene, acetates, and light aliphatic solvent naphtha) Other: _____
Paint mixing	<u>Primers</u> (barium sulfate; titanium dioxide; methyl isobutyl ketone, xylene, toluene, ethylbenzene, butyl acetate) <u>Basecoats</u> , various colors (titanium dioxide, pigments, methyl isobutyl ketone, ethyl acetate, butyl acetate, toluene, ethylbenzene, xylene, lead and chromium) <u>Clearcoat</u> (toluene, xylene, methyl ethyl ketone, ethyl acetate, butyl acetate) <u>Hardener</u> (80% hexamethylene diisocyanate polymer and 20% of butyl acetate) <u>Paint thinner</u> (mineral spirits) Other: _____
Spray painting	<u>Primers</u> (barium sulfate; titanium dioxide; methyl isobutyl ketone, xylene, toluene, ethylbenzene, butyl acetate) <u>Basecoats</u> , various colors (titanium dioxide, pigments, methyl isobutyl ketone, ethyl acetate, butyl acetate, toluene, ethylbenzene, xylene, lead, and chromium) <u>Clearcoat</u> (toluene, xylene, methyl ethyl ketone, ethyl acetate, butyl acetate) <u>Hardener</u> (80% hexamethylene diisocyanate polymer and 20% of butyl acetate) Other: _____
Spray gun cleaning	<u>Gun cleaning solvent</u> (methyl ethyl ketone) Other: _____
Filter maintenance	<u>Dust</u> (from paint mist on filters) Other: _____
Sweeping and clean-up	<u>Dust</u> (dry paint) Other: _____
Other: _____	(fill in as applicable)
Other: _____	(fill in as applicable)

**Table 3 - Employee Work Practices and Respirator Use – Information for Healthcare Providers**

Employee Name: \_\_\_\_\_ Job Title: \_\_\_\_\_ Date: \_\_\_\_\_

[Note: Fill out the form below for each employee who receives a medical evaluation to wear a respirator.]

Task (check all that apply)	Proposed Respirator <sup>1</sup>	Amount of time respirator worn per day <sup>2</sup>	Physical work load <sup>3</sup>	Other PPE used while wearing respirator
<input type="checkbox"/> Dry sanding	<input type="checkbox"/> half-face APR <input type="checkbox"/> other: _____		<input type="checkbox"/> light <input type="checkbox"/> moderate <input type="checkbox"/> heavy	safety glasses, nitrile gloves, long-sleeve workshirt
<input type="checkbox"/> Solvent wipe-down	<input type="checkbox"/> half-face APR <input type="checkbox"/> other: _____		<input type="checkbox"/> light <input type="checkbox"/> moderate <input type="checkbox"/> heavy	splash goggles, nitrile gloves, long-sleeve workshirt
<input type="checkbox"/> Paint mixing	<input type="checkbox"/> half-face APR <input type="checkbox"/> other: _____		<input type="checkbox"/> light <input type="checkbox"/> moderate <input type="checkbox"/> heavy	painter's suit, chemical splash goggles, nitrile gloves
<input type="checkbox"/> Spray painting	<input type="checkbox"/> hooded SAR <input type="checkbox"/> other: _____		<input type="checkbox"/> light <input type="checkbox"/> moderate <input type="checkbox"/> heavy	painter's suit, splash goggles, nitrile gloves
<input type="checkbox"/> Spray gun cleaning	<input type="checkbox"/> half-face APR <input type="checkbox"/> other: _____		<input type="checkbox"/> light <input type="checkbox"/> moderate <input type="checkbox"/> heavy	splash goggles, nitrile gloves, long-sleeve workshirt
<input type="checkbox"/> Filter maintenance	<input type="checkbox"/> half-face APR <input type="checkbox"/> other: _____		<input type="checkbox"/> light <input type="checkbox"/> moderate <input type="checkbox"/> heavy	painter's suit, safety glasses, nitrile gloves
<input type="checkbox"/> Sweeping and clean-up	<input type="checkbox"/> half-face APR (voluntary user)		<input type="checkbox"/> light <input type="checkbox"/> moderate <input type="checkbox"/> heavy	safety glasses
<input type="checkbox"/> Other: _____	(fill in as applicable)			

1 - Respirator weights: half-face APR weighs approximately 9 ounces, hooded SAR weighs approximately 8 ounces.

2 - Remaining hours each day are spent on masking, paperwork, and other low hazard tasks in the shop or office.

3 - Temperature and humidity extremes: Minimum shop temperature is \_\_\_ ° F. Maximum shop temperature is \_\_\_ ° F.  High humidity is possible (check if appropriate).



### 4.3 Fit Testing

Fit testing is required for the use of APRs and tight-fitting SARs but not for loose-fitting SARs (hooded SARs). Employees who wear respirators voluntarily may also be fit tested upon request.

Employees who are required to wear respirators will be fit tested:

- Prior to being allowed to wear any respirator with a tight-fitting facepiece (for example a half-facepiece APR);
- Annually; and
- When there are changes in the employee's physical condition that could affect respirator fit (e.g., obvious change in body weight, facial scarring, etc.).

Employees will be fit tested with the make, model, and size of respirator that they will actually wear.

Employees will be provided with several models and sizes of respirators so that they may find an optimal fit.

The Program Administrator has contracted with \_\_\_\_\_  
(e.g., the respirator supplier or an industrial hygiene services contractor) to provide qualitative fit tests to all employees using tight-fitting respirators. The fit tests will be provided on an annual basis (or more frequently where needed). The contractor provides fit tests, in accordance with one or more of the following the OSHA-approved Qualitative Fit Test (QLFT) Protocols in Appendix A (A3-4) of the Respiratory Protection standard (check all that apply):

- Saccharin (use with particulate filter)
- Bitrex™ aerosol (use with particulate filter)
- Isoamyl acetate (use with organic vapor cartridge)
- Irritant smoke (use with P100 series particulate filter)

The Program Administrator has determined that a Quantitative Fit Test (QNFT) is not required for the respirators used under current conditions at this refinish shop. If conditions affecting respirator use change at the shop, the Program Administrator will evaluate each situation on a case-by-case basis to determine whether a QNFT is required.

#### 4.4 Respirator Use

Respiratory protection is required for the following personnel:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Details regarding the tasks, exposure hazards, and required respirator are contained in the hazard evaluation in Attachment A.

#### 4.4.1 **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 by NIOSH or by its manufacturer.
- Employees shall conduct user seal checks each time they wear their respirator. Employees shall use either the positive or negative pressure check (depending on which test works best for them) specified in Appendix B-1 of the Respiratory Protection standard.
- Employees are not permitted to wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, or missing dentures, that prevents them from achieving a good seal. Employees are not permitted to wear headphones, jewelry, or other articles if they interfere with the facepiece-to-face seal.

#### 4.4.2 **Emergency Procedures**

The Program Administrator has determined that small spills in the mixing area constitute the only foreseeable emergency requiring respiratory protection. Check the following, as applicable:

- Employees are required to wear half-facepiece air-purifying respirators while performing mixing. (See hazard evaluation for paint mixing in Attachment A.) No additional respiratory protection is required for foreseeable emergencies..

- Employees are not required to use respiratory protection while performing routine paint mixing, but are required to wear half-facepiece air-purifying respirators for responding to small spills. The respirators are stored in the following location:\_\_\_\_\_.
- Other (list specific respiratory protection requirements):\_\_\_\_\_

#### 4.4.3 **Respirator Malfunction**

**APR Respirator Malfunction:** For any malfunction of an APR (e.g., such as contaminant breaking through the filter or cartridge, facepiece leakage, or improperly working valve), the respirator wearer must stop performing the task and inform the area supervisor that the respirator is not functioning properly. The employee should then go to the following designated safe location: \_\_\_\_\_, 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.

**Supplied Air Respirator Malfunction:** If a painter in the spray booth experiences a problem with the respirator hood or airline, the employee should stop work, exit the booth immediately, and report the malfunction to the area supervisor. If the problem cannot be fixed immediately, a tight-fitting full-facepiece APR equipped with an organic vapor filter with an N95 particulate prefilter may be used during spray painting activities until the SAR system is repaired. In such cases, all other provisions of this program must still be met (training, fit tests, medical evaluations, change schedules).

#### 4.5 **Breathing Air Quality**

Only Grade D quality breathing air is used for supplied air respirators (SARs). This shop uses the following equipment to provide Grade D breathing air as specified in ANSI/Compressed Gas Association Commodity Specification for Air (G-7.1-1989)<sup>1</sup>: (Check all that apply.)

- Fresh air pump: the pump and the air inlet are placed in the following location:\_\_\_\_\_.
- Shop compressor with appropriate filters, monitors, and alarms

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<sup>1</sup> American National Standards Institute (ANSI).

Testing conducted on the following date, \_\_\_\_\_, has confirmed that the equipment provides air meeting the ANSI/CGA specifications. (Test results are available at the following location:\_\_\_\_\_.)

Air filters for the pump/compressor are changed on a schedule set according to the manufacturer's guidelines. The change schedule and records are available at the following location:\_\_\_\_\_.

Air is pumped through an opening in the wall to the breathing air hose connections in the spray booth. The breathing air hoses are made by the same manufacturer as the respirators used in the booth and are incompatible with the compressed air fittings for the spray gun air hoses.

#### **4.6            Cleaning, Maintenance, Change Schedules, and Storage**

##### **4.6.1         Respirator Cleaning**

Each employee is issued a respirator for his or her exclusive use. Employees must regularly (at least once a week) clean and disinfect their respirator(s) (excluding dust masks) at the designated respirator cleaning station at the following location:\_\_\_\_\_.

Employees must use the following procedures when cleaning and disinfecting respirators:

- Disassemble respirator, removing any filters, canisters, or cartridges;
- Wash the facepiece and associated parts in a mild detergent with warm water. Do not use organic solvents;
- Rinse completely in clean warm water;
- Wipe the respirator facepiece with the following type of disinfectant wipes: \_\_\_\_\_ . (Check with the respirator manufacturer to identify an appropriate disinfecting agent that will not damage the respirator facepiece, seals, or valves.)
- Air dry in a clean area;
- Reassemble the respirator and replace any defective parts; and
- Place in a clean, dry plastic bag or other air tight container.

Note: The Program Administrator will ensure that there is an adequate supply of appropriate cleaning and disinfection material at the cleaning station. If supplies are low, employees should contact the Program Administrator.

#### **4.6.2 Respirator Maintenance**

Employees must carefully maintain respirators to ensure that the equipment functions properly and provides the intended protection. Maintenance involves a thorough visual inspection for cleanliness and defects. Employees will replace worn or deteriorated parts prior to use, following the recommendations of the manufacturer. If regulators or alarms for SARs require repair, the equipment will be sent to the manufacturer's authorized service center. The following checklist will be used when inspecting respirators:

- Facepiece:
  - cracks, tears, or holes
  - facemask distortion
  - cracked or loose lenses/faceshield
  
- Headstraps:
  - breaks or tears
  - broken buckles
  
- Valves:
  - residue or dirt
  - cracks or tears in valve material
  
- Filters/Cartridges:
  - NIOSH approval label
  - gaskets
  - cracks or dents in housing
  - proper cartridge for hazard
  
- Air Supply Systems:
  - breathing air quality/grade
  - condition of supply hoses
  - hose connections
  - settings on regulators and valves

An employee experiencing a problem with a respirator may leave the work area and go to the following safe location: \_\_\_\_\_, to replace a damaged component, or to inspect the respirator if vapor breakthrough or leakage around the facepiece is detected. Employees may also leave the area to wash their faces and respirator facepieces to prevent any eye or skin irritation.

#### **4.6.3 Filter/Cartridge Change Schedules**

##### ***N95 or N100 Filters***

Employees wearing APRs with N95 or N100 filters for protection against paint chips and other particulates shall change the cartridges on their respirators when the filters appear dusty. If employees begin to experience difficulty breathing (i.e., resistance) while wearing respirators with these types of cartridges, it is a sure sign that the cartridges need changing.

##### ***Organic Vapor Cartridges***

Based on discussions with the respirator distributor about workplace exposure conditions, employees wearing APRs with organic vapor cartridges shall change the cartridges on their respirators on the following schedule: \_\_\_\_\_ (e.g., at the end of each work week) to ensure the continued effectiveness of the respirators.

#### **4.6.4 Respirator Storage**

Whenever respirators are not in use, they must be stored in a clean, dry area, away from direct sunlight, and in accordance with the manufacturer's recommendations. Each employee must clean and inspect his or her own respirator, using the steps outlined in this program. Workers store their respirators in sealed plastic bags in the following location: \_\_\_\_\_. They must label their respirator storage bags with their names and must keep their respirators in their own bags.

The Program Administrator maintains the supply of respirators and respirator components in their original manufacturer's packaging in the following location: \_\_\_\_\_.

#### **4.6.5 Defective Respirators**

Respirators that are defective or have defective parts shall be taken out of service immediately. If, during an inspection, an employee discovers a problem with a respirator, the employee is to bring the defect to the attention of the Program Administrator. The Program Administrator will decide whether to:

- Temporarily take the respirator out of service until it can be repaired;
- Perform a simple fix on the spot, such as replacing a headstrap; or
- Dispose of the defective respirator.

When a respirator is disposed of or taken out of service, the employee will be given a replacement of the same make, model, and size. Respirators out of service for an extended period of time will be tagged as out of service. All tagged-out respirators will be kept in the following location until repaired or disposed of:\_\_\_\_\_.

#### **4.7 Training**

The Program Administrator provides training to respirator users. The training covers the contents of this shop's Respiratory Protection Program, individual responsibilities under the program, and information about the OSHA Respiratory Protection standard. All employees are trained prior to using a respirator in the workplace. The training course covers the following topics:

- This Respiratory Protection Program;
- OSHA Respiratory Protection standard;
- Respiratory hazards encountered here and their health effects;
- Proper selection and use of respirators;
- Limitations of respirators;
- Respirator donning and user seal (fit) checks;
- Fit testing;
- Maintenance and storage; and
- Medical signs and symptoms limiting the effective use of respirators.

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

## **5.0 PROGRAM EVALUATION**

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

Problems will be noted in an inspection log and addressed by the Program Administrator. These findings will be reported to the shop's management, and the report will list plans to correct deficiencies in the respirator program and target dates for the implementation of those corrections.

## **6.0 DOCUMENTATION AND RECORDKEEPING**

The Program Administrator will maintain the documentation and records listed below in the following location: \_\_\_\_\_.

- A written copy of this program and OSHA's Respiratory Protection standard. Note, the program and standard shall be accessible to all employees upon request.
- 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 results of any air monitoring and of SAR breathing air quality tests.
- Copies of the physician's written recommendation regarding each employee's ability to wear a respirator. Note, the completed medical questionnaire and the physician's documented findings are confidential and will remain at the physician's office.
- Affected employees are provided access to these records.

Unless otherwise noted above, all documentation and records related to the respiratory protection program will be accessible to affected employees (or their designated representatives) only.



**ATTACHMENT A:**

**RESULTS OF HAZARD EVALUATION FOR \_\_\_\_\_**

**(shop name)**

**Hazard Evaluation For: Dry Sanding**

**Activities:** \_\_\_\_\_  
(Describe types of dry sanding activities.)

**Hazards:** Dust from sanding may irritate the eyes, nose, throat, and/or lungs. Depending on the source, this dust may also have other hazardous characteristics that can cause additional adverse health effects. For example, dust exposure may result from sanding hardened epoxy, polyurethane paint, and small amounts of body filler, which may contain lead.

**Controls:** The following controls and procedures are used to minimize health hazards associated with dry sanding activities (check all that apply):

- Sanding jobs are performed primarily using vacuum sanders.
- Painters are required to minimize the amount of dry sanding performed without vacuum sanders or other local exhaust ventilation. (E.g., painters instructed to use wet sanding methods as much as possible).
- All sanding is performed at a prep station equipped with the following type of local exhaust ventilation: \_\_\_\_\_ (e.g., downdraft or crossdraft ventilation).
- Other: \_\_\_\_\_

**Respiratory Protection:**

- Half-facepiece air-purifying respirators (APRs), with N100 filters are required for employees performing dry sanding without vacuum sanders or other local exhaust ventilation systems.
- Respirators are not required: All sanding jobs are performed using vacuum sanders.
- Respirators are not required: Personal breathing zone monitoring indicates that employee exposure levels are below the OSHA permissible exposure limits for workers performing dry sanding tasks. Employee exposure monitoring was conducted on the following date(s): \_\_\_\_\_. The monitoring results are available at the following location: \_\_\_\_\_.
- Other: \_\_\_\_\_

**The following employees perform sanding tasks (list each employee's name and the amount of time they spend on this task in a typical day):**


**Hazard Evaluation For: Solvent Wipe-Down**

**Activities:** Painters wipe car parts with organic solvent-laden rags to remove oil, grease, wax, and residual dust from surfaces.

**Hazards:** Solvent wipe solutions contain the following hazardous substances: acetone, methyl ethyl ketone, toluene, xylene, acetates, and light aliphatic solvent naphtha. List other hazardous materials present in your solvent products (see your MSDS for the product): \_\_\_\_\_

Organic solvents may irritate the eyes, nose, throat, and/or lungs. Some solvents affect the nervous system, causing headaches, confusion, and other problems (see the MSDS for information on the health hazards of specific solvents). The following products are used for this task: \_\_\_\_\_.

**Controls:** The following controls and procedures are used to minimize health hazards associated with solvent wipe-down activities (check all that apply):

- Painters perform solvent wipe-down in a spray booth or prep station equipped with the following type of local exhaust ventilation: \_\_\_\_\_ (e.g., downdraft, semi-downdraft, crossdraft).
- To help keep the organic vapors to a minimum, painters are required to use organic solvents sparingly, i.e., to use just enough solvent for an effective wipe-down.
- Painters perform solvent wipe-down near the following source(s) of ventilation: \_\_\_\_\_ (specify ventilation type/design).
- Other: \_\_\_\_\_

**Respiratory Protection:**

- Half-facepiece APRs with organic vapor cartridges must be worn by painters performing solvent wipe-down outside the shop's ventilated booth or prep station.
- Respirators are not required: All solvent wipe-down tasks are performed in the ventilated spray booth or prep station with the exhaust fan operating.
- Respirators are not required: Personal breathing zone monitoring indicates that employee exposure levels are below the OSHA permissible exposure limits for workers performing solvent wipe down tasks. Employee exposure monitoring was conducted on the following date(s) \_\_\_\_\_. The results are available at the following location: \_\_\_\_\_.
- Other: \_\_\_\_\_

**The following employees perform solvent wipe-down tasks (list each employee's name and the amount of time they spend on this task in a typical day):**


**Hazard Evaluation For: Paint Mixing**

**Activities:** Painters usually mix three types of coatings (primers, basecoats, and clearcoats) for every auto refinishing job. Hardeners and paint thinners are sometimes also added to the mixtures.

**Hazards:** Coatings and other chemicals used for paint mixing are comprised of the following hazardous substances:

- Primers (barium sulfate; titanium dioxide; methyl isobutyl ketone, xylene, toluene, ethylbenzene, butyl acetate)
- Basecoats, various colors (titanium dioxide, pigments, methyl isobutyl ketone, ethyl acetate, butyl acetate, toluene, ethylbenzene, xylene, lead and chromium)
- Clearcoat (toluene, xylene, methyl ethyl ketone, ethyl acetate, butyl acetate)
- Hardener (80% hexamethylene diisocyanate polymer and 20% of butyl acetate)
- Paint thinner (mineral spirits)
- Other (see product MSDSs): \_\_\_\_\_

Inhaling vapors from paints and solvents may affect the nervous system, causing headaches, dizziness and lightheadedness. According to the MSDSs, all clearcoat formulations and some primer formulations contain isocyanates (isocyanates are a major component of the hardeners added to these formulations). See <http://www.cdc.gov/niosh/asthma.html> for NIOSH Alert "Preventing Asthma and Death from Diisocyanate Exposure."

**Controls:** The following controls and procedures are used to minimize health hazards associated with paint mixing activities (check all that apply):

- Painters perform mixing in the mixing room to minimize exposure to others in the rest of the facility.
- To help control the accumulation of vapors in the mixing room, the facility has installed the following type of ventilation system: \_\_\_\_\_.
- To help prevent the release of solvent vapors in the mixing room, painters are instructed to keep all containers tightly sealed when not in use.
- Other: \_\_\_\_\_ (e.g., a local exhaust ventilation hood).

**Respiratory Protection:**

- Half-facepiece APRs with organic vapor cartridges must be worn by painters performing paint mixing.
- Respirators are not required: Personal breathing zone monitoring indicates that employee exposure levels are below the OSHA permissible exposure limits for workers performing paint mixing tasks. Employee exposure monitoring was conducted on the following date(s) \_\_\_\_\_. The results are available at the following location: \_\_\_\_\_.
- Other: \_\_\_\_\_

**The following employees perform paint mixing tasks (list each employee's name and the amount of time they spend on this task in a typical day):**


**Hazard Evaluation For: Spray Painting**

**Activities:** Painters apply three basic types of coatings (primers, basecoats, and clearcoats) using a paint spray gun.

**Hazards:** Coatings used for spray painting are comprised of the following hazardous substances:

- Primers (barium sulfate; titanium dioxide; methyl isobutyl ketone, xylene, toluene, ethylbenzene, butyl acetate)
- Basecoats, various colors (titanium dioxide, pigments, methyl isobutyl ketone, ethyl acetate, butyl acetate, toluene, ethylbenzene, xylene, lead and chromium)
- Clearcoat (toluene, xylene, methyl ethyl ketone, ethyl acetate, butyl acetate)
- Hardener (80% hexamethylene diisocyanate polymer and 20% of butyl acetate)
- Other (see MSDSs product): \_\_\_\_\_

Spray painting has the greatest potential for elevated worker exposures to the hazardous ingredients in paints. The paint droplets contain all of the components of the paint, including several types of organic solvents and isocyanates. Paint mists can carry all these components into the lungs. Isocyanates present serious health risks, including asthma, allergic lung and skin reactions, and chronic lung disease. See <http://www.cdc.gov/niosh/asthma.html> for NIOSH Alert “Preventing Asthma and Death from Diisocyanate Exposure.”

**Controls:** The following controls and procedures are used to minimize health hazards associated with spray painting activities (check all that apply):

- Shop is equipped with a ventilated spray booth. List type and number of spray booths (e.g., downdraft, semi-downdraft, crossdraft): \_\_\_\_\_.
- Shop is equipped with a ventilated prep station for priming and small touch-up applications. List type and number of prep stations (e.g., downdraft, semi-downdraft, crossdraft): \_\_\_\_\_.
- IT IS AGAINST SHOP POLICY TO PERFORM SPRAY PAINTING OUTSIDE OF THE BOOTH OR PREP STATION.
- Painters properly maintain the spray booth and prep station (e.g., change filters on a regular basis) to ensure the ventilation systems operate effectively.
- Painters use HVLP spray guns for all applications to minimize overspray. (See NIOSH publication, “Control of Paint Overspray in Autobody Repair Shops,” <http://www.cdc.gov/niosh/paintovr.html>.)
- Other: \_\_\_\_\_.

**Respiratory Protection:**

- A hooded, supplied-air respirator (SAR), used in the continuous flow mode, must be worn by all employees performing spray painting.
- A full face-piece powered air-purifying respirator (PAPR) with a protection factor of at least 25 must be worn by all employees performing spray painting.
- Other (note, since this task requires eye protection and a higher level of protection, half-mask respirators are not acceptable): \_\_\_\_\_.

**The following employees perform spray painting tasks (list each employee’s name and the amount of time they spend on this task in a typical day):**


**Hazard Evaluation For: Spray Gun Cleaning**

**Activities:** \_\_\_\_\_

(Describe the gun cleaning procedures used in the shop.)

**Hazards:** Methyl ethyl ketone (MEK), a major component of gun cleaning solvent, evaporates quickly and its vapors may be harmful to painters if inhaled. According to the MSDS, MEK may cause headaches, nausea, vomiting, dizziness, drowsiness, irritation of the respiratory tract, and loss of consciousness when inhaled. The following link allows a search on various MSDSs: <http://siri.uvm.edu/msds/>. Refer to your product MSDS for additional hazardous materials present in your gun cleaning solution.

In addition to gun cleaning solvent, components of residual paint may also pose hazards.

**Controls:** The shop has the following controls and procedures in place to minimize hazards associated with spray gun cleaning (check all that apply):

- Shop equipped with an automatic gun cleaner that minimizes the need for manual gun cleaning. List type of gun cleaner used (e.g., enclosed basin, parts washing sink): \_\_\_\_\_
- Gun cleaner equipped with an exhaust ventilation system to remove vapors from the work area (e.g., ventilated parts washing sink).
- Gun cleaner located near other source of exhaust ventilation. Describe ventilation: \_\_\_\_\_
- Ventilated work station provided for manual gun cleaning tasks.
- Spray gun cleaning takes place in the mixing room to minimize exposure to others in the rest of the facility.
- Other: \_\_\_\_\_

**Respiratory Protection:**

- Half-facepiece APRs with organic vapor cartridges must be worn during the gun cleaning process since a certain amount of manual cleaning is necessary and workers may be exposed to solvent vapors during this process. For example, to extend the service life of the cleaning solvent in the automatic gun cleaner, painters may manually pre-rinse the gun cup to remove gross contamination before placing the gun and cup in the automatic cleaner. Painters may also be exposed to solvents when opening and closing the gun cleaner, when positioning the guns and gun cups in the cleaner, and when retrieving guns and gun cups that are still wet with solvent.
- Respirators are not required: Personal breathing zone monitoring indicates that employee exposure levels are below the OSHA permissible exposure limits for workers performing gun cleaning tasks. Employee exposure monitoring was conducted on the following date(s): \_\_\_\_\_  
The results are available at the following location: \_\_\_\_\_
- Other: \_\_\_\_\_

**The following employees perform spray gun cleaning tasks (list each employee's name and the amount of time they spend on this task in a typical day):**


**Hazard Evaluation For: Spray Booth Maintenance**

**Activities:** The automotive spray booth filters must be replaced periodically. Employees change the filters according to the following schedule or conditions: \_\_\_\_\_. For this task the ventilation system must be turned off while workers open the units and replace old filters with new ones.

**Hazards:** Some dust is inevitably released during the removal and handling of spent filters. Dust from filters may irritate the eyes, nose, throat, and/or lungs.

**Controls:** \_\_\_\_\_  
(Describe any site-specific controls for this operation.)

**Respiratory Protection:**

- Employees must wear half-facepiece APRs with N95 filters while performing this task.
- Respirators are not required: Personal breathing zone monitoring indicates that employee exposure levels are below the OSHA permissible exposure limits for the exposures of workers performing this activity. Employee exposure monitoring was conducted on the following date(s) \_\_\_\_\_. The monitoring results are available at the following location: \_\_\_\_\_.
- Other: \_\_\_\_\_

**The following employees perform spray booth maintenance tasks (list each employee's name and the amount of time they spend on this task in a typical day):**


[Blank Form]

**Hazard Evaluation For:** \_\_\_\_\_  
(Name of Task)

**Activities:** (List specific activities associated with this task.)

**Hazards:** (List all respiratory hazards associated with this task. For detailed information on the hazards, refer to MSDSs for the specific substances in use at the shop.)

**Controls:** (List any site-specific controls and procedures in place to minimize exposure to the hazards described in the above section.)

**Respiratory Protection:** (List required respiratory protection.)

**The following employees perform this task (list each employee's name and the amount of time they spend on this task in a typical day):**

_____	_____
_____	_____



**ATTACHMENT B:**  
**Respirator Medical Evaluation Questionnaire**

**Respirator Medical Evaluation Questionnaire**  
Appendix C to OSHA's Respiratory Protection Standard, 1910.134

Date: \_\_\_\_\_

Name: \_\_\_\_\_ SS# \_\_\_\_\_

To the employee:

Can you read (check one)? Yes \_\_\_\_\_ No \_\_\_\_\_

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the company's occupational health care provider, who will review it.

**PART A. SECTION 1 (Mandatory)**

The following information must be provided by every employee who has been selected to use any type of respirator (*please print*).

1. Today's date: \_\_\_\_\_
2. Your name: \_\_\_\_\_
3. Your age (to nearest year): \_\_\_\_\_
4. Sex: Male \_\_\_\_\_ Female \_\_\_\_\_
5. Your height: \_\_\_\_\_ ft. \_\_\_\_\_ in.
6. Your weight: \_\_\_\_\_ lbs
7. Your job title: \_\_\_\_\_
8. A telephone number where you can be reached by CORPORATE HEALTH CENTER.  
Area code ( ) \_\_\_\_\_.
9. The best time to phone you at this number: \_\_\_\_\_
10. Has your employer told you how to contact CORPORATE HEALTH CENTER who will review this questionnaire? Yes \_\_\_\_\_ No \_\_\_\_\_
11. Check the type of respirator you will use (you can check more than one category):
  - a. \_\_\_\_\_ N, R, or P disposable respirator (filter-mask, non-cartridge type only).

**Respirator Medical Evaluation Questionnaire**  
Appendix C to OSHA's Respiratory Protection Standard, 1910.134

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):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**PART A. SECTION 2 (Mandatory)**

Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please check "yes" or "no").

	<b>YES</b>	<b>NO</b>
1. Do you currently smoke tobacco, or have you smoked tobacco in the last month?	_____	_____
2. Have you ever had any of the following conditions?		
a. Seizures (fits)	_____	_____
b. Diabetes (sugar disease)	_____	_____
c. Allergic reactions that interfere with your breathing	_____	_____
d. Claustrophobia (fear of closed-in places)	_____	_____
e. Trouble smelling odors	_____	_____
3. Have you ever had any of the following pulmonary or lung problems?		
a. Asbestosis	_____	_____
b. Asthma	_____	_____
c. Chronic bronchitis	_____	_____
d. Emphysema	_____	_____
e. Pneumonia	_____	_____
f. Tuberculosis	_____	_____
g. Silicosis	_____	_____
h. Pneumothorax (collapsed lung)	_____	_____
i. Lung cancer	_____	_____
j. Broken ribs	_____	_____
k. Any chest injuries or surgeries	_____	_____
l. Any other lung problems that you've been told about	_____	_____
4. Do you currently have any of the following symptoms?		
a. Shortness of breath	_____	_____

**Respirator Medical Evaluation Questionnaire**  
Appendix C to OSHA's Respiratory Protection Standard, 1910.134

	<b>YES</b>	<b>NO</b>
b. Shortness of breath when walking fast on level ground or walking 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	_____	_____
g. Coughing that produces phlegm (thick sputum)	_____	_____
h. Coughing that wakes you 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 or heart problems?		
a. Heart attack	_____	_____
b. Stroke	_____	_____
c. Angina	_____	_____
d. Heart failure	_____	_____
e. Swelling in your legs or feet (not caused by walking)	_____	_____
f. Heart arrhythmia (heart beating irregularly)	_____	_____
g. High blood pressure	_____	_____
h. Any other heart problem that you've been told about	_____	_____
6. Have you ever had any of the following cardiovascular or 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	_____	_____

**Respirator Medical Evaluation Questionnaire**  
Appendix C to OSHA's Respiratory Protection Standard, 1910.134

	<b>YES</b>	<b>NO</b>
7. Do you currently take medication for any of the following problems?		
a. Breathing or lung problems	_____	_____
b. Heart trouble	_____	_____
c. Blood pressure	_____	_____
d. Seizures (fits)	_____	_____
8. If you've used a respirator, have you ever had any of the following problems? (If you've never used a respirator, check the following space and go to Question 9)		
a. Eye irritation	_____	_____
b. Skin allergies or rashes	_____	_____
c. Anxiety	_____	_____
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 health care professional who will review this questionnaire about your answers to this questionnaire?	_____	_____

Questions 10 to 15 below must be answered by every employee who has been selected to use either a Full-facepiece Respirator or a Self-contained Breathing Apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

	<b>YES</b>	<b>NO</b>
10. Have you ever lost vision in either eye (temporarily or permanently)?		
a. Wear contact lenses	_____	_____
b. Wear glasses	_____	_____
c. Color blind	_____	_____
d. Any other eye or vision problem	_____	_____
12. Have you ever had an injury to your ears, including a broken ear drum?	_____	_____

**Respirator Medical Evaluation Questionnaire**  
Appendix C to OSHA's Respiratory Protection Standard, 1910.134

	<b>YES</b>	<b>NO</b>
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 any of your arms, hands, legs, or feet	_____	_____
b. Back pain	_____	_____
c. Difficulty fully moving your arms and legs	_____	_____
d. Pain or stiffness when you lean forward or backward at the waist	_____	_____
e. Difficulty fully moving your head up or down	_____	_____
f. Difficulty fully 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 lbs.	_____	_____
j. Any other muscle or skeletal problem that interferes with using a respirator	_____	_____

**PART B**

Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes \_\_\_\_\_ No \_\_\_\_\_  
  
If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes \_\_\_\_\_ No \_\_\_\_\_
  
2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes \_\_\_\_\_ No \_\_\_\_\_  
  
If "yes," name the chemicals if you know them: \_\_\_\_\_  
\_\_\_\_\_

**Respirator Medical Evaluation Questionnaire**  
 Appendix C to OSHA's Respiratory Protection Standard, 1910.134

		<b>YES</b>	<b>NO</b>
3.	Have you ever worked with any of the materials, or under any of the conditions, listed below (please check "yes" or "no"):		
a.	Asbestos	_____	_____
b.	Silica (e.g., in sandblasting)	_____	_____
c.	Tungsten/cobalt (e.g., grinding or welding this material)	_____	_____
d.	Beryllium	_____	_____
e.	Aluminum	_____	_____
f.	Coal (for example, mining)	_____	_____
g.	Iron	_____	_____
h.	Tin	_____	_____
I.	Dusty environments	_____	_____
j.	Any other hazardous exposures	_____	_____

If "yes," describe these exposures: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. List any second jobs or side businesses you have: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

5. List your previous occupations: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

6. List your current and previous hobbies: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

7. Have you been in the military services? Yes \_\_\_\_\_ No \_\_\_\_\_

If "yes," were you exposed to biological or chemical agents (either in training or combat):  
 Yes \_\_\_\_\_ No \_\_\_\_\_

8. Have you ever worked on a HAZMAT team? Yes \_\_\_\_\_ No \_\_\_\_\_

**Respirator Medical Evaluation Questionnaire**  
 Appendix C to OSHA's Respiratory Protection Standard, 1910.134

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes\_\_\_\_\_ No\_\_\_\_\_

If "yes," name the medications if you know them:\_\_\_\_\_

	<b>YES</b>	<b>NO</b>
10. Will you be using any of the following items with your respirator(s) (please check "yes" or "no")?		
a. HEPA Filters	_____	_____
b. Canisters (for example, gas masks)	_____	_____
c. Cartridges	_____	_____
11. How often are you expected to use the respirator(s) (please check "yes" or "no" for all answers that apply to you)?		
a. Escape only (no rescue)	_____	_____
b. Emergency rescue only	_____	_____
c. Less than 5 hours per week	_____	_____
d. Less than 2 hours per day	_____	_____
e. 2 to 4 hours per day	_____	_____
f. Over 4 hours per day	_____	_____

12. During the period you are using the respirator(s), is your work effort:

Light (less than 200 kcal per hour): Yes\_\_\_\_\_ No\_\_\_\_\_

If "yes," how long does this period last during the average shift:  
 \_\_\_\_\_hrs. \_\_\_\_\_mins.

Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.

Moderate (200 to 350 kcal per hour): Yes\_\_\_\_\_ No\_\_\_\_\_

If "yes," how long does this period last during the average shift:  
 \_\_\_\_\_hrs. \_\_\_\_\_mins.

Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.



**Respirator Medical Evaluation Questionnaire**  
Appendix C to OSHA's Respiratory Protection Standard, 1910.134

Heavy (above 350 kcal per hour):    Yes\_\_\_\_\_ No\_\_\_\_\_

If "yes," how long does this period last during the average shift:  
\_\_\_\_\_hrs. \_\_\_\_\_mins.

Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes\_\_\_\_\_ No\_\_\_\_\_

If "yes," describe this protective clothing and/or equipment: \_\_\_\_\_  
\_\_\_\_\_

14. Will you be working under hot conditions (temperature exceeding 77 deg. F):  
Yes\_\_\_\_\_ No\_\_\_\_\_

15. Will you be working under humid conditions: Yes\_\_\_\_\_ No\_\_\_\_\_

16. Describe the work you'll be doing while you're using your respirator(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance: \_\_\_\_\_  
Estimated maximum exposure level per shift: \_\_\_\_\_  
Duration of exposure per shift: \_\_\_\_\_  
Name of the second toxic substance: \_\_\_\_\_  
Estimated maximum exposure level per shift: \_\_\_\_\_  
Duration of exposure per shift: \_\_\_\_\_  
Name of the third toxic substance: \_\_\_\_\_

**Respirator Medical Evaluation Questionnaire**  
Appendix C to OSHA's Respiratory Protection Standard, 1910.134

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

The name of any other toxic substances that you'll be exposed to while using your respirator:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

19. Describe any special responsibilities you will have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_