



Nanogate North America

Respirator Protection Program

Purpose:

To establish and define the procedure for an effective respirator program to protect employees from respiratory exposure to harmful toxic substances.

General:

Engineering and/or administrative controls will be used to protect employees from respiratory exposure. Personal respiratory protection will be used as an alternative method when needed to control exposure to toxic substances.

Responsibility:

All personnel are charged with the responsibility for full compliance with this procedure. The EHS Department is responsible for determining the need, maintenance and proper use of the respirator protection equipment.

Respirator Classification and Definitions:

- Air purifying particulate filter respirators are called dust, mist or fumes respirators, and remove the particles before they are inhaled.
- Air purifying particulate filter respirators do not provide oxygen and must not be worn in an oxygen-deficient atmosphere (an atmosphere where the percentage of oxygen by volume is less than 19.5%). Additionally, they do not protect against toxic gases or vapors.
- Air purifying-chemical cartridge/canister respirators are respirators that remove the gas or vapor by trapping or reacting with specific gas vapor on absorbent material before the air is breathed. The cartridge or canister is specifically designed to protect against a single type or class of chemicals. The label on the cartridge or canister should specify the agent against which it will protect, maximum concentration and, in some instances, the service life of the element.
- Air purifying-chemical cartridge/canister respirators do not supply oxygen and cannot be used in an oxygen-deficient atmosphere. They must not be used in an atmosphere immediately dangerous to life health or where warning properties of the contaminant are poor and therefore would not signify that the filter is consumed.
- Self-contained breathing apparatus (SCBA) Type-C supplied air respirator allow the user to work independently of the air quality of the worksite. An SCBA is self-limiting as to the time a worker may use it. The SCBA will generally be used as an emergency rescue respirator or for cleaning up chemical spills.
- Supplied-air respirators provide the user with grade D certified breathing air from central source via an air supply line or hose. Supplied-air respirators are available in either half –

mask or full-mask. The airline respirator allows the user to work for extended periods in a contaminated atmosphere. This type of respirator is not allowed in an atmosphere classified as immediately dangerous to life and health unless it includes a small self-contained source of breathing air for escape purposes and is approved for such use.

Respirator Need and Selection:

To determine the need for respirator protection in each situation, do the following:

1. Assess whether potential exposures exist and what extent.
2. Review all available industrial hygiene data to assist in selecting the correct respirator protection. Conduct additional industrial hygiene surveys as necessary.
3. Assess current engineering and/or administrative controls used to prevent exposure.
4. Assess the feasibility of engineering and/or administrative controls used to prevent exposure.
5. Review any current work requirements and conditions that may impair an employee's ability to wear respiratory protection.
6. Assess the characteristics and limitations of available respiratory protection.

Only NIOSHA/MSHA-approved respirators shall be selected and used. The following have been selected for use in our operations:

*TGIC - Triglycidyl Isocyanurate

Medical Evaluation:

All employees will undergo a medical evaluation to evaluate their medical status as it relates to respiratory protection and to assure that they are physically able to perform the work while wearing a respirator. If a physical examination is needed this will be arranged for by the Human Resources Manager in each plant location, to be conducted at the current Medical Services Provider.

The Medical examination shall consist of:

1. Completion of respiratory questionnaire.
2. Pulmonary function test.
3. Physician evaluation of respiratory questionnaire.

The medical status of all employees who use respiratory protection will be reviewed annually.

Training:

Only medically approved employees will receive training in the respiratory protection. The training will include:

1. Purpose of respiratory protection
2. Types of protection available and the limitations of each type
3. How to properly don the equipment and check the face piece fit.
4. How to properly clean, inspect and store the equipment
5. Discussion of the company's written respiratory protection program

All employees will view the training video, complete the respiratory quiz and certification

Fit Testing:

Fit testing will be conducted on employees who have completed the training.

Program Surveillance

Periodically, management will survey the work area(s) to ascertain the effectiveness of the program and modify it as necessary.