

Step-by-Step Procedure for Conducting Air Sampling, Student and Staff Monitoring, and Analysis of Samples

Step 1: Centers that provide career technical training in the areas listed in a–c below should review the Material Safety Data Sheet (MSDS) for all materials used by students, staff, and instructors to determine if these products contain Cr(VI) compounds such as ammonium dichromate ((NH₄)₂Cr₂O₇), calcium chromate (CaCrO₄), chromium trioxide or chromic acid (CrO₃), lead chromate (PbCrO₄), potassium chromate (K₂CrO₄), potassium dichromate (K₂Cr₂O₇), sodium chromate (Na₂CrO₄), strontium chromate (SrCrO₄), and zinc chromate (ZnCrO₄).

- a. Construction—glazing, painting, and plumbing (cement masonry has been removed from this requirement)
- b. Mechanics and Repairers—collision repair and refinishing
- c. Precision Production—lithographic printing, machinist, and welding¹

Note: Centers that do not use materials that contain the compounds listed above must provide to the National Office of Job Corps a letter signed by the Center Director stating that the center is exempt from conducting air sampling for Cr(VI).

Step 2: Centers that use materials that contain compounds listed in Step 1 must identify and document all students, staff, and instructors currently assigned to each of the affected trades. Determine the number of samples needed in each trade area based upon the number of persons affected.

Note: Representative sampling can be done when a number of students, staff, and instructors are involved in the same activity under the same conditions. Representative sampling is achieved by monitoring the student(s), staff, and/or instructors reasonably expected to have the highest Cr(VI) exposure. **Sampling each student in a classroom is not necessary.**

For example, air monitoring results for students and staff engaged in precision and production welding **do not** represent exposures for students and staff engaged in welding as part of the auto body collision repair. Therefore, air monitoring must be conducted in both areas.

Step 3: Secure the equipment necessary to conduct the air sampling. Contact one of the laboratories identified in Program Instruction No. 06-29, or another certified laboratory equipped to perform Cr(VI) sample analysis in accordance with Occupational Safety and Health Administration (OSHA) Method 215. (Attachment B of Program Instruction 06-29 explains OSHA Method 215.)

¹Welding or cutting of stainless steel involves the greatest exposure to Cr(VI).

Step 4: Follow the sampling protocol described in Attachments A and B of Program Instruction No. 06-29. Ship samples according to the laboratory's instruction.

Step 5: Follow the instructions in a, b, or c below, depending upon the exposure level indicated by sampling results:

a. **When exposures are below the permissible exposure level (PEL) and action level (both defined in Program Instruction No. 06-29).** If initial air sampling indicates that student/staff exposures are below the PEL and action level for 8 hours, centers shall prepare a written exposure control program that includes:

- (1) trade(s) or center function(s) represented by air sample results below the PEL;
- (2) engineering controls in use to maintain exposures below the PEL and action level;
- (3) personal protective equipment and clothing; and
- (4) hazard communication.

In addition, when initial air sampling indicates that student/staff exposures are below the action level, and this finding is confirmed by additional air monitoring 7 days later, then centers can discontinue monitoring students/staff represented by those results. Centers are required to perform additional air sampling if there are changes in the production process, raw materials, equipment, personnel, work practices, or control practices, or if centers suspect that new or additional exposures have occurred.

b. **When exposures meet or exceed the action level.** If initial air sampling indicates that exposures meet or exceed the action level, centers are required to monitor exposures, at minimum, twice per year or every 6 months. Centers are also required to prepare an exposure control plan that addresses the requirements of 29 CFR 1910.1026, including the following:

- (1) establish a monitoring schedule;
- (2) provide medical monitoring for exposed students/staff;
- (3) demarcate regulated areas;
- (4) implement engineering controls;
- (5) provide personal protective equipment and clothing;
- (6) provide hygiene areas and practices;
- (7) establish housekeeping program and cleaning methods; and
- (8) communicate hazards to students/staff. or

c. **When exposures exceed the PEL.** If initial monitoring indicates that student/staff exposures exceed the PEL (i.e., the 8-hour time-weighted average), then centers are required to:

- (1) prepare an exposure control plan as described in (1)–(8) above;

- (2) conduct periodic air monitoring at least once a quarter, or every 3 months;
and
- (3) provide a written description of the corrective actions to be taken to reduce Cr(VI) concentration to or below the PEL.