

INTEROFFICE CORRESPONDENCE

File

CURRENT DATE

DATE ~~October 5, 1973~~

TO E. T. Gellenbeck
E. D. Keiper

C.C. R. P. Medlin
E. W. Collins
J. K. Stewart, M.D.
R. L. Witzke

ASBESTOS DUST EXPOSURE
PROTECTION PROCEDURE

Asbestos dust exposure precautions are required when ^{ANY} ~~old~~ asbestos bearing insulation is being removed or when the scraps and debris are being cleaned up or handled.

The attached ~~information~~ outlines:

- (1) A summary of the minimum action that must be taken when employees are working in an area where old insulation is being removed or scraps are being cleaned up or handled.
- (2) A digest of the Federal Standards -
This digest contains only those portions that could have application at this location.
- (3) A copy of the recent OSHA Asbestos Standards.

Please distribute this information as required to meet compliance.

J. L. Wescoat
J. L. Wescoat

JLW:bjw
Attachments

PLAINTIFF'S EXHIBIT

MBL-226

(4) A LIST OF ITEMS WHICH
CONTAIN ASBESTOS BUT WHICH
ARE NOT CONSIDERED AN
ASBESTOS DUST HAZARD BECAUSE
THEY DO NOT ^{RESPIRABLE} EMIT DUST.

05194

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446968

INSTRUCTIONS FOR THE PROTECTION OF
WORKERS EXPOSED TO ASBESTOS DUST

The attached digest is a distillation of the OSHA standard which pertains to the protection of workers who are exposed to asbestos dust. As a minimum, the following actions must be taken any time asbestos or asbestos-bearing insulation is to be handled.

INSULATION

All persons in the immediate area of the asbestos-handling operation must wear approved dust respirators per Section 4.2 of the attached digest. Approved respirators may be obtained from the Safety Storeroom.

Caution signs must be posted at all approaches to the area in which asbestos is being handled (see Section 6.1). Caution signs may be obtained from the Safety Storeroom.

All trash and debris which contains asbestos must be disposed of in sealed impermeable bags or containers; each container must display caution labels which may be obtained from the Safety Storeroom.

All insulators are identified on a computer program which automatically schedules each insulator for the annual physical examination as prescribed in Section 9.2 of the attached digest.

THE FOLLOWING INSULATION BEARING
MATERIALS DO NOT EMIT RESPIRABLE
DUST IN THEIR USE, STORAGE AND
HANDLING, AND NO PROTECTIVE MEASURES
ARE REQUIRED IN CONNECTION WITH
THEIR HANDLING AND USE.

WELDING BLANKETS
ASBESTOS GLOVES
GASKETS

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ASBESTOS HANDLING GUIDE

Asbestos is a hydrated magnesium silicate which is commonly used for heat insulation and in textile products which must resist high temperatures. Inhalation of excessive quantities of asbestos fiber can be hazardous to a person's health.

The Occupational Safety and Health Administration (OSHA) has issued a standard concerning the requirements for handling asbestos. Included are precautions necessary to avoid releasing airborne fibers, required personal protective equipment, correct handling procedures, environmental monitoring, medical examinations, and employee exposure records. A Management Guide Bulletin has been released concerning "Medical Supervision of Asbestos Workers." The Management Guide refers to the OSHA standard and requires its use. **Number 03-1308**

Because the OSHA standard is particularly difficult to read and comprehend, the attached has been drafted to serve as a distillation and compilation of the OSHA standard.

The installation of asbestos bearing mortar and asbestos type thermal insulation has been discontinued. When asbestos bearing insulation is removed during equipment maintenance, it is to be replaced with asbestos free insulation. Measurements of airborne asbestos fiber concentration have been made on several occasions when old asbestos bearing insulation was being removed; the results indicated that the airborne concentrations were significantly below the permissible time weighted average concentration.

Some actions are required by the standard regardless of the concentration of airborne fibers. The reference numbers of these particular items are underscored.

CURRENT DATE

10-1-73

Attachment

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A DIGEST OF OSHA STANDARD

The items shown below are in the order in which they appear in the OSHA standard. They are intended to serve as a working guide for use in the field. When questions arise which are not covered by this digest, the attached copy of the OSHA standard should be consulted.

1. Permissible Exposure Levels

- 1.1 The permissible time weighted average (TWA) concentration of airborne asbestos fiber is 5 fibers greater than 5 microns in length per cubic centimeter of air over an 8-hour exposure period. ~~The permissible limit is 10 fibers greater than 5 microns in length per cubic centimeter of air over an 8-hour exposure period.~~

IN 1976 THE TWA

- 1.2 The permissible ceiling concentration, i.e., the maximum allowable concentration is 10 fibers greater than 5 microns in length per cubic centimeter of breathing air. ~~The maximum allowable concentration is 10 fibers greater than 5 microns in length per cubic centimeter of breathing air.~~

REGARDLESS OF EXPOSURE TIME

2. Local Exhaust Ventilation

- 2.1 Local exhaust ventilation is required for hand and power tools which may produce or release asbestos fibers in excess of the permissible concentration levels.
- 2.2 All ventilation and collection systems must be designed and installed in accordance with the American National Standard, ANSI Z9.2 - 1971.

3. Work Methods

- 3.1 Wet Method -- Where practical, asbestos bearing material should be kept wet to prevent releasing fibers in excess of the permissible concentration levels.

throughout the entire handling period

4. Personal Protective Equipment

- 4.1 Compliance with the standard through the use of respirators and shift rotation may not be used except:
 - 4.1.1 Until engineering controls can be implemented, or
 - 4.1.2 Suitable work practices can be implemented, or
 - 4.1.3 The above two are not feasible, or
 - 4.1.4 In emergency work.

4.2 Respiratory Protection

- 4.2.1 Where either respirators or personnel rotation is applicable, OSHA states that personnel rotation is preferred.
- 4.2.2 Respirators must be approved by the Bureau of Mines or NIOSH. The type employed must be suitable for the expected concentrations as shown below.
- 4.2.3 Air purifying respirators, either the reusable or single-use type, shall be used by employees who are present where asbestos is being removed or where asbestos scrap or debris are being handled. This type of respirator may be used for exposures in which the airborne concentration is not expected to exceed 10 times the permissible TWA concentration (50 fibers greater than 5 microns in length per cubic centimeter of air). Approved respirators are available from the Safety Storeroom.
- 4.2.4 Powered air purifiers (air compressor supply) shall be used when the airborne concentration does not exceed 100 times the permissible TWA concentration (500 fibers greater than 5 microns in length per cubic centimeter of air).
- 4.2.5 Type C continuous flow or pressure demand supplied air respirators (Scott Air Pacs or air cylinders) shall be used when the airborne concentration is expected to exceed 100 times the permissible TWA concentration (500 fibers greater than 5 microns in length per cubic centimeter of air).
- 4.2.6 A respiratory training program shall be established in accordance with ANSI Z39.2 - 1969, where respirators of any class or type are, or may be, required.
- 4.2.7 Employees who, according to a medical examination, cannot function normally with a respirator shall not be assigned to work requiring a respirator. They shall be assigned to other work in the same geographic location and at the same pay and seniority, if such work is available.

4.3 Special Clothing and Lockers

- 4.3.1 Special clothing shall be provided and used if the concentration is expected to exceed the permissible TWA concentration (5 fibers greater than 5 microns in length per cubic centimeter of air).
- 4.3.2 Change rooms are required for employees working regularly at a fixed place of employment where the concentration is expected to exceed the permissible TWA concentration.

- 4.3.3 Two separate change lockers or containers shall be provided for each employee to prevent contamination of street clothes by contact with work clothes. The two change lockers are required only if a change room is required per 4.3.2 above.
- 4.3.4 Laundering asbestos contaminated clothes shall be performed so as to prevent releasing asbestos fibers in excess of the permissible TWA concentration.
- 4.3.5 Employers giving asbestos contaminated clothes to someone for laundering shall inform that person or agent about the requirements to prevent his releasing excessive amounts of asbestos fibers. The standard does not specify whether or not an employee is required to inform the launderer under similar circumstances.
- 4.3.6 Contaminated clothes shall be transported in a sealed container which displays a caution label. (See attached for details of the label.)

VACUUM PUMP AND

5. Method of Concentration Measurement

- 5.1 Airborne fiber concentration measurements -- This is done by ~~measuring against~~ ^{using} the prescribed type membrane filter. The filter cassette is then sent to a commercial laboratory equipped to count the fibers.
- 5.2 Initial monitoring must be done in the places of employment where fibers are released to determine the concentration of airborne asbestos fibers. If the concentration is above the permissible TWA concentration, a compliance program must be undertaken immediately. Initial measurements of the concentration of airborne asbestos fibers performed in the Beaumont Refinery indicated that airborne concentrations were well below the permissible TWA concentration.
- 5.3 Personal monitoring must be done by sampling at the breathing zone to determine the airborne asbestos concentration. Sufficient samples shall be taken to determine the 8-hour TWA concentration and the maximum or ceiling concentration of asbestos fibers. The sampling interval and pattern will be performed in a manner so as to represent, with reasonable accuracy, the actual level of employee exposure. If the exposure may reasonably exceed the permissible TWA concentration, then the sampling interval may not exceed a 6-month period.
- Personal monitoring performed in the Beaumont Refinery indicated that airborne concentrations were significantly below the permissible TWA concentration.
- 5.3.1 Samples must be collected on membrane filters of 0.5 micron porosity which are mounted in an open-face filter holder.

A QUALIFIED
PERSON USING

- ## 6. Section Signs and Labels

- ## 7. Housekeeping

- iii. **பெரும்புள்ளி**

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9. Medical Examinations

- 9.1 Preplacement examinations -- The employer shall provide or make available to each of his employees who are exposed to airborne asbestos fibers, a comprehensive medical examination at the employer's expense. The examination must be performed within 30 days following the first work exposure to asbestos fibers. Examinations are not mandatory by the Federal law. If the employee refuses to take the examination, a signed statement of refusal is required.
- 9.2 Annual examinations ^{are required} -- For employees who may be exposed on or before January 31, 1973, and at least annually thereafter. All insulators are identified on a computer program which automatically schedules each insulator for the required physical examination.
- 9.3 Termination of employment -- The employer shall provide or make available a comprehensive medical examination within 30 days before or after employment is terminated. However, no examination need be provided if records show that the employee has been examined within the past one-year period.
- 9.4 Medical records shall be kept at least 20 years. They shall be available for examination or copying by OSHA, NIOSH, present employees, former employees, and employee's personal physician. The physician who performs such an examination shall furnish the employer all the information related to the employee's occupational exposure to asbestos.

~~CONFIDENTIAL~~
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CORRECTION
NA 73

Caution Label

Caution
Contains Asbestos Fibers
Avoid Creating Dust
Breathing Asbestos Dust May Cause
Serious Bodily Harm

Warning Signs

Asbestos
Dust Hazard
Avoid Breathing Dust
Wear Assigned Protective Equipment
Do Not Remain In The Area Unless Your Work Requires It
Breathing Asbestos Dust May be Harmful to Your Health

UP DATE

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The measurements under this note refer to the use of an ADC instrument. If the responsible fraction of conduct is determined with a MDS the figure corresponding to that of 2.4 might in the table for conduct is 4.5 might.

S 1910.92a Asbestos.

(a) *Definitions.* For the purpose of this section, (1) "fisherite" includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

(2) "Asbestos fibers" means asbestos fibers longer than 3 micrometers.

(3) Permissible exposure to airborne concentrations of asbestos fibers—(17) Standard effective July 7, 1972. The 8-hour time-weighted average airborne concentrations of asbestos fibers which any employee may be exposed to shall not exceed five fibers longer than 3 micrometers per cubic centimeter of air as determined by the method prescribed in paragraph (e) of this section.

(2) Standards effective July 1, 1975.
The following concentrations are to be achieved in some concentrations of asbestos fibers to which any employee may be exposed shall not exceed two fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (c) of this section.

(3) Concave concentration. No employee shall be assigned on any time to various concentrations of labor.

1. The first step is to identify the problem. This involves understanding the current situation and the goals that need to be achieved.

2. The second step is to analyze the problem. This involves breaking down the problem into smaller, more manageable parts and identifying the causes of the problem.

3. The third step is to develop a plan. This involves creating a strategy to address the problem and identifying the resources needed to implement the plan.

4. The fourth step is to implement the plan. This involves putting the plan into action and monitoring progress.

5. The fifth step is to evaluate the results. This involves assessing the effectiveness of the plan and making adjustments as needed.

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(11) Particular products and operations. No asbestos cement, asbestos containing grout, plaster, or putty material containing asbestos shall be removed from bags, cartons, or other containers in which they are shipped, without either being wetted, or encased, or treated in so as to prevent effective release of airborne asbestos fibers in course of the waste handling process. The waste material shall be presented in packaging that is labeled as asbestos waste.

(11) *Spraying, demolition, or removal.* Employees engaged in the spraying of asbestos, the removal, or demolition of pipes, structures, or equipment covered or insulated with asbestos, and in the removal or demolition of asbestos insulation or coverings shall be worn in that sequence: (a) Respiratory equipment, (b) eye and face protection, (c) gloves, (d) long sleeve and long pants suit, and (e) special clothing for decontamination purposes and for the removal of the suit.

(d) [REDACTED]
 (e) [REDACTED]

(1) During the past year I have been able to install the following:

(A) 67 new students

(11) The following information is being furnished to you:

this section are either technically not feasible or feasible to an extent insufficient to reduce the airborne concentrations of asbestos fibers below the limits prescribed by paragraph (b) of this section; or

(ii) In emergencies.

(iv) Where both respirators and personal rotation are allowed by subdivisions (i), (ii), or (iii) of this subparagraph, and both are practicable, personal rotation shall be preferred and used.

Where a respirator is permitted by subparagraph (i) of this paragraph, it shall be selected from among those approved by the Bureau of Mines, Department of the Interior, or the National Institute for Occupational Safety and Health, Department of Health, Education, and Welfare, under the provisions of 30 CFR, Part 11, (29 F.R. 8244, May 22, 1954), and shall be used in accordance with instructions (a), (b), (iii), and (iv) of this subparagraph.

(v) *Self-purifying respirators.* A reusable or single use air purifying respirator, or a purifier described in subdivision (i) of this subparagraph, shall be used to reduce the concentrations of airborne asbestos fibers in the respirator below the exposure limits prescribed in paragraph (b) of this section, when the ceiling or the 8-hour time-weighted average airborne concentrations of asbestos fibers are reasonably expected to exceed no more than 10 times those limits.

(vi) *Powered air purifying respirators.* A full facepiece powered air purifying respirator, or a powered air purifying respirator, or a respirator described in subdivision (iii) of this subparagraph, shall be used to reduce the concentrations of airborne asbestos fibers in the respirator below the exposure limits prescribed in paragraph (b) of this section, when the ceiling or the 8-hour time-weighted average concentrations of asbestos fibers are reasonably expected to exceed 10 times, but not 100 times, those limits.

(vii) *Type "C" supplied-air respirators.* continuous flow or pressure-demand class, A type "C" continuous flow or pressure-demand, supplied-air respirator shall be used to reduce the concentrations of airborne asbestos fibers in the respirator below the exposure limits prescribed in paragraph (b) of this section, when the ceiling or the 8-hour time-weighted average airborne concentrations of asbestos fibers are reasonably expected to exceed 100 times those limits.

(viii) *Establishment of a respirator program.* (a) The employer shall establish a respirator program in accordance with the requirements of the American National Standards Practices for Respiratory Protection, ANSI Z96.1-1966, which is approved by reference herein.

(b) See 1910.1015 concerning the availability of ANSI Z96.1-1966 and the maintenance of an historic file in connection therewith. The address of the American National Standards Institute is given in 1910.1015.

(c) No employee shall be assigned to work requiring the use of respirators if,

based upon his most recent examination, an examining physician determines that the employee will be unable to function normally wearing a respirator, or that the safety or health of the employee or other employees will be impaired by his use of a respirator. Such employee shall be rotated to another job or given the opportunity to transfer to a different position whose duties he is able to perform with the same employer in the same geographical area and with the same seniority, status, and rate of pay he had just prior to such transfer, if such a different position is available.

(3) *Special clothing:* The employer shall provide, and require the use of, special clothing, such as coveralls or similar whole body clothing, head coverings, gloves, and foot coverings for any employees exposed to airborne concentrations of asbestos fibers, which exceed the ceiling level prescribed in paragraph (b) of this section.

(4) *Change rooms:* (i) At any fixed place of employment exposed to airborne concentrations of asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section, the employer shall provide change rooms for employees working regularly at the place.

(ii) *Clothes lockers:* The employer shall provide two separate lockers or containers for each employee, so separated or isolated as to prevent contamination of the employee's street clothes from his work clothes.

(iii) *Laundering:* (a) Laundering of asbestos contaminated clothing shall be done so as to prevent the release of airborne asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section.

(b) Any employer who gives asbestos-contaminated clothing to another person for laundering shall inform such person of the requirement in (a) of this subdivision to effectively prevent the release of airborne asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section.

(c) Contaminated clothing shall be transported in sealed impermeable bags, or other closed, impermeable containers, and labeled in accordance with paragraph (g) of this section.

(d) *Method of measurement.* All determinations of airborne concentrations of asbestos fibers shall be made by the membrane filter method at 400-450 X (magnification) (4 millimeter objective) with phase contrast illumination.

(2) *Monitoring—(1) Initial determinations.* Within 6 months of the publication of this section, every employer shall cause every place of employment where asbestos fibers are released to be monitored in such a way as to determine whether every employee's exposure to asbestos fibers is below the limits prescribed in paragraph (b) of this section. If the limits are exceeded, the employer shall immediately undertake a compliance program in accordance with paragraph (c) of this section.

(2) *Personal monitoring—(i) Sam-* ples shall be collected from within the

breathing zone of the employee, on membrane filters of 0.8 micrometer porosity mounted in an open-face filter holder. Samples shall be taken for the determination of the 8-hour time-weighted average airborne concentrations and of the ceiling concentrations of asbestos fibers.

(ii) *Sampling frequency and pattern.* After the initial determinations required by subparagraph (1) of this paragraph, samples shall be of such frequency and pattern as to represent with reasonable accuracy the levels of exposure of employees. In no case shall the sampling be done at intervals greater than 6 months for employees whose exposure to asbestos may reasonably be foreseen to exceed the limits prescribed by paragraph (b) of this section.

(3) *Environmental monitoring—(i)* samples shall be collected from areas of a work environment which are representative of the airborne concentrations of asbestos fibers which may reach the breathing zone of employees. Samples shall be collected on a membrane filter of 0.8 micrometer porosity mounted in an open-face filter holder. Samples shall be taken for the determination of the 8-hour time-weighted average airborne concentrations and of the ceiling concentrations of asbestos fibers.

(ii) *Sampling frequency and pattern.* After the initial determinations required by subparagraph (1) of this paragraph, samples shall be of such frequency and pattern as to represent with reasonable accuracy the levels of exposure of the employees. In no case shall sampling be at intervals greater than 6 months for employees whose exposures to asbestos may reasonably be foreseen to exceed the exposure limits prescribed in paragraph (b) of this section.

(4) *Employee observation or monitoring.* Affected employees, or their representatives, shall be given a reasonable opportunity to observe any monitoring required by this paragraph and shall have access to the records thereof.

(g) *Caution signs and labels.* (1) *Caution signs.* (i) *Posting.* Caution signs shall be provided and displayed at each location where airborne concentrations of asbestos fibers may be in excess of the exposure limits prescribed in paragraph (b) of this section. Signs shall be posted at such a distance from such a location so that an employee may read the signs and take necessary protective steps before entering the area marked by the signs. Signs shall be posted at all approaches to areas containing excessive concentrations of airborne asbestos fibers.

(ii) *Sign specifications.* The warning signs required by subdivision (i) of this subparagraph shall conform to the requirements of 29" x 14" vertical format signs specified in 1910.1007 (c), and to this subdivision. The signs shall display the following legend in the lower panel, with letter sizes and copies of a visibility at least equal to that specified in this subdivision.

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DEPARTMENT OF THE ARMY
 OFFICE OF THE SECRETARY
 WASHINGTON, D. C. 20315

The above information is given for information purposes only. It is not intended to be used as a basis for any action. It is not intended to be used as a basis for any action.

[illegible][illegible]

1. The first step is to identify the problem. This involves understanding the current situation and the goals that need to be achieved.

2. The second step is to analyze the problem. This involves breaking down the problem into smaller, more manageable parts and identifying the causes of the problem.

3. The third step is to develop a plan. This involves determining the steps that need to be taken to solve the problem and the resources that will be needed.

4. The fourth step is to implement the plan. This involves putting the plan into action and monitoring the progress.

5. The fifth step is to evaluate the results. This involves assessing the effectiveness of the solution and making any necessary adjustments.

The reason for delay in the release of the subject is that, in view of the situation there, as outlined in the report of the Commission of 1966, it was necessary to wait for the results of the investigation of the situation in the country. The Commission of 1966 stated that it was necessary to wait for the results of the investigation of the situation in the country. The Commission of 1966 stated that it was necessary to wait for the results of the investigation of the situation in the country.

(b) Financial Institutions—(1) General. The only financial services of banks available to the Government are those institutions relating to deposits, to currency re-

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(c) **Termination of employment.** The employer shall permit, or make available, within 30 calendar days before or after the termination of employment of any employee engaged in an occupation exposed to asbestos concentrations of asbestos fibers a comprehensive medical examination which shall include, as a minimum, a chest roentgenogram (posterior-anterior 14 x 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV₁).

(5) Recent examinations. No medical examination is required of any employee, if adequate records show that the employee has been examined in accordance with this paragraph within the past twelve months.

(1) "Special" persons--(2) "Private" persons. The following are the persons who are considered "special" and "private" persons under the provisions of the Act. (a) "Special" persons are those persons who are considered "special" persons under the provisions of the Act. (b) "Private" persons are those persons who are considered "private" persons under the provisions of the Act.

(b) Access. The contents of the records of the medical examinations required by this paragraph shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health, the Director of NIOSH, to authorized persons and medical departments, or others of them, and upon the request of an employee or former employee, to his physician. Any law firm who conducts a medical examination, ordered by the

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§ 1910.302 Cont. for plain language interpretation of term.

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

107 RA 275/ Economic Activities, 20, 1972

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1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

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(b) "Controlled area" means an area in which access or egress by an employee is required to be resumed and controlled by the employer under this section.

(3) "Decontamination" means the removal or inactivation of a contaminant.

(4) "Isolated environment" means a fully enclosed structure, which is impervious to the passage of a carcinogen, which is not the vessel of containment of the carcinogen, and which prevents the dispersion of a carcinogen into areas or atmospheres where employees would be exposed to contact with that carcinogen, even if leakage or spillage from the vessel of containment occurs.

(3) "Other system" means an installation of equipment involving a changeover where the consideration for such changeover is not a condition of employment of any route of employees in a particular area.

(6) "Laboratory type hood" means a device enclosed on three sides, with top and bottom, vented to withdraw air inward and away from the operator, designed and constructed in such a way that an operator inhaling a toxic gas within the hood does not receive the equivalent of any portion of the air stream being drawn into the hood from the front.