Chapter 16 RESPIRATORY PROTECTION PROGRAM

Purpose Few things affect your health more than the air that you breathe. Sign Designs, Inc. Respiratory Protection Program is designed to ensure the air that you breathe is safe. Manufacturing process create many airborne hazards that can be reduced and eliminated with proper personal protective equipment.

Hazards Many substances you breathe can be hazardous to your health. These hazards include:

Dust, Fumes, Mist, Smoke, and Fog. These are particles that are suspended in the air. They can be too small to see, but if inhaled, can damage your airway

Gases and Vapors. These are often invisible substances that float in the air. They can damage your airway and lungs, or can even kill you.

Oxygen Deficiency. Lack of oxygen poses a sever health risk. It may cause sudden loss of consciousness or even death.

Air Temperature. While not as serious as other hazards, extremes in air temperature can affect your airway.

Engineering Controls Sign Designs, Inc. has provided open work areas with high ceilings and adequate ventilation to remove most airborne hazards. Consult MSDS information to determine the adequacy of local controls. All exposures are to be considered Dangerous to Life and Health.

When effective engineering controls are not feasible, in emergency situations, appropriate respirators shall be used. Respirators shall be provided to the employee when such equipment is necessary to protect the health of the employee. Sign Designs, Inc. will provide the respirators which are applicable and suitable for the purpose intended, and will maintain a respiratory protection program. Sign Designs, Inc. will continue to monitor the program, and update the program as working conditions or other situations require adjustment to the program. The program will include the following items.

1. Procedures for selecting respirators for use in the workplace.

2. Medical evaluations of employees required to use respirators.

3. Fit testing procedures for tight-fitting respirators.

4. Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations.

5. Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators.

6. Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators

7. Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations.

8. Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance.

9. Procedures for regularly evaluating the effectiveness of the program.

The Production Manager will provide all training and will administer and oversee the effectiveness of the program.

Sign Designs, Inc. will provide respirators, training, and medical evaluations at no cost to the employee.

Training

All employees who are required to use respirators must receive annual training on the proper use of their equipment. Employees are prohibited from engaging in an activity requiring a respirator until receiving proper training. The employee must demonstrate that they have a knowledge of the following

1. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
2. What the limitations and capabilities of the respirator are.
3. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
4. How to inspect, put on and remove, use, and check the seals of the respirator.
5. What the procedures are for maintenance and storage of the respirator.
6. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
7. The general requirements of OSHA Standard regarding respirator usage.

Retraining shall be administered annually, and when the following situations occur:

1. Changes in the workplace or the type of respirator render previous training obsolete.
2. Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill.
3. Any other situation arises in which retraining appears necessary to ensure safe respirator use.

Sign Designs, Inc. provides respirators to protect the health of the employee when engineering controls are inadequate to reduce airborne hazards to a safe level. Different respirators are provided that are adequate and suitable to different functions. The following types of respirators are used for these various functions:

Letter Fabrication	Welding and Chemical Fumes	½ Mask with P type multi gas/vapor filter and goggles
MacDonald Screen Print	Chemical Fumes	½ Mask with P type multi gas/vapor filter and goggles
Metal Department	Welding and Chemical Fumes	½ Mask with P type multi gas/vapor filter and goggles
Router	Particulate	Dust Mask with goggles
Plex Department	Chemical Fumes	½ Mask with P type multi gas/vapor filter and goggles
Paint Department	Chemical Fumes and Particulate	Full Face Mask with multi gas/vapor filter and peel away lens cover
Installation and Service	Chemical Fumes and Particulate	½ Mask with P type multi gas/vapor filter and goggles. Supplied Air Respirator with full mask when necessary in the field.

½ Mask is to be Survivair 2000 Series Half-Mask

Full Face Mask is to be Survivair Standard 4000 Series Full-Face

Peel Away Lens Cover is to be Survivair Polyester Lens Covers

Filters are to be Survivair Mulit-Contaminant Cartridge/P100 Filter

Goggles are to be Sellstrom Nonvented Fog Free Lens

Dust Mask is to be 3M 8210 N95 Particulate Respirator

Supplied Air Respirator is to be Survirair One-Worker Ambient Air Pump with Full Face Respirator

All particulate respirators must be supplied with a High Efficiency Particulate Air (HEPA) filter. All respirators must have an End of Service Life Indicator (EOSLI), and must have at a 30 minute service life.

Medical Evaluation

Sign Designs, Inc. will provide a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace. The medical evaluation may be discontinued when the employee is no longer required to use a respirator.

Sign Designs, Inc. will select a physician or other licensed health care professional (PLHCP) to perform medical evaluations using a medical questionnaire or an initial medical examination that obtains the same information as the medical questionnaire.

The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content.

Employees will have an opportunity to discuss the questionnaire and examination results with the PLHCP.

Additional Medical Evaluations. At a minimum, Sign Designs, Inc. will additional medical evaluations if:

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

2. A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated.

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

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

Fit testing. All employees that may be required use any respirator with a negative or positive pressure tight-fitting facepiece, will be fit tested with the same make, model, style, and size of respirator that will be used. This paragraph specifies the kinds of fit tests allowed, the procedures for conducting them, and how the results of the fit tests must be used.

Employees using a tight-fitting facepiece respirator must pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT). Employees using a tight-fitting facepiece respirator will be fit tested prior to initial use of the respirator, whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.

Supplied-air respirators (SARs) or airline respirators also require fit testing.

Facepiece Seal Protection. Sign Designs, Inc. prohibits respirators with tight-fitting facepieces to be worn by employees who have facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function; or any condition that interferes with the face-to-face seal or valve function If an employee wears corrective glasses or goggles or other personal protective equipment, such equipment must be worn in a manner that does not interfere with the seal of the facepiece to the face of the user.

Employees must perform a user seal check each time they put on the respirator using the procedures in OSHA Appendix B-1 or procedures recommended by the respirator manufacturer that the employer demonstrates are as effective as those in Appendix B-1.

The Production Supervisor will conduct appropriate surveillance of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the Production Supervisor will reevaluate the continued effectiveness of the respirator, and will ensure that employees leave the respirator use area:

1. To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use.

2. If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece.

3. To replace the respirator or the filter, cartridge, or canister elements.

If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, Sign Designs, Inc. will replace or repair the respirator before allowing the employee to return to the work area.

IDLH Atmospheres. For all IDLH atmospheres, the onsite supervisor will ensure that:

1. One employee or, when needed, more than one employee is located outside the IDLH atmosphere.

2. Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere.

3. The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue.

4. The onsite supervisor or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue.

The onsite supervisor or designee authorized to do so by Sign Designs, Inc., once notified, will provide necessary assistance appropriate to the situation. Employee(s) located outside the IDLH atmospheres are equipped with pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either

1. Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or

2. Equivalent means for rescue where retrieval equipment is not required.

Cleaning and Disinfecting. Sign Designs, Inc. will provide each respirator user with a respirator that is clean, sanitary, and in good working order, and will ensure that respirators are cleaned and disinfected using the procedures in OSHA Appendix B-2, or procedures recommended by the respirator manufacturer, provided that such procedures are of equivalent effectiveness. The respirators shall be cleaned and disinfected at the following intervals:

1. Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.

2. Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals.

3. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

4. Respirators used in fit testing and training shall be cleaned and disinfected after each use.

All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the facepiece and exhalation valve.

Emergency respirators shall be kept accessible to the work area, and stored in compartments or in covers that are clearly marked as containing emergency respirators, in accordance with any applicable manufacturer instructions.

Inspection. All respirators used in routine situations shall be inspected before each use and during cleaning. All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use. Emergency escape-only respirators shall be inspected before being carried into the workplace for use.

Inspections include a check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters; and a check of elastomeric parts for pliability and signs of deterioration.

Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. An inspection shall be conducted to determine that the regulator and warning devices function properly.

For respirators maintained for emergency use, Sign Designs, Inc. shall certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator. This information will be provided on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.

Respirators that fail an inspection or are otherwise found to be defective will be removed from service, and discarded or repaired or adjusted in accordance with the following procedures:

1. Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator.

2. Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed.

3. Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

Breathing Air Quality and Use. This section applies to employees using atmosphere-supplying respirators (supplied-air and SCBA) and ensures that breathing gases are of high purity. Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration meets the specifications:

1. Compressed and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen.

2. Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:

   A. Oxygen content (v/v) of 19.5-23.5%

B. Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less.

C. Carbon monoxide (CO) content of 10 ppm or less.

D. Carbon dioxide content of 1,000 ppm or less.

E. Lack of noticeable odor.

Compressed oxygen must not be used in atmosphere-supplying respirators that have previously used compressed air. Oxygen concentrations greater than 23.5% can be used only in equipment designed for oxygen service or distribution.

Cylinders used to supply breathing air to respirators must meet the following requirements:

1. Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178).

2. Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air.

3. The moisture content in the cylinder does not exceed a dew point of -50 deg.F (-45.6 deg.C) at 1 atmosphere pressure.

Compressors used to supply breathing air to respirators are to be constructed and situated so as to:

1. Prevent entry of contaminated air into the air-supply system

2. Minimize moisture content so that the dew point at 1 atmosphere pressure is 10 degrees F (5.56 deg.C) below the ambient temperature.

3. Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beds and filters shall be maintained and replaced or refurbished periodically following the manufacturer's instructions.

4. Have a tag containing the most recent change date and the signature of the person authorized by Sign Designs, Inc. to perform the change. The tag shall be maintained at the compressor.

For compressors that are not oil-lubricated, carbon monoxide levels in the breathing air must not exceed 10 ppm.

For oil-lubricated compressors, a high-temperature or carbon monoxide alarm, or both, will be used to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.

Breathing air couplings are incompatible with outlets for non-respirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.

Program Evaluation. Sign Designs, Inc. will conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

Employees required to use respirators will be consulted regularly to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

1. Respirator fit (including the ability to use the respirator without interfering with effective workplace performance).

2. Appropriate respirator selection for the hazards to which the employee is exposed.

3. Proper respirator use under the workplace conditions the employee encounters.

4. Proper respirator maintenance.

Recordkeeping. Records of medical evaluations required by this section must be retained and made available in accordance with 29 CFR 1910.1020.

The Human Resources Department will establish and maintain a record of the qualitative and quantitative fit tests administered to an employee including:

1. The name or identification of the employee tested.

2. Type of fit test performed.

3. Specific make, model, style, and size of respirator tested.

4. Date of test.

5. The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

Fit test records shall be retained for respirator users until the next fit test is administered. A written copy of the current respirator program shall be retained by the Human Resources Department.

Written materials required to be retained under this paragraph shall be made available upon request to affected employees and to the Assistant Secretary or designee for examination and copying.