

**CHAPTER 20**  
**EATING AREAS AND SANITARY CONDITIONS**

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## Chapter 20

### EATING AREAS AND SANITARY CONDITIONS

#### I. Introduction

##### A. Scope

Standards have been established to prevent adverse health effects in miners from exposure to toxic materials, physical agents, and biological hazards at sanitation facilities, to include toilets and shower facilities, in addition to the consumption and storage of food and beverages. The term “lunchroom” is used to describe traditional break rooms but may include food and beverage storage areas as well.

##### B. Applicable Standards

Consult the following standards for eating areas and sanitary conditions - 30 CFR:

|                |  |
|----------------|--|
| §§ 56/57.20002 | Potable water                          |
| §§ 56/57.20003 | Housekeeping                           |
| §§ 56/57.20008 | Toilet facilities                      |
| §§ 56/57.20011 | Barricades and warning signs           |
| §§ 56/57.20013 | Waste receptacles                      |
| §§ 56/57.20014 | Prohibited area for food and beverages |

#### II. Eating Areas and the Prevention of Exposure to Toxic Materials during Food and Beverage Consumption

A “**toxic material**” is a chemical or other material determined to be a poison or otherwise potentially hazardous to the organs or tissues of the body. 30 CFR §§ 56/57.20014 addresses risks to miners posed by toxic materials in lunchrooms or found on food or beverage consumption and preparation areas. These regulations also prohibit improper storage of toxic materials near food and beverages and prohibit food and beverage consumption and storage in production areas where toxic materials are present.

##### A. Toxic Materials in the Lunchroom Environment

When the inspector confirms the airborne presence of a toxic material in a lunchroom, or presence of a toxic material in a lunchroom on food/beverage preparation and consumption surfaces, and documents a lack of reasonable steps for the control of exposure, the inspector may issue a citation for a violation of Sections §§56/57.20014.

**Example** - The inspector at a gold refinery finds a bead of liquid mercury on a lunchroom table. The inspector also notices that the miners are entering the lunchroom from the production area wearing their work clothes, gloves, and

respirators, and are not provided any place to wash or remove their boots. Some of the miners remove and place their work gloves and respirators on the table from which they will eat. These facts would describe a violation of §§56/57.20014.

**Example** - The inspector at a silver mine finds that the mine washes its lunchroom tables with recycled water containing unusually high levels of arsenic. A wipe sample shows arsenic on the table tops. These facts would describe a violation of §§56/57.20014.

**Example** - The inspector at a gold mine carbon recycling facility finds trace low concentrations of mercury vapor by instantaneous reading, but there are otherwise effective controls in place preventing contamination (*i.e.*, rules such as requiring removal of work boots and coveralls worn in the production areas before entering the lunchroom). The company has observed a protocol of daily cleaning of the lunchroom with a mercury removal solution. These facts would not describe a violation of §§56/57.20014.

#### **B. Improper Storage of Toxic Materials in Lunchrooms**

Sections 56/57.20014 prohibit improper use, or improper storage of, toxic materials in lunchrooms. Storage of production samples or production chemicals containing toxic materials in a refrigerator which is also used to store food and beverage is also prohibited. Certain consumer products such as insecticides, rodenticides, drain cleaners, and other caustic cleaning products are not to be stored with food and beverages under §§56/57.20014.

#### **C. Storage and Consumption of Food and Beverages in Production Areas**

Areas where food or beverages are stored or consumed must be separate from work areas in which there is expected exposure to toxic materials. If miners are observed storing food or beverages or eating or drinking in production areas of the mine, including laboratories, the inspector must document whether toxic materials are also present. This hazard is addressed by §§56/57.20014.

### **III. Assessing Exposure to Toxic Materials in Lunchrooms**

When the presence of a toxic material in a food and beverage storage or consumption area is suspected, the inspector must take multiple air samples and wipe samples of eating and drinking and food preparation surfaces, in order to determine the level of toxic material present in the air or on food or beverage-contact surfaces. Sampling will be most effective when done at various times such as before and after breaks. The inspector must request sampling data from company records and industrial hygiene protocols or posted rules (if any) in the area and determine what steps are being taken to keep toxic materials away from food and beverage consumption and storage areas. If no steps are being taken, or the steps are inadequate, the inspector must issue the citation under this regulation.

In making his or her compliance determination regarding whether the mine operator has taken reasonable steps to prevent exposure to toxic materials in a lunchroom, the inspector should examine the lunchrooms with respect to the surrounding production areas. Some questions that should be addressed are:

1. Is the mine operator providing physical separation of the lunchroom from the production areas? Some mine operators set up lunchrooms in separate buildings or trailers which are separate from production areas and others provide a lunchroom that is not physically separated. The physical separation is one step that can be taken to prevent exposure to toxic materials in a lunchroom.
2. Where a lunchroom is adjacent to production areas: Is the mine operator ventilating the lunchroom with fresh uncontaminated air or with potentially contaminated production area air? Where toxic materials are found in the production areas, the lunchroom should ideally be ventilated by an air supply coming from uncontaminated area of the mine or by an air supply effectively filtered to remove toxic materials. The inspector should consider air intake in relation to the lunchroom's proximity to the production area air outlet locations. Where contamination potential exists, the lunch room ventilation should be designed to provide it with a positive pressure differential in relation to any adjacent contaminated work areas. Higher pressure in the lunchroom will prevent cross contamination when the doorway opens (Refer to Chapter 18 for a discussion of basic ventilation evaluation principles and techniques).
3. Is the operator preventing contamination of lunchrooms by persons using the lunchroom? The inspector should determine whether the operator is allowing potentially contaminated items from being brought into the lunchroom from the production areas. Obviously, the mine operator should prevent persons to enter an eating area with contaminated clothing, including PPE, shoes, boots, tools and gloves. There should also be a place where miners can wash their hands before entering a lunchroom. In circumstances of low potential for contamination, removal or washing of shoes and gloves and hands may be sufficient. In circumstances of high potential for contamination, accessibility to a change station is desirable, so that potentially contaminated work clothing may be temporarily stored during lunch or break periods. An inspector should determine the location and engineering controls that ensure segregation of the change station and observe the work practices to assure that the procedures are being followed.
4. Is the mine operator observing routine adequate cleaning protocols? To prevent contamination, the mine operator should require cleaning of tables, chairs, eating surfaces and food preparation surfaces and even refrigerator surfaces with a cleaning agent capable of eliminating the hazardous material.

Observations found during inspection of eating areas should be recorded in the Health Field Notes (MSHA Form 4000-31). It is also advisable to include schematics (e.g., sketches of eating areas, lunch table location, chemical storage locations, etc.) and to photograph the area in question. The exact time and location of any sampling should be noted.

#### IV. Sampling Methodology

If health hazards are observed or suspected during the inspection of lunchrooms, bathrooms and shower facilities, further action may be necessary to delineate scope and severity of the problem. Area sampling can be used to assess the environmental conditions under which the miners eat. Personal sampling can also be used when accessing a miner's breathing zone air concentrations while in the lunchroom. Normally, the following area grab sampling methods are used to confirm the presence and quantify the real time concentrations of contaminants present in eating areas.

- A. **Electronic Direct-Reading Instruments (DRI)** - As discussed in Chapter 13, the Jerome Mercury Analyzer (Models 411 or 431-X) and the Industrial Scientific Multi-Gas Monitor (Models TMX-410 and TMX-412) are battery operated direct-read instruments which take real-time measurements of mercury vapors and various gases. These are important tools available to inspectors for detecting and quantifying health hazards because they eliminate the lag time of analyzing samples in a laboratory.
- B. **Detector tubes** - As discussed in Chapter 11, detector tubes and bellows-type sampling pumps are used together to form a direct-reading sampling system which is used to determine the short-term concentration of gases or vapors in the air.
- C. **Wipe samples** - As discussed in Chapter 14, a wipe sample is used to determine the presence of contamination by toxic materials on surfaces. Some situations where wipe sampling can be used are after a chemical spill or to determine if toxic materials are present in working or eating areas. (It is important that gloves be changed between each wipe sample taken).

#### **Example:**

A lab technician is seen consuming his lunch while sitting at a laboratory counter next to production samples. The inspector suspects that the samples may contain lead and mercury. The inspector should take several wipe samples on the counter top where the miner is eating and request an elemental metal screen including analysis for lead and mercury in order to determine the presence of these contaminants. The inspector may also decide to take some of the production samples from the laboratory counter and request an analysis for lead and mercury levels in these bulk samples.



**D. Bulk samples** - as discussed in Chapter 14, bulk sampling, as a screening method, is used to identify the source of contaminants which may be present at the mine site. The samples may be collected from accumulations of material or a substrate (i.e., piece of table, floor, ceiling) when a hazard is suspected.

For interpretation of the analytical laboratory sampling results or additional guidance, consult the district or national office.

**NOTE:** Area or personal sampling is not necessary to warrant a violation of the 30 CFR §§56/57.20014 standard.

## V. **Unsanitary Conditions in Lunchrooms**

In addition to risk of exposure to toxic materials, certain regulations address the risk of exposure to biological hazards in a lunchroom. Poor sanitary conditions can lead to rodent infestation, microbial contamination and infectious disease. Applicable standards include:

- 30 CFR §§ 56/57.20003 (Housekeeping). This standard requires that a mine operator maintain a clean and orderly workplace. This includes service rooms such as lunchrooms. An inspector must determine if an eating area has been maintained accordingly.
- 30 CFR §§ 56/57.20013 (Disposal). This standard requires that all foods, beverages, and associated waste materials should be disposed of in designated receptacles with appropriate covers. These receptacles must be emptied frequently and maintained in a clean and sanitary condition.
- 30 CFR §§ 56/57.20002 (Potable Water). This standard requires an adequate supply of potable drinking water must be available for the miners in active working areas. Potable drinking water dispensers must be designed, constructed, and serviced so that sanitary conditions are maintained as set forth in the standard. The inspector should take a sample of the water and have it analyzed for potability when complaints are received or when contamination is suspected. Contact the MSHA laboratory for sampling instructions. **Note:** Potable water means water which shall meet the applicable minimum health requirements for drinking water established by the State or community in which the mine is located or by the Environmental Protection Agency in 40 CFR part 141, pages 169-182 revised as of July 1, 1977. Where no such requirements are applicable, the drinking water provided shall conform with the Public Health Service Drinking Water Standards, 42 CFR part 72, subpart J, pages 527-533, revised as of October 1, 1976.
- 30 CFR §§ 56/57.20014 (Separation of lunchroom from toilet facilities). This standard specifically prohibits food and beverage storage and consumption in an area containing a toilet.

## **VI. Sanitary Measures in Toilet Facilities and Shower Rooms**

30 CFR §§ 56/57.20008 requires that the mine operator provide miners ready access to a toilet facility. These standards require that the toilet facilities provided be clean and sanitary. Where shower rooms are provided, the housekeeping regulations (30 CFR §§ 56/57.20003) require that the mine operator maintain such facilities in a clean and orderly condition.

## **VII. Gravity Findings**

**The gravity and “Significant and Substantial” determination relating to health standards dealing with lunchrooms, toilet facilities and shower facilities, is very fact intensive and may be difficult to make on the spot and without specialized expertise. For these reasons the inspector should consult specialists in the district or national Office regarding these determinations before issuing a citation as “Significant and Substantial”.** When contamination of eating areas is suspected and sampling has been conducted, it is important to document the extent of the exposure to toxic materials or to biological hazards and number of potentially exposed individuals. An inspector should note the extent and duration of the contamination, and the number of miners in a lunchroom at the time of the inspection, as well as the number of miners who use an eating area on a daily basis. An inspector should note the number of breaks spent in an eating area and the duration of the breaks. If the specific times of day are known, they should be recorded. Also, the length of the lunch or dinner period and the time of the day when lunch or dinner is taken should be recorded. If necessary, this information can be used by MSHA to estimate the cumulative dose of a toxic material potentially absorbed by the affected miners, or potential risks caused by exposure to biological hazards.

## **VIII. Post-Inspection Procedures**

### **A. Review Health Field Notes**

Check that you have recorded all the necessary information in the Health Field Notes. Record calibration dates of any DRIs used.

### **B. Post-Calibration of Sampling Equipment**

Check sampling pump calibration in accordance with Chapter 4 of this Handbook.

### **C. Submit Samples for Analysis**

Submit any samples to the MSHA Laboratory on a Request for Laboratory Analysis form as soon as sampling is completed. **Note:** Some packaged chemical dosimeters (i.e., Mercury) include pre-paid analysis from a lab other than MSHA's. Send these dosimeters directly to the contract laboratory.

**D. Compliance Determination**

1. **Calculations.** The MSHA Laboratory will perform all necessary calculations and report results on an “Analytical Report” mailed to you.
2. **Error Factor.** The error factor applicable for the sampling type will be supplied by the MSHA Laboratory.

**E. Report Writing**

1. Report any real time or dosimetry personal sampling on the Personal Exposure Data Summary (PEDS), or area sampling on the Area Sample Data Summary (ASDS) form (refer to Chapter 21). When a PEDS or ASDS accompanies an MSHA Laboratory report, manual completion of a PEDS or ASDS is not necessary.
2. Submit a copy of the Health Field Notes, the MSHA Laboratory Analytical Reports, citations or orders (if applicable), and the PEDS, ASDS, with the inspection report.