Respirators, including half face or full face tight fitting, negative pressure air purifying respirators (APR), have the potential to provide protection from many types of dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. In order to gain this protection it is important that you have the proper setup. As your employer (or overseer), it is the responsibility of UC Davis to ensure that you have the proper personal protective equipment, and if your work duties indicate a need for a respirator, then you will be provided one for your work on campus. There are specific requirements in obtaining a respirator that must be fulfilled annually. It must be noted that improper fit, usage, or maintenance can compromise the protective effect of the respirator.

Cal/OSHA Title 8 Section 5144 is the Respiratory Protection Standard and requires that the employer have a written program including:
- Medical clearance (annual): to determine if employee is physically able to wear a respirator
- Annual fit test: to determine if the respirator fits properly on the employee’s face
- Annual training: on the selection, use, storage and limitations of the respirator used

**Selecting a Respirator:**

Employees will be able to choose from a selection of respirators immediately prior to the fit test. This make, size and model will be chosen during the fit test, depending on comfort and facial structure and size. Returning employees will continue wearing the same respirator as previous years and will be fit tested using this unit, unless the respirator has been compromised or will not fit properly any longer.

Cartridge selection is also very important and depending on what you are working around, will dictate which type of cartridge or filter is needed. Essentially they are all color coded and there are vapor/gas cartridges, Particulate (HEPA) P-100 cartridges, or combination cartridges. The particulate cartridges are changed out when you feel a higher resistance in breathing; the gas/vapor cartridges need to be changed out after 8 hours of use.

**Limitations and Capabilities:**

Employees shall not wear APRs under the following conditions:

1. Atmospheric oxygen content is less than 19.5% by volume.
2. An immediately dangerous to life and health (IDLH) condition.
3. Air contaminant(s) is extremely toxic in minute quantities.
4. Air contaminant(s) cannot be sufficiently detected by odor or the odor threshold is at or above the listed TLV or PEL.
5. Air contaminant(s) is highly irritating to the eyes, unless the worker is using a full-face respirator mask or equivalent eye protection.
6. The selected cartridge is not rated for the air contaminate(s).
7. With facial hair that interferes with a proper seal between the face and respirator.

Half Face respirators have an Assigned Protection Factor (APF) of 10, meaning they are expected to provide protection at a level of at least 10 times the Permissible Exposure Limit (PEL) of that particular hazard. Full Face respirators have an APF of 50. * The area that typically leaks the most on half faces is at the nose, so give extra attention to this area. If there is a question on what respirator to choose based on Maximum Use Concentration of your area, please ask during your fit test, and we can begin the process of figuring this out.

**Emergency Situations:**

At any time that you feel there is an emergency situation in your environment while wearing the respirator, leave the area immediately and dial 9-1-1. The on-site campus Fire Department has equipment (i.e. Self-Contained Breathing Apparatus units) that are much more capable of handling IDLH and emergency situations. In addition, they have additional training in handling emergency situations. If you feel that your respirator has malfunctioned
for some reason leave the area immediately to inspect it, and conduct user seal checks prior to re-entry of the work area.

**Inspection / Donning and Doffing / User Seal checks:**

Inspection: Prior to wearing the respirator, inspect the unit for cracks, dents, deformations, heavy usage or loss of elasticity on the straps, old or brittle exhale or inhale valves, or any area that looks to be compromised. If there is a problem with the respirator, do not attempt to replace parts or fix in an alternate fashion; bring the respirator in to have repaired/replaced.

Donning and Doffing: There will be a hands-on portion of the training in which you will be shown how to place the respirator on your face and the straps over your head – essentially, the unit should be sitting straight and upright, and these units should be tightened down fairly snug – just a small breach in the seal will allow contaminants in. Each unit is slightly unique with varying amounts of straps etc, however they are all similar in how to don the unit and remove in the reverse order.

User seal checks: Prior to wearing the respirator and entering the work space, a negative pressure and positive pressure user seal check needs to be conducted to make sure there are no leaks. For Negative pressure, cover the air intakes on the cartridges and breathe in. Hold your breath for several seconds. You should feel no air leaking around the seal. For the positive pressure, cover the exhale area and slightly breathe out. You should feel the respirator expand a bit, but again, no air leaking around the seal. In either case, if there is any type of leak, tighten the strap in the area of the leak and try again. Do not use the respirator if you are unable to obtain a proper user seal check.

**Storage and Cleaning:**

Storage: The respirator needs to be stored in a plastic bag, out of sunlight and kept from temperature extremes. Also, this unit should be maintained under your control, so that no one else uses or takes it. Lastly, the unit should be stored in a way that other objects will not crush or deform it.

Cleaning: The respirator needs to be cleaned as often as necessary in order to be maintained in a sanitary condition. The most common way to clean it is by using either a warm, mild soapy solution, or alcohol wipes. Clean first on the inside of the mask and work your way to the outside of the mask – to minimize contaminating the inside of your respirator.

**Further Medical Evaluation / Training / Fit Testing:**

Medical re-evaluation is required if user reports medical signs/ symptoms that are related to the ability to use a respirator, or if changes in the work place/ activities may result in a substantial increase in the physiological burden placed on the respirator user. Training needs to be repeated annually and whenever inadequacies in user’s knowledge or use of the respirator indicate that the user has not retained the requisite understanding or skill to wear a respirator. Fit-Testing needs to be repeated annually and whenever changes in the work place/ activities or type of respirator used affect the respirator fit: i.e. facial/ dental changes and significant changes in body weight.

**Fit test:** During your fit test your will have an opportunity to ask questions related to the respirator. Please feel free to ask any questions you have during this time, otherwise it will be assumed that you have a good understanding of the respirator and the contents included within this training form. Further references and information can be obtained in the UC Davis Respiratory Protection Manual or Cal/OSHA Title 8 Section 5144.

**Signature of Trainee:** ________________________________  **Date:** ___________________