



PPG INDUSTRIES, INC./ONE GATEWAY CENTER/PITTSBURGH, PENNSYLVANIA 15222/AREA 412/434-3503

J. T. DESTEFANO, Manager
Environmental Control, Glass Division

July 3, 1973

To: All Environmental Control Engineers

Subject: Occupational Health Policy Manual

Enclosed are two copies of the newly published Occupational Health Policy Manual. One is for your use and the other is for the plant safety department. The plant nurse may also be interested in seeing and using this manual since it does include medical procedures, although these procedures should be covered in the PPG Medical Procedure Manual.

This binder is large, but at the present time contains only a small amount of material. This material will be added to as more OSHA regulations become law. It is the intent of this department to include the pertinent laws as they are approved with PPG's comments, procedures and recommendations attached.

As additions to this manual become available, they will be forwarded to you for insertion into the manual. It is hoped this manual will aid you in your occupational health problems, but for further clarification or added information, don't hesitate to call me.

Review this document when you receive it and examine it for completeness. It should include:

- 10.1 - PPG Noise Control Program
- 10.2 - PPG Respiratory Protection Policy
- 10.3 - PPG Asbestos Control Program
- 10.4 - PPG Carcinogen Control Program
- 10.5 - PPG Health Hazards Evaluation Requests under OSHA
- 30.1 - Respirators Approved by the Bureau of Mines
- 50.1 - Current OSHA Health Standards
- 50.11 - Occupational Noise and Air Contaminants

Any problems or questions call me at our new number GO + 864 + 262. This is our new telephone number at the RIDC. Our new Address is 1000 RIDC Plaza, P.O. Box 2811, Pittsburgh, Pennsylvania 15230.

A handwritten signature in dark ink, appearing to read 'Robert L. Rubino'.

Robert L. Rubino
Senior Environmental
Control Engineer
Glass Division

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RLR/lrs

June 1, 1973

TO: HOLDERS OF PPG OCCUPATIONAL HEALTH POLICY MANUAL

This Manual is for the use of anyone within the Company who has a responsibility for a portion of the Company Occupational Health Program. Such persons will include physicians, nurses, industrial hygienists, safety, and environmental control personnel at all locations of the Company. If only one Manual is issued to each major Company location, it should be filed and maintained in the facility's Medical Department.

As can be seen by the Index, the Manual is intended to contain Company, Division, and Facility's Occupational Health Policies and Procedures, information on occupational health surveys, personal protective equipment, hazardous materials, and training programs, etc., in short, anything that is pertinent to the Occupational Health Program of the facility.

This Manual is in loose-leaf form and is in a larger than presently required binder to permit changes and additions as may be required. In this regard each holder of the Manual should notify the Divisional Director of Environmental Control of his name, title, and location so changes or additions to the Manual originating from the General Office may be properly forwarded.

Lee B. Grant, M.D.

Lee B. Grant, M.D.
Medical Director

LBG:lc
Attachment

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PPG OCCUPATIONAL HEALTH POLICY MANUAL

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PPG OCCUPATIONAL HEALTH POLICY MANUAL

SECTION 10 - CORPORATE AND DIVISION OCCUPATIONAL
HEALTH POLICIES

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Date
Reviewed: 6/25/74
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CORPORATE POLICY

SUBJECT: ALCOHOL AND DRUG POLICIES

Authority: J. C. McEwen

President

June 25, 1974

POLICY

EMPLOYEE ALCOHOL ABUSE

PPG Industries has a primary goal of conducting its business operations efficiently through effective and safe job performance on the part of all Company employees. If an employee's use of alcohol interferes with effective and safe job performance, this otherwise personal activity becomes a matter of Company concern.

If an employee is under the influence of alcohol while on Company premises severe disciplinary action up to and including discharge will be considered. Possession or use of alcohol while on Company premises will cause an employee to be subject to discharge.

Alcohol abuse is a behavioral/medical problem and chronic alcoholism is recognized generally as an illness. As such, our medical insurance programs provide coverage for the treatment of alcoholism when proper medical documentation exists. One distinguishing characteristic of chronic alcoholism from other diseases is that whether an individual drinks or does not drink is under the control of his or her will. The Company will encourage appropriate treatment when an employee has recognized a need and resolved to seek assistance.

A decision to terminate employment in cases of alcohol abuse may be postponed while other solutions are being actively sought and implemented; but a decision to terminate may be made if management has determined that:

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Date
Reviewed: 6/25/7

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SUBJECT: ALCOHOL AND DRUG POLICIES

EMPLOYEE DRUG USAGE - Cont'd

PPG Industries' actions in cases of employee drug involvement will depend on the facts of individual cases as they relate to the points stated above. An employee who engages in these proscribed activities on Company property will be subject to discharge. Also, should an employee be convicted on charges of illegal drug activity, his or her employment may be terminated.

If an employee is under the influence of drugs while on Company premises severe disciplinary action up to and including discharge will be considered. Possession or use of illegal drugs (including marijuana) while on Company premises will cause an employee to be subject to discharge.

The impact of drug usage on health and behavior may cause poor or unsafe job performance. Since health and work effectiveness are interrelated, the Company will encourage appropriate treatment when an employee has recognized such a need and has resolved to seek assistance. A decision to terminate employment in case of drug usage may be postponed while other solutions are being actively sought and implemented; but such a decision may be made if management has determined that:

1. Treatment has been unsuccessful despite adequate medical review; or
2. The employee refuses to obtain medical and/or other assistance in coping with a drug problem;
and
3. The employee fails to return to satisfactory job performance.

Management has concomitant obligations to protect the safety and health of other employees and to safeguard Company property. These obligations may require an employee to be placed on unpaid leave or disciplinary layoff as an interim solution until treatment is effected.

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PPG INDUSTRIES, Inc.
NOISE CONTROL PROGRAM

PPG INDUSTRIES - NOISE CONTROL PROGRAM

I. INTRODUCTION

Noise is unwanted sound which can cause hearing loss, speech interference and community annoyance. The purpose of this program is to protect our employees and community neighbors from these adverse effects of noise by minimizing them using engineering and medical means. The most effective and the least costly time to control noise is during the planning for new construction and the purchase of new equipment. However, noise present in our existing facilities must be identified and controlled when necessary.

II. POLICY

Appropriate measures will be taken to prevent the introduction of, and where already present, effect the elimination or control of noise exceeding the noise threshold limit values for hearing loss, the speech communications criteria in occupied spaces and community annoyance criteria at the boundaries of our plant properties. The above criteria are set forth in Attachments 1-3.

III. RESPONSIBILITIES

The Vice President of Manufacturing of the Division has the responsibility for implementing the Noise Control Program. There are certain plant and special staff responsibilities required to implement the program and these are outlined in Attachment 4.

IV. PROCEDURES

- A. Noise Information Inquiry. An information inquiry will be included in all purchase specifications for new machinery or equipment that could conceivably contribute to a noise problem within the Division (See Attachment 5).
- B. Noise Analysis. A noise survey of each area in the plant in which sound levels exceed 90 dBA shall be made at least once each year to ensure that sound levels have not increased above those originally existing. The survey may also establish that noise levels in some areas have been reduced to levels below 90 dBA and thereby justify discontinuing application of requirements for administrative controls, ear protection, and audiometric tests of individuals in such areas.

A noise survey of an area is recommended whenever a change is made in either equipment or type of operations so that significant changes in noise level will be acted upon immediately.

Tests of noise levels will be made with a sound level meter on the A-scale, slow response. The use of octave band analyzers or impact meters for control or other purposes shall be in addition to, not in place of, tests made with the sound level meter.

2. Medical. All employees who are continuously exposed to hazardous noise, as defined in Attachment 1, will be required to wear appropriate ear protection and have annual audiometric examinations.

- (a) Ear Protection. The use of personal protective equipment is considered by the Department of Labor to be an interim measure while engineering and administrative controls are being perfected. There will be very few cases in which the use of this equipment will be acceptable as a permanent solution to noise problems.

Some methods of control, such as providing an isolation booth for operators, or conducting noisy operations when few employees are in the plant, may require use of personal protective equipment by the operator when he must emerge from his booth to make adjustments, or by those few employees who carry on the noisy operation.

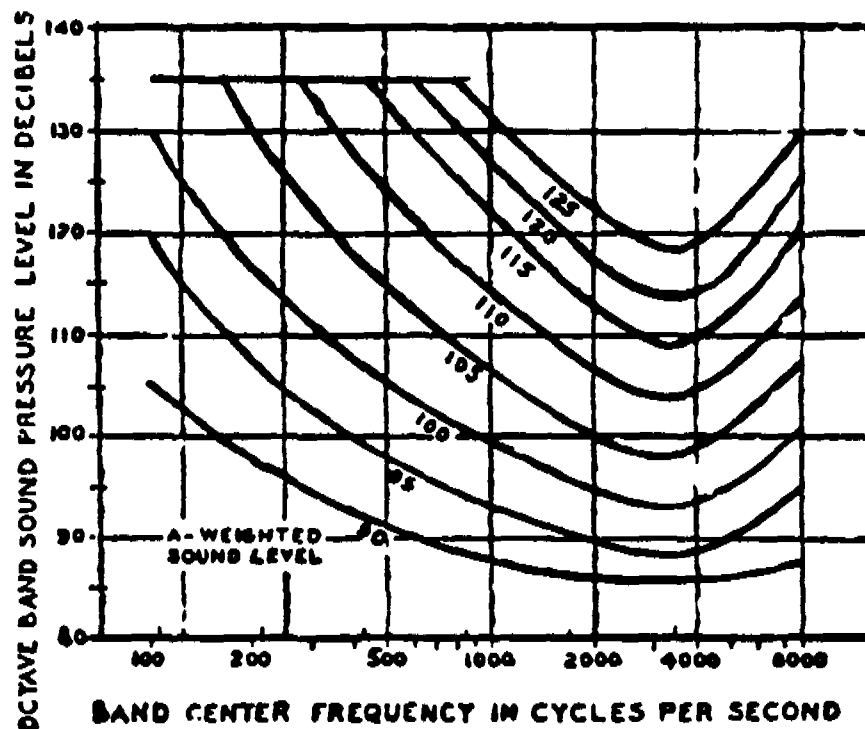
In addition, the regulations require both provision and use of personal protective equipment. How the latter is accomplished is up to the employer. The Department of Labor recommends, however, that an educational and promotional program precede initiation of required use of such equipment, and continue as long as necessary to achieve 100-percent acceptance by employees. In the absence of an observable high proportion of use, the Department of Labor would consider the lack of a training and promotional program as constituting a violation of the regulation.

Cotton stuffed in the ears has little value and will not be accepted by the Department of Labor because of the relatively small attenuation (reduction of noise level) and the care which must be taken in using it. Ear inserts will be used. The MSA Ear Defenders and the Billesholm-Anti-Noise Ear Protectors are recommended. Ear muffs will not normally be used. The Divisional Director of Environmental Control may recommend their use under certain circumstances. The Nurse will fit and/or instruct the employee in the use of ear protection.

- (b) Audiometric Examinations. Audiometric tests will be made of all individuals working regularly or infrequently in areas in which the noise level is above 90 dBA. The purpose of these tests is to assure that administrative controls in use or ear protection devices provided are being adhered to or properly used and are effective in preventing loss of hearing from the noise levels encountered. Audiometric examinations will be performed by a person trained in hearing test procedures under proper test conditions and using appropriate test equipment so as to meet the USASI Standards S3.1-1960, "Criteria for Background Noise in Audiometer Rooms", and S3.6-1969, "Specifications for Audiometers." International Standards Organization (ISO)

THRESHOLD LIMIT VALUES FOR NOISE
(Taken From The Safety And Health Standards Of
The Federal Occupational Safety And Health Act
Dated May 29, 1971)

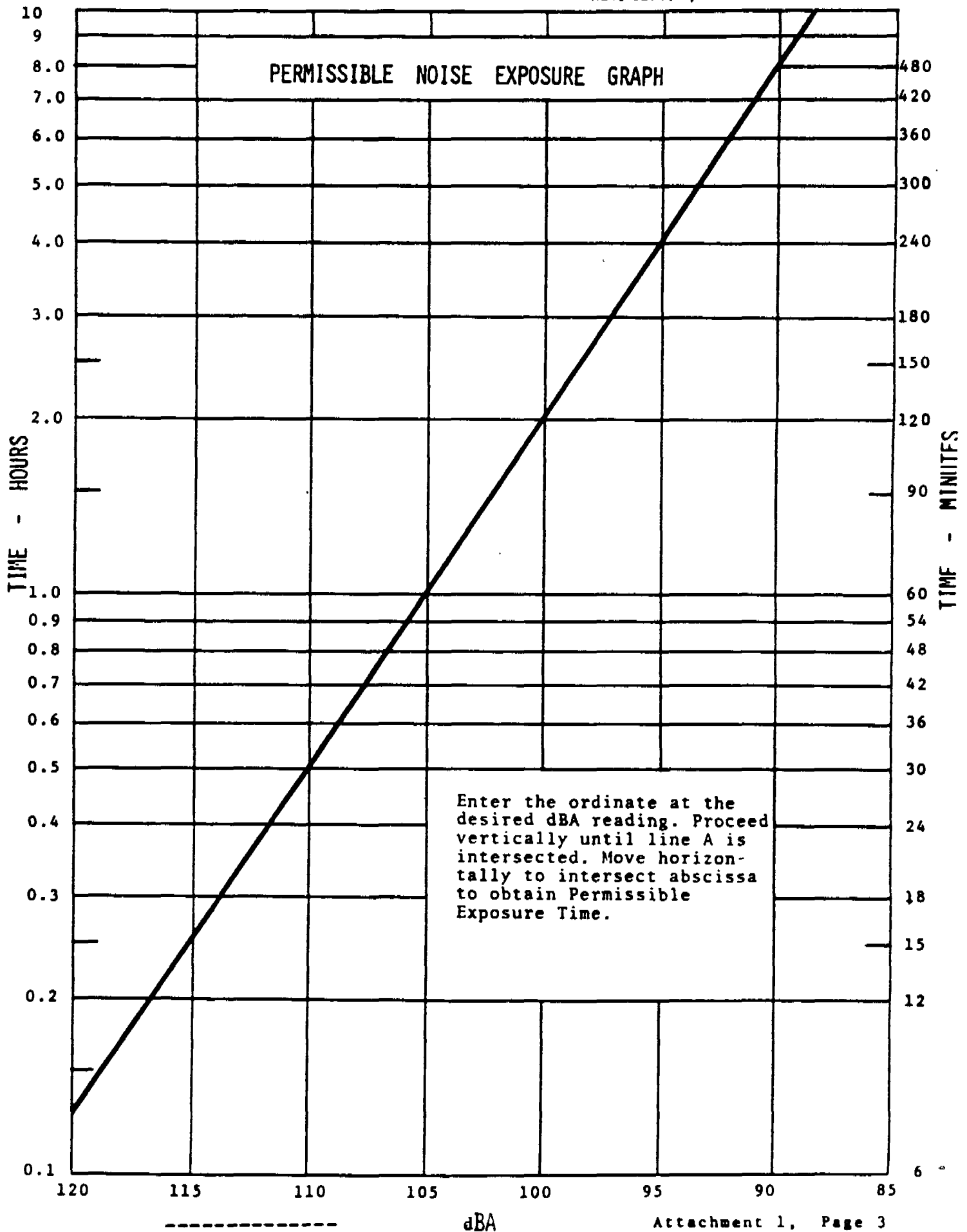
Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in the Permissible Noise Exposure Graph of this attachment when measured on the A scale of a standard sound level meter at slow response. When noise levels are determined by octave band analysis, the equivalent A-weighted sound level may be determined as follows:



Equivalent sound level contours. Octave band sound pressure levels may be converted to the equivalent A-weighted sound level by plotting them on this graph and noting the A-weighted sound level corresponding to the point of highest penetration into the sound level contours. This equivalent A-weighted sound level, which may differ from the actual A-weighted sound level of the noise, is used to determine exposure limits from the Permissible Noise Exposure Graph.

When employees are subjected to sound exceeding those listed in the Permissible Noise Exposure Graph of this attachment, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce

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A-WEIGHTED SOUND PRESSURE LEVEL IN DECIBELS

As read from a sound level or survey meter

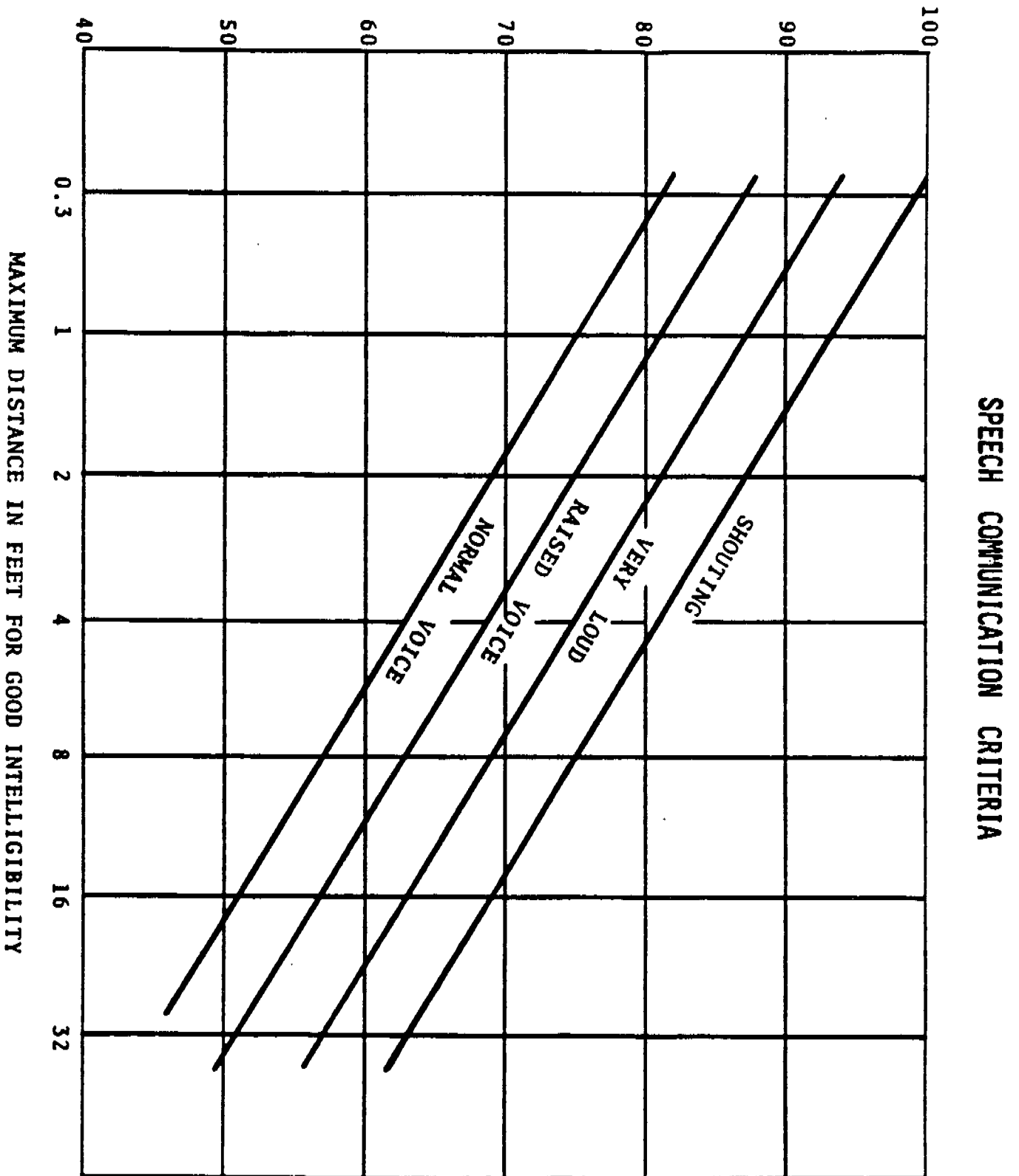


Fig. 3

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PPG INDUSTRIES
NOISE CONTROL PROGRAM
PAGE 5

- (e) Reindoctrination of Employees. Employees showing an increased hearing loss of greater than fifteen decibels at 4000 cps. when comparing the current audiogram with the last audiogram or one taken within the previous five years are identified as having a threshold shift. They must be refitted with ear protection and advised that they are not adequately protecting their hearing and be reindoctrinated into the need for and proper use of their hearing protection.
- (f) Employee Indoctrination. No employee shall be permitted to work in a noise hazardous area without being thoroughly indoctrinated by the medical and safety personnel as to the nature of the hazard, what the Company is doing and what he must do to protect his hearing. The following film, available from the Medical Director's Office, will be shown annually to all persons required to work in a noise hazardous area: "Ear Protection In Noise."

E. Training and Conferences. Those responsible for the various aspects of the Noise Control Program will be trained sufficiently to carry out their responsibilities. Conferences will be held periodically to exchange information and to permit program evaluation. Recommendations for such training and conferences will be made by the Director of Environmental Control and the Company Medical Director.

V. REFERENCES

Persons responsible for any aspect of the Noise Control Program should have available the following book: "Industrial Noise Manual . . . Second Edition" which is published by the American Industrial Hygiene Association, and also U.S. Department of Labor Bulletin 334, "Guidelines to the Department of Labor's Occupational Noise Standards for Federal Supply Contracts."

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COMMUNITY ANNOYANCE CRITERIA

Determine the level for each of the eight octave bands. The N for annoyance of the noise is the highest of these numbers. Apply corrections where necessary as shown in Table A, to determine the "corrected noise rating number." The public reaction to the noise can be estimated by referring to Table B.

Where detailed measurements are not available for one reason or another, approximations may be made by using the "A" scale on a standard sound level meter. The meter reading minus 8 dB may be taken as a rough indication of N.

In some cases the above procedure may prove unsatisfactory and it may be necessary to measure the background noise in the absence of the allegedly annoying noise. When the background noise is exceeded by the complained-of noise, after appropriate correction, by 10 dB or more in any octave band the noise may be considered annoying.

For example: A residential area with widely separated homes would be rated as low as N 30. On the other hand a heavily industrialized area would be rated as high as N 55 without complaints. Higher levels are more acceptable in industrial areas than in residential areas, probably because of higher background noise.

Hence the rating method must be composite and include allowances for various influencing factors such as noise level, spectrum, time distribution of the noise, background noise, season of the year, time of day or night, and previous noise experience. Obviously the suggested corrections are only approximations that are more or less arbitrary, but they should serve as a frame work upon which to gather experience and information.

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NOISE CONTROL PROGRAM
- Responsibilities

I. PLANT MANAGER

Implement program in accordance with Company and Division Policy and Standards.

II. PLANT ENVIRONMENTAL CONTROL ENGINEER

1. Perform and evaluate the results of noise studies.
2. Recommends application of appropriate noise control measures.
3. Designates noise hazardous areas and identifies persons requiring ear protection and audiometric examinations.
4. Assists in the selection and proper placement of the audiometric testing booth.

III. PLANT MEDICAL DEPARTMENT

1. Perform and evaluate audiometric examinations of applicants and employees and make appropriate recommendations to conserve hearing.
2. Select and fit ear protection.
3. Instruct employees in the need for and proper use of ear protection and audiometric examinations.
4. Selects the audiometer.

IV. PLANT SAFETY DIRECTOR

1. Requests the Environmental Control Engineer to investigate suspected noise problems which he may encounter.
2. Assists in identifying persons requiring ear protection and audiometric examination.
3. Assists in instruction of employees in the need for and proper use of ear protection and audiometric examinations.
4. Assists in the selection of and supervision of the wearing of ear protection.

V. DIVISION DIRECTOR OF ENVIRONMENTAL CONTROL

Responsible to the Vice President or Director of Manufacturing to direct all Division activities pertaining to noise control consistent with the protection of hearing, legislative requirements at all levels of government and policy standards set by the Company and Division.

VI. DIVISIONAL NOISE ABATEMENT ENGINEER

The Divisional Environmental Control Director is responsible to prevent the introduction of noise during planning for new construction or purchase of new equipment.

VII. COMPANY MEDICAL DIRECTOR

Consult with General Office and Plant personnel responsible for the Noise Control Program.

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Attachment 4



RESULTS OF NOISE ANALYSIS

PLANT Works 22 - Huntsville
DATE 7/15/69

LOCATION AND OPERATION	NUMBER PERSONS EXPOSED	DURATION	EXPOSURE/BEEL	CHARACTER OF NOISE OR IMPULSE OR STEADY	CHARACTER OF EXPOSURE CONTINUOUS OR INTERMITTENT	A SCALE	FREQUENCY RANGE IN H _z - LEVEL IN dB (Re 0.0002 microbars)									REMARKS	
							ALL PASS	16 - 25	25 - 120	120 - 300	300 - 600	600 - 1200	1200 - 2400	2400 - 4800	4800 - 9600		
Temp. Dept.																	
Desk Area - 1 Fan	3	40	St.	Cont.	84	92	88	85	82	81	79	76	73	67			
De Coating Booth																	
1 Fan Operating	1	2 1/2	St.	Inter	97	111	100	101	111	89	88	83	76	70			
Finishing Dept.																	
Buffing Tables	2	6	St.	Inter.	82	90	85	84	82	76	78	72	71	72			
Welding Booth																	
Exhaust Fan On	1	7	St.	Inter.	88	96	86	94	89	83	77	75	71	65	Note Fan Noise in 75-150 cps		
Temp. Dept. - 2 Fans																	
At Loading Station	3	40	St.	Cont.	87	95											
Temp. Dept. - 2 Fans																	
At Cleaning Station	3	40	St.	Cont.	87	93											
Box Shop																	
Crating	2	48	Imp.	Cont.	79	Not definable with present eqaipt. Hearing Protection Recommended.											

Attachment 5, Page 2

*LIST ALL PERSONS EXPOSED TO CONTINUOUS OR EQUIVALENT 80A 90 OR GREATER ON BACK OF THIS FORM AND PROVIDE REQUESTED INFORMATION.
FORM 7913

Surveyed By J.T. Destefano
J.C. Harper

Equipment Used G.R. 1565A
G.R. 1558A

Attachment 6, Page 1

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EVALUATION OF MIXED EXPOSURE

OCCUPATION	ACTIVITY	JBA	ACTUAL EXPOSURE TIME (T _a)	PERMISSIBLE EXPOSURE TIME (T _p)	T _a /T _p	Σ T _a /T _p
De Coat Operator	De Coating	97	150	210	0.71	1 BB 0002423 1
	Background	66	85	∞	0	
	Belt Sander with Glass	85	75	∞	0	
	Belt Sander without Glass	75	75	∞	0	
	Buss Bar Room	72	45	∞	0	
	Cafeteria	75	50	∞	0	
			480			
						0.71

H. Isolating Noise Sources

1. Completely enclose individual machines.
2. Use baffles.
3. Confine high noise machines to insulated room.

I. Isolating Operator

Provide a relatively sound-proof booth for the operator or attendant of one or more machines.

Controlling noise at the source, as illustrated by A through H1, is the ideal means of preventing noise induced hearing loss. The results are relatively long lasting; the operator of the individual machine is protected, as well as those employees at a distance from it, and there is no need for wearing protective equipment or following prescribed schedules of exposure. The measures listed under H2, H3, and I will, if effective, limit the number of persons exposed to high noise levels, but are unlikely to protect operators and those close to the noise sources.

A number of the listed controls can be accomplished quite inexpensively by plant personnel. Others require considerable expense and highly specialized technical knowledge to ensure the expected results. It is, therefore, strongly recommended that plants avail themselves of the services of competent acoustical engineers in planning and carrying out their noise control programs. The Department of Labor expects employers to explore the possibility and practicability of controlling noise by engineering and to take all feasible measures before resorting to use of administrative controls or of personal protective equipment.

II. ADMINISTRATIVE

If noise cannot be reduced to permissible intensities through engineering controls, administrative controls should be developed in order to limit duration of workers' exposure to noise levels above 90 dBA to the limits shown in Attachment 1.

The following are examples:

1. Arrange work schedules so that employees working the major portion of a day at or very close to the 90 dBA limit are not exposed to higher noise levels.
2. Ensure that employees who have reached the upper limit of duration for a high noise level, in accordance with Attachment 1, work the remainder of the day in an environment with a noise level well below 90 dBA.
3. Where the man-hours required for a job exceed the permissible time for one man in one day for the existing sound level, divide the work among two, three, or as many men as are needed, either successively or together, to keep individual noise exposure within permissible time limits.



AUDIOMETRIC EXAMINATION

PPG OCCUPATIONAL HEALTH POLICY MANUAL
SECTION 10.1
REV. SEPT. 3, 1971

IMPORTANT: This examination should not be done sooner than fifteen hours after the last exposure to an in-plant area designated as noise hazardous or a significant off-the-job noise exposure. Only audiometers calibrated to meet ASA (USASI) Standards will be used.

1. NAME	JOHN E. DOE	BADGE NUMBER	1320	AGE	55
2. PURPOSE OF EXAMINATION ☐ PRE-EMPLOYMENT ☒ ANNUAL PERIODIC ☐ OTHER					
3. DATE OF PRESENT AUDIOMETRIC EXAMINATION			DATE OF LAST AUDIOMETRIC EXAMINATION		
7/23/69			7/25/68		
4. NOISE EXPOSURE INFORMATION					
A. IS EMPLOYEE PRESENTLY WORKING IN A NOISE HAZARDOUS AREA? ☒ YES ☐ NO					
B. ANSWER THE FOLLOWING ONLY IF THE ANSWER TO 4A IS YES:					
(1) THE NUMBER OF HOURS SINCE LAST EXPOSURE TO HAZARDOUS NOISE <u>16</u>					
(2) dBA EXPOSURE <u>96</u>					
(3) MONTHS' OR YEARS' EXPOSURE WITH AND WITHOUT EAR PROTECTION TO ABOUT THE SAME NOISE LEVEL (SHOW DATES):					
WITH EAR PROTECTION <u>JAN 64 TO PRESENT</u> WITHOUT EAR PROTECTION <u>FEB 44 TO JAN 64</u>					
(4) TRADE NAME OF EAR PROTECTOR USED <u>MSA EAR DEFENDER</u>					

5. RECORD RESULTS OF PRESENT HEARING TEST

	FREQUENCIES (cps)					
	500	1000	2000	3000	4000	6000
RIGHT EAR	10	15	20	25	40	30
LEFT EAR	15	20	30	40	55	40

6. DETERMINATION OF MEDICAL QUALIFICATION FOR EMPLOYMENT TO WORK IN A NOISE HAZARDOUS AREA.

FROM 5 ABOVE, DETERMINE THE ARITHMETIC AVERAGE OF THE VALUES FOR EACH EAR FOR THE FOLLOWING THREE FREQUENCIES: 500, 1000 AND 2000 CPS. AND RECORD BELOW:

ARITHMETIC AVERAGE OF 500, 1000 AND 2000 CPS.

RIGHT EAR	15
LEFT EAR	22

A. FOR AN APPLICANT FOR EMPLOYMENT.

TO DETERMINE THE CLASSIFICATION IN REGARD TO EMPLOYMENT, REFER TO PARAGRAPH C. EARS. OF SECTION II "STANDARDS FOR MEDICAL CLASSIFICATION OF APPLICANTS FOR EMPLOYMENT."

CHECK ONE:

☐ A☐ B☐ C☐ D

B. FOR EMPLOYEE TO CONTINUE TO WORK IN A NOISE HAZARDOUS AREA.

IF THE LOSS OF HEARING IN THE BETTER EAR AS RECORDED ABOVE FOR ARITHMETIC AVERAGE OF THE 500, 1000 AND 2000 FREQUENCIES IS GREATER THAN 15 DECIBELS, THE EMPLOYEE IS NOT MEDICALLY QUALIFIED TO WORK IN A NOISE HAZARDOUS AREA.

CHECK ONE:

☒ QUALIFIED☐ NOT QUALIFIED

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PPG RESPIRATORY PROTECTION POLICY

- I. REFERENCES: Occupational Safety and Health Act - 1910.134 "Respiratory Protection" (See attachment 1)

American National Standards Institute Z88.2 "Practices for Respiratory Protection"

American Industrial Hygiene Association Respirator Manual

- II. PURPOSE: To provide a basic guide for proper selection and utilization of respiratory protective equipment in accordance with the references listed above.

- III. POLICY: Every effort will be made to reduce the levels of airborne contaminant to acceptable levels in all plant areas through appropriate engineering controls. In cases involving accidental release of contaminant or extenuating operating conditions which cause the level of airborne contaminant to temporarily exceed the Threshold Limit Value (TLV), respiratory protection will be required.

It is of paramount importance that all respiratory protective equipment be carefully selected and maintained. All users of respiratory protection must be thoroughly trained in the applications and limitations of each device required.

IV. RESPONSIBILITIES:

A. Medical Department

1. Corporate

- a. Provide guidance concerning the medical evaluation required to determine if employees who are to be assigned to tasks requiring the use of respirators are physically able to perform the work and use the respirator without hazard to themselves or their fellow employees.
- b. Provide guidance concerning the medical evaluation required to determine the effectiveness of the respiratory protection in protecting the employee from excessive exposure to airborne contaminants.
- c. Assist in assessing the effectiveness of the respiratory protection program by periodic review of plant environmental and biological monitoring data.

2. Plant

- a. Perform medical evaluations on employees required to wear respirators (see Paragraph 1a. & b. above), providing or arranging for such medical x-ray and/or laboratory support as may be required. The results of the medical evaluations will be maintained in the individual employee's plant medical record.
- b. Provide to the Corporate Medical Department periodic summaries of the data obtained from the medical evaluation as may be required, with copies to the Divisional Industrial Hygienist.

OCCUPATIONAL SAFETY AND HEALTH STANDARDS SUBPART I - PERSONAL PROTECTIVE EQUIPMENT

(Code of Federal Regulations, Title 29, Chapter XVII, Part 1910, 37 FR 22231,
October 18, 1972, with subsequent amendments indicated where appropriate in the text.)

Subpart I—Personal Protective Equipment

§ 1910.132 General requirements.

(a) *Application.* Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

(b) *Employee-owned equipment.* Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

(c) *Design.* All personal protective equipment shall be of safe design and construction for the work to be performed.

§ 1910.133 Eye and face protection.

(a) *General.* (1) Protective eye and face equipment shall be required where there is a reasonable probability of injury that can be prevented by such equipment. In such cases, employers shall make conveniently available a type of protector suitable for the work to be performed, and employees shall use such protectors. No unprotected person shall knowingly be subjected to a hazardous environmental condition. Suitable eye protectors shall be provided where machines or operations present the hazard of flying objects, glare, liquids, injurious radiation, or a combination of these hazards.

(2) Protectors shall meet the following minimum requirements:

(i) They shall provide adequate protection against the particular hazards for which they are designed.

(ii) They shall be reasonably comfortable when worn under the designated conditions.

(iii) They shall fit snugly and shall not unduly interfere with the movements of the wearer.

(iv) They shall be durable.

(v) They shall be capable of being disinfected.

(vi) They shall be easily cleanable.

(vii) Protectors should be kept clean and in good repair.

(3) Persons whose vision requires the use of corrective lenses in spectacles, and who are required by this standard to wear eye protection, shall wear goggles or spectacles of one of the following types:

(i) Spectacles whose protective lenses provide optical correction.

(ii) Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles.

(iii) Goggles that incorporate corrective lenses mounted behind the protective lenses.

(4) Every protector shall be distinctly marked to facilitate identification only of the manufacturer.

(5) When limitations or precautions are indicated by the manufacturer, they shall be transmitted to the user and care taken to see that such limitations and precautions are strictly observed.

(6) Design, construction, testing, and use of devices for eye and face protection shall be in accordance with American National Standard for Occupational and Educational Eye and Face Protection, Z87.1-1968.

§ 1910.134 Respiratory protection.

(a) *Permissible practice.* (1) In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to the following requirements.

(2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protective program which shall include the requirements outlined in paragraph (b) of this section.

(3) The employee shall use the provided respiratory protection in accordance with instructions and training received.

(b) *Requirements for a minimal acceptable program.* (1) Written standard operating procedures governing the selection and use of respirators shall be established.

(2) Respirators shall be selected on the basis of hazards to which the worker is exposed.

(3) The user shall be instructed and trained in the proper use of respirators and their limitations.

(4) Where practicable, the respirators should be assigned to individual workers for their exclusive use.

(5) Respirators shall be regularly cleaned and disinfected. Those issued for

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care of respirators shall be adjusted to the type of plant, working conditions, and hazards involved, and shall include the following basic services:

- (i) Inspection for defects (including a leak check).
- (ii) Cleaning and disinfecting.
- (iii) Repair.
- (iv) Storage

Equipment shall be properly maintained to retain its original effectiveness.

(2) (i) All respirators shall be inspected routinely before and after each use. A respirator that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to assure that it is in satisfactory working condition.

(ii) Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. It shall be determined that the regulator and warning devices function properly.

(iii) Respirator inspection shall include a check of the tightness of connections and the condition of the facepiece, headbands, valves, connecting tube, and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage.

(iv) A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

(3) Routinely used respirators shall be collected, cleaned, and disinfected as frequently as necessary to insure that proper protection is provided for the wearer. Each worker should be briefed on the cleaning procedure and be assured that he will always receive a clean and disinfected respirator. Such assurances are of greatest significance when respirators are not individually assigned to workers. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(4) Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

(5) (i) After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments should be clearly marked. Routinely

used respirators, such as dust respirators, may be placed in plastic bags. Respirators should not be stored in such places as lockers or tool boxes unless they are in carrying cases or cartons.

(ii) Respirators should be packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer settling in an abnormal position.

(iii) Instructions for proper storage of emergency respirators, such as gas masks and self-contained breathing apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid.

(g) Identification of gas mask canisters. (1) The primary means of identifying a gas mask canister shall be by means of properly worded labels. The secondary means of identifying a gas mask canister shall be by a color code.

(2) All who issue or use gas masks falling within the scope of this section shall see that all gas mask canisters purchased or used by them are properly labeled and colored in accordance with these requirements before they are placed in service and that the labels and colors are properly maintained at all times thereafter until the canisters have completely served their purpose.

(3) On each canister shall appear in bold letters the following:

(i) —
Canister for
(Name for atmospheric contaminant)
or
Type N Gas Mask Canister

(ii) In addition, essentially the following wording shall appear beneath the appropriate phrase on the canister

label: "For respiratory protection in atmospheres containing not more than percent by volume of"

(Name of atmospheric contaminant)

(iii) All of the markings specified above should be placed on the most conspicuous surface or surfaces of the canister.

(4) Canisters having a special high-efficiency filter for protection against radionuclides and other highly toxic particulates shall be labeled with a statement of the type and degree of protection afforded by the filter. The label shall be affixed to the neck end of, or to the gray stripe which is around and near the top of, the canister. The degree of protection shall be marked as the percent of penetration of the canister by a 0.3-micron-diameter dioctyl phthalate (DOP) smoke at a flow rate of 85 liters per minute.

(5) Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life (at least 16 percent by volume), since gas mask canisters are only designed to neutralize or remove contaminants from the air.

(6) Each gas mask canister shall be painted a distinctive color or combination of colors indicated in Table I-1. All colors used shall be such that they are clearly identifiable by the user and clearly distinguishable from one another. The color coating used shall offer a high degree of resistance to chipping, scaling, peeling, blistering, fading, and the effects of the ordinary atmospheres to which they may be exposed under normal conditions of storage and use. Appropriately colored pressure sensitive tape may be used for the stripes.

TABLE I-1

Atmospheric contaminants to be protected against	Colors assigned*
Acid gases.....	White.
Hydrocyanic acid gas.....	White with 1/2-inch green stripe completely around the canister near the bottom.
Chlorine gas.....	White with 1/2-inch yellow stripe completely around the canister near the bottom.
Organic vapors.....	Black.
Ammonia gas.....	Green.
Acid gases and ammonia gas.....	Green with 1/2-inch white stripe completely around the canister near the bottom.
Carbon monoxide.....	Blue.
Acid gases and organic vapors.....	Yellow.
Hydrocyanic acid gas and chloroacetylene vapor.....	Yellow with 1/2-inch blue stripe completely around the canister near the bottom.
Acid gases, organic vapors, and ammonia gases.....	Brown.
Radioactive materials, excepting tritium and noble gases.....	Purple (Magenta).
Particulates (dusts, fumes, mists, fogs, or smokes) in combination with any of the above gases or vapors.....	Canister color for contaminant, as designated above, with 1/2-inch gray stripe completely around the canister near the top.
All of the above atmospheric contaminants.....	Red with 1/2-inch gray stripe completely around the canister near the top.

* Gray shall not be assigned as the main color for a canister designed to remove acids or vapors.

NOTE: Orange shall be used as a complete body, or stripe color to represent gases not included in this table. The user will need to refer to the canister label to determine the degree of protection the canister will afford.

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- (6) Provide for central storage and storage containers for each respirator in various working areas of the plant.
- (7) Insure that respirators are cleaned on a daily basis and stored properly when not in use.
- (8) Maintain records on respirator maintenance as well as on the physical fitness of all individuals required to wear respiratory equipment.
- (9) Post this S.O.P. in each of the plant work areas where use of respiratory equipment is required.

3. Plant Line Supervisors -

- a. Assume responsibility of insuring that respirators are worn as required by the plant safety director.
- b. Maintain housekeeping in such a manner as to preclude cleaning respirators more than once a day.
- c. Complete forms as directed by safety personnel.

4. Employee -

- a. Wear respirator in a proper manner whenever encountering excessive contaminant exposures.
- b. Check respirator function prior to each use.

Year Inspected: _____

Equipment Inspected By: _____

Storage Area: _____

1. _____ 7. _____

Name and Type
of Equipment _____

2. _____ 8. _____

3. _____ 9. _____

4. _____ 10. _____

5. _____ 11. _____

Serial Number _____

6. _____ 12. _____

WRITE YOUR COMMENTS ON THE BACK OF THIS FORM

RESPIRATORY EQUIPMENT CHECK LIST

Self-Contained Breathing Apparatus

(Check lists are to be used monthly)

<u>YES</u>						<u>NO</u>						
1	2	3	4	5	6	1	2	3	4	5	6	Gauge on air tank is within 10% maximum fill pressure.
7	8	9	10	11	12	7	8	9	10	11	12	
1	2	3	4	5	6	1	2	3	4	5	6	Carrying case is in good condition. Hinges open freely, case protects SCBA, carrying handle is firmly attached to case, case is reasonably clean inside.
7	8	9	10	11	12	7	8	9	10	11	12	
1	2	3	4	5	6	1	2	3	4	5	6	Firepiece lens is in good condition, not scratched or discolored badly enough to distort vision.
7	8	9	10	11	12	7	8	9	10	11	12	
1	2	3	4	5	6	1	2	3	4	5	6	Headstraps are in good condition, can withstand a firm hand pull.
7	8	9	10	11	12	7	8	9	10	11	12	
1	2	3	4	5	6	1	2	3	4	5	6	Metal parts such as cylinder clamps, facepiece clips, harness buckles, and regulators appear to be in good condition.
7	8	9	10	11	12	7	8	9	10	11	12	
1	2	3	4	5	6	1	2	3	4	5	6	Mainline regulator valve and bypass valve are in good workable condition.
7	8	9	10	11	12	7	8	9	10	11	12	
1	2	3	4	5	6	1	2	3	4	5	6	Carrying straps and belts are in good condition.
7	8	9	10	11	12	7	8	9	10	11	12	
1	2	3	4	5	6	1	2	3	4	5	6	Hoses and connections are properly fitted and ready for instant use.
7	8	9	10	11	12	7	8	9	10	11	12	
1	2	3	4	5	6	1	2	3	4	5	6	Unit has been checked for leaks.
7	8	9	10	11	12	7	8	9	10	11	12	

Title 40—Protection of Environment
CHAPTER 1—ENVIRONMENTAL
PROTECTION AGENCY

SUBCHAPTER C—AIR PROGRAMS

PART 61—NATIONAL EMISSION STANDARDS
FOR HAZARDOUS AIR POLLUTANTS

Asbestos, Beryllium, and Mercury

On March 31, 1971 (36 FR 5931), pursuant to section 112 of the Clean Air Act, as amended, the Administrator published an initial list of three hazardous air pollutants which, in his judgment may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness. The pollutants were asbestos, beryllium, and mercury. On December 7, 1971 (36 FR 23239), the Administrator proposed standards for these pollutants.

Interested persons participated in the rulemaking by giving testimony at public hearings and by sending comments to EPA. Public hearings were held in New York City on January 18, 1972, and in Los Angeles on February 15 and 16, 1972. A third hearing, scheduled to be held in Kansas City, on February 1, 1972, was canceled because of a lack of requests to participate. Sixty-eight persons gave testimony at the public hearings, and 56 persons sent comments to EPA. Represented were industries, universities, governmental agencies—Federal, State, and local, and environmental groups. Copies of the public hearing records are available at all EPA Regional Offices and at the Division of Stationary Source Enforcement, room 3220, 401 M Street SW., Washington, D.C. 20460, where copies of the comments received are also available.

The bases for the Administrator's determinations that asbestos,

hazardous, the derivations of the standards now adopted, the Environmental Protection Agency's responses to the significant comments received, and the principal revisions to the proposed standards are summarized below. A more detailed statement is available on request from the Emission Standards and Engineering Division, Environmental Protection Agency, Research Triangle Park, N.C. 27711, Attention: Mr. Don Goodwin. In addition, the Administrator is issuing information on control techniques for asbestos, beryllium, and mercury as directed by section 112(b)(2) of the act. Copies of these documents may be obtained free of charge from EPA Regional Offices.

ASBESTOS

Asbestos is a hazardous air pollutant within the meaning of section 112. Many persons exposed to asbestos dust developed asbestosis when the dust concentration was high or the duration of exposure was long (1-7). A large number of studies have shown that there is an association between occupational exposure to asbestos and a higher-than-expected incidence of bronchial cancer (8-30). Asbestos also has been identified as a causal factor in the development of mesotheliomas, cancers of the mem-

branes lining the chest and abdomen (30-47). There are reports of mesothelioma associated with nonoccupational exposures in the neighborhood of asbestos sources (38, 42, 47, 48). An outstanding feature has been the long period, commonly over 30 years, between the first exposure to asbestos and the appearance of a tumor (49, 50). There is evidence which indicates that mesotheliomas occur after much less exposure to asbestos dust than the exposure associated with asbestos (51, 52).

It is not practicable, at this time, to establish allowable numerical concentrations or mass emission limits for asbestos. Satisfactory means of measuring ambient asbestos concentrations have only recently been developed, and satisfactory means of measuring asbestos emissions are still unavailable. Even if satisfactory means of measuring asbestos emissions did exist, the previous unavailability of a satisfactory means of measuring ambient levels of asbestos makes it impossible to estimate even roughly the quantitative relationship between asbestos-caused illness and the doses which caused those illnesses. This is a major problem, since some asbestos caused illnesses have a 30-year latency period.

EPA considered the possibility of banning production, processing, and use of asbestos or banning all emissions of asbestos into the atmosphere, but rejected these approaches. The problem of measuring asbestos emissions would make the latter approach impossible to enforce. Either approach would result in the prohibition of many activities which are extremely important; moreover, the available evidence relating to the health hazards of asbestos does not suggest that such prohibition is necessary to protect public health. For example, demolition of any building containing asbestos fireproofing or insulating materials would have to be prohibited as would the use of materials containing even trace amounts of asbestos which could escape into the atmosphere.

Finally, the available evidence suggests a gradient of effects from direct occupational, to indirect occupational exposure, to families of workers exposed to asbestos and persons in the neighborhood of asbestos sources—in all of which situations asbestos concentrations are undoubtedly high by comparison with most community air. This suggests that there are levels of asbestos exposure that will not be associated with any detectable risk, although these levels are not known (53).

It is probable that the effects of asbestos inhalation are cumulative; that is, low-level and/or intermittent exposure to asbestos over a long time may be equally as important in the etiology of asbestotic disease as high level and/or continuous exposure over a shorter period. On the other hand, the available evidence does not indicate that levels of asbestos in most community air cause asbestotic disease. Taking both these considerations into account, the Administrator has determined that, in order to provide an ample margin of safety to protect the public health from asbestos,

it is necessary to control emissions from major man-made sources of asbestos emissions into the atmosphere, but that it is not necessary to prohibit all emissions.

In this determination, the Administrator has relied on the National Academy of Sciences' report on asbestos (53), which concludes: "Asbestos is too important in our technology and economy for its essential use to be stopped. But, because of the known serious effects of uncontrolled inhalation of asbestos minerals in industry and uncertainty as to the shape and character of the dose-response curve in man, it would be highly imprudent to permit additional contamination of the public environment with asbestos. Continued use at minimal risk to the public requires that the major sources of man-made asbestos emission into the atmosphere be defined and controlled."

The means of control used are limitations on visible emissions with an option in some cases to use designated control equipment, requirements that certain procedures be followed, and prohibitions on the use of certain materials or of certain operations. These means of control are required because of the impossibility at this time of prescribing and enforcing allowable numerical concentrations or mass emission limitations known to provide an ample margin of safety. The alternative of no control of the sources subject to this standard was rejected because of the significant health hazard of unregulated emissions of asbestos into the atmosphere from the designated major sources.

It is the Administrator's judgment that the asbestos sources subject to this standard are the major sources of asbestos emissions. In the absence of quantitative emission data, the Administrator's judgment was based on an national inventory of sources and emissions of asbestos (54) and other reports (53, 55). The asbestos emissions and emission factors presented in the national inventory were based on information obtained from production and reprocessing companies. This information included production figures, estimates of control equipment efficiency and material balances; it did not include emission test results. The major sources of asbestos emissions were considered to fall into five categories: (1) Mining and milling; (2) manufacturing; (3) fabrication; (4) demolition; and (5) spraying. In determining which of these major sources should be covered by the standard promulgated herein, the Administrator considered the effect other Federal regulations will have on the emissions from such sources and the proximity of such sources to the public. In addition, the Administrator considered comments on the proposed standard and additional technical data not available before proposal. The following paragraphs explain these considerations and the changes made to the standard between proposal and final promulgation.

The promulgated standard applies to asbestos mills, selected manufacturing operations, the use of spray-on asbestos

References at end of article.

standardized reference method has not been developed to quantitatively determine the content of asbestos in a material, there are acceptable methods available, based on electron microscopy, which independent laboratories have developed. Determining the asbestos content of a material with these methods costs approximately \$300, and the results are accurate within plus or minus 50 percent; these limits on accuracy were taken into account in establishing the 1-percent limitation.

The proposed standard would have prohibited the surfacing of any roadway with asbestos tailings. The promulgated standard applies to all roadways except those on ore deposits; these roadways are temporary, and control measures taken to comply with the Bureau of Mines regulations prevent them from being a major source which must be covered by the standard promulgated herein. At this time, the application of asbestos tailings to public roadways is not widely practiced, but because of the close proximity of roads to the public, a ban on using asbestos tailings on roadways is included in the promulgated standard to avoid a future problem and stop the practice where it is followed. The term "surfacing" is defined to include the deposit of asbestos tailings on roadways covered with snow or ice; therefore, this practice is prohibited.

Consideration was given to including provisions in the standard requiring proper disposal of the asbestos material generated during demolition and collected in control devices used to comply with the requirements of this standard. It was decided that this was not necessary because the Occupational Safety and Health Administration regulations (29 CFR 1910.93a(h)) include house-keeping and waste disposal requirements. These regulations require that any asbestos waste, consigned for disposal, be collected and disposed of in sealed impermeable bags or other closed, impermeable containers.

The potential environmental impact of the promulgated standard was evaluated, and it was concluded that the standard will not cause any adverse effects. The potentially adverse environmental effects of the standard are:

(1) The asbestos-materials which will be collected in control devices and generated during demolition will have to be disposed of or recycled.

(2) Materials, such as mineral wool, ceramic wool, and fiberglass, will be substituted for asbestos presently contained in spray-applied fireproofing and insulating materials.

In some manufacturing operations, a major portion of the asbestos-material collected by fabric filters is either recycled to the process or is marketed for other uses. For example, one asbestos textile mill recycles large quantities of longer-fiber asbestos for process use and sells more than 90 percent of the remaining collected materials to a brake lining manufacturer. Consequently, a significant portion of the increased quantities of "waste" asbestos materials which will result from the implementation of the

standard will not require disposal. Where disposal is required, the Occupational Safety and Health Administration regulations (29 CFR 1910.93a(h)) require that any asbestos waste, consigned for disposal, be collected and disposed of in sealed impermeable bags or other closed, impermeable containers. The contamination of ground water supplies with asbestos from landfill disposal is not considered a potential problem.

The substitution of ceramic wool, mineral wool, and fiberglass for asbestos is not now known to be a problem. There is no evidence that these materials cause health effects in the concentrations found in occupational or ambient environments.

Although the standard was not based on economic considerations, EPA is aware of the impact (55) and considers it to be reasonable. Costs among the various sources covered by the standard are quite variable. Although the standard may adversely affect some individual plants or companies which are marginal operations, it appears that such effects will be minimal and the impact to the asbestos industries as a whole will not be large.

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ferred methods of sampling and analyzing used to determine compliance. The reference methods for beryllium and mercury are included in appendix B to this part. An equivalent method is any method of sampling and analyzing which has been demonstrated to the Administrator's satisfaction to have a consistent and quantitatively known relationship to the reference method under specified conditions. An alternative method is any method of sampling and analyzing which does not meet all the criteria for equivalency but which can be used in specific cases to determine compliance. Alternative methods may be approved by the Administrator for source testing; however, in cases where determinations of compliance using an alternative method are disputed, use of the reference method or its equivalent will be required by the Administrator. An approved alternative method for beryllium is included in appendix B hereto.

All emission data provided to or obtained by the Administrator in carrying out these regulations will be available to the public. Records, reports, or information other than trade secrets will be available to the public.

Pursuant to section 112(d)(1) of the act, the Environmental Protection Agency intends to delegate the authority to implement and enforce national emission standards (except with respect to stationary sources owned or operated by the United States) for hazardous air pollutants to any State which submits an adequate procedure to the Administrator. The requisite procedure for requesting such delegation will be issued in the future by the Environmental Protection Agency.

The regulations for the national emission standards for asbestos, beryllium, and mercury are hereby promulgated effective upon promulgation (April 6, 1973).

Dated: March 30, 1973.

ROBERT W. FAI,
Acting Administrator,
Environmental Protection Agency.

A new Part 61 is added to Chapter 1, Title 40, Code of Federal Regulations, as follows:

Subpart A—General Provisions	
61.01	Applicability.
61.02	Definitions.
61.03	Abbreviations.
61.04	Address.
61.05	Prohibited activities.
61.06	Determination of construction or modification.
61.07	Application for approval of construction or modification.
61.08	Approval by Administrator.
61.09	Notification of startup.
61.10	Source reporting and waiver request.
61.11	Waiver of compliance.
61.12	Emission tests and monitoring.
61.13	Waiver of emission tests.
61.14	Source test and analytical methods.
61.15	Availability of information.
61.16	State authority.

Subpart B—National Emission Standard for Asbestos	
61.20	Applicability.
61.21	Definitions.

Subpart A—General Provisions

§ 61.01 Applicability.

The provisions of this part apply to the owner or operator of any stationary source for which a standard is prescribed under this part.

§ 61.02 Definitions.

As used in this part, all terms not defined herein shall have the meaning given them in the act:

(a) "Act" means the Clean Air Act (42 U.S.C. 1857 et seq.).

(b) "Administrator" means the Administrator of the Environmental Protection Agency or his authorized representative.

(d) "Commenced" means that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

(e) "Compliance schedule" means the date or dates by which a source or category of sources is required to comply with the standards of this part and with any steps toward such compliance which are set forth in a waiver of compliance under § 61.11.

(f) "Construction" means fabrication, erection, or installation of a stationary source.

(g) "Effective date" is the date of promulgation in the Federal Register of an applicable standard or other regulation under this part.

(i) "Existing source" means any stationary source which is not a new source.

(j) "Modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any hazardous air pollutant emitted by such source or which results in the emission of any hazardous air pollutant not previously emitted, except that:

(1) Routine maintenance, repair, and replacement shall not be considered physical changes, and

(2) The following shall not be considered a change in the method of operation:

(i) An increase in the production rate, if such increase does not exceed the operating design capacity of the stationary source;

(ii) An increase in hours of operation.

(k) "New source" means any stationary source, the construction or modification of which is commenced after the publication in the Federal Register of proposed national emission standards for hazardous air pollutants which will be applicable to such source.

(l) "Owner or operator" means any person who owns, leases, operates, controls, or supervises a stationary source.

(n) "Startup" means the setting in operation of a stationary source for any purpose.

(o) "Standard" means a national emission standard for a hazardous air pollutant proposed or promulgated under this part.

(p) "Stationary source" means any building, structure, facility, or installation which emits or may emit any air pollutant which has been designated as hazardous by the Administrator.

§ 61.04 Address.

All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted in duplicate and addressed to the appropriate regional office of the Environmental Protection Agency, to the attention of the Director, Enforcement Division. The regional offices are as follows:

Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), John F. Kennedy Federal Building, Boston, Mass. 02203.

Region II (New York, New Jersey, Puerto Rico, Virgin Islands), Federal Office Building, 26 Federal Plaza (Foley Square), New York, N.Y. 10007.

Region III (Delaware, District of Columbia, Pennsylvania, Maryland, Virginia, West Virginia), Curtis Building, Sixth and Walnut Streets, Philadelphia, Pa. 19106.

Region IV (Alabama, Florida, Georgia, Mississippi, Kentucky, North Carolina, South Carolina, Tennessee), Suite 300, 1421 Peachtree Street, Atlanta, Ga. 30309.

Region V (Illinois, Indiana, Minnesota, Michigan, Ohio, Wisconsin), 1 North Wacker Drive, Chicago; Ill. 60606.

Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas), 1600 Pater-son Street, Dallas, Tex. 75201.

Region VII (Iowa, Kansas, Missouri, Nebraska), 1735 Baltimore Street, Kansas City, Mo. 64108.

Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming), 916 Lincoln Towers, 1860 Lincoln Street, Denver, Colo. 80203.

Region IX (Arizona, California, Hawaii, Nevada, Guam, American Samoa), 100 California Street, San Francisco, Calif. 94111.

Region X (Washington, Oregon, Idaho, Alaska), 1200 Sixth Avenue, Seattle, Wash. 98101.

§ 61.05 Prohibited activities.

(a) After the effective date of any standard prescribed under this part, no owner or operator shall construct or modify any stationary source subject to such standard without first obtaining written approval of the Administrator in accordance with this subpart, except under an exemption granted by the President under section 112(c)(2) of the act. Source, the construction or modification

1 BB 0002442 1

specified under paragraph (b) (3) of this section are not met.

(3) Specify dates by which steps toward compliance are to be taken; and impose such additional conditions as the Administrator determines to be necessary to assure installation of the necessary controls within the waiver period, and to assure protection of the health of persons during the waiver period.

(c) Prior to denying any request for a waiver pursuant to this section, the Administrator will notify the owner or operator making such request of the Administrator's intention to issue such denial, together with:

(1) Notice of the information and findings on which such intended denial is based, and

(2) Notice of opportunity for such owner or operator to present, within such time limit as the Administrator specifies, additional information or arguments to the Administrator prior to final action on such request.

(d) A final determination to deny any request for a waiver will be in writing and will set forth the specific grounds on which such denial is based. Such final determination will be made within 60 days after presentation of additional information or arguments, or 60 days after the final date specified for such presentation, if no presentation is made.

(e) The granting of a waiver under this section shall not abrogate the Administrator's authority under section 114 of the act.

Subpart B—National Emission Standard for Asbestos

§ 61.20 Applicability.

The provisions of this subpart are applicable to those sources specified in § 61.22.

§ 61.21 Definitions.

Terms used in this subpart are defined in the act, in subpart A of this part, or in this section as follows:

(a) "Asbestos" means actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite.

(b) "Asbestos material" means asbestos or any material containing asbestos.

(c) "Particulate asbestos material" means finely divided particles of asbestos material.

(d) "Asbestos tailings" means any solid waste product of asbestos mining or milling operations which contains asbestos.

(e) "Outside air" means the air outside buildings and structures.

(f) "Visible emissions" means any emissions which are visually detectable without the aid of instruments and which contain particulate asbestos material.

§ 61.22 Emission standard.

(a) Asbestos mills: There shall be no visible emissions to the outside air from any asbestos mill except as provided in paragraph (f) of this section. Outside storage of asbestos materials is not considered a part of an asbestos mill.

(b) Roadways: The surfacing of roadways with asbestos tailings is prohibited, except for temporary roadways on an area of asbestos ore deposits. The deposition of asbestos tailings on roadways covered with snow or ice is considered "surfacing."

(c) Manufacturing: There shall be no visible emissions to the outside air, except as provided in paragraph (f) of this section, from any building or structure in which the following operations are conducted or directly from any of the following operations if they are conducted outside of buildings or structures.

(1) The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

(2) The manufacture of cement products.

(3) The manufacture of fireproofing and insulating materials.

(4) The manufacture of friction products.

(5) The manufacture of paper, millboard, and felt.

(6) The manufacture of floor tile.

(7) The manufacture of paints, coatings, caulks, adhesives, sealants.

(8) The manufacture of plastics and rubber materials.

(9) The manufacture of chlorine.

(d) Demolition: Any owner or operator of a demolition operation who intends to demolish any institutional, commercial, or industrial building (including apartment buildings having more than four dwelling units), structure, facility,

installation, or portion thereof which contains any boiler, pipe, or load-supporting structural member that is insulated or fireproofed with friable asbestos material shall comply with the requirements set forth in this paragraph.

(1) Notice of intention to demolish shall be provided to the Administrator at least 20 days prior to commencement of such demolition or anytime prior to commencement of demolition subject to paragraph (d) (4) of this section.

Such notice shall include the following information:

(i) Name of owner or operator.

(ii) Address of owner or operator.

(iii) Description of the building, structure, facility, or installation to be demolished.

(iv) Address or location of the building, structure, facility or installation.

(v) Scheduled starting and completion dates of demolition.

(vi) Method of demolition to be employed.

(vii) Procedures to be employed to meet the requirements of this paragraph.

(2) The following procedures shall be used to prevent emissions of particulate asbestos material to outside air:

(i) Friable asbestos materials, used to insulate or fireproof any boiler, pipe, or load-supporting structural member, shall be wetted and removed from any building, structure, facility, or installation subject to this paragraph before wrecking of load-supporting structural members is commenced. The friable asbestos debris shall be wetted adequately to insure that such debris remains wet during all stages of demolition and related handling operations.

(ii) No pipe or load-supporting structural member that is covered with friable asbestos insulating or fireproofing material shall be dropped or thrown to the ground from any building, structure, facility, or installation subject to this paragraph, but shall be carefully lowered or taken to ground level.

(iii) No friable asbestos debris shall be dropped or thrown to the ground from any building, structure, facility, or installation subject to this paragraph or from any floor to any floor below. For buildings, structures, facilities, or installations, 50 feet or greater in height, friable asbestos debris shall be transported to the ground via dust-tight chutes or containers.

(3) Sources subject to this paragraph are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

(4) Any owner or operator of a demolition operation who intends to demolish a building, structure, facility, or installation to which the provisions of this paragraph would be applicable but which has been declared by proper State or local authority to be structurally unsound and which is in danger of imminent collapse is exempt from the requirements of this paragraph other than the reporting requirements specified by paragraph (d) (1) of this section and the wetting of friable asbestos debris as specified by paragraph (d) (3) (i) of this section.

§ 61.16 State authority.

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from:

(1) Adopting and enforcing any emission limiting regulation applicable to a stationary source, provided that such emission limiting regulation is not less stringent than the standards prescribed under this part.

(2) Requiring the owner or operator of a stationary source, other than a stationary source owned or operated by the United States, to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such source.

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3. Source Description - Briefly state the nature of the source (e.g., "Chlor-alkali Plant", or "Machine Shop").

C19 _____ C43

4. Alternative Mailing Address - Indicate an alternative mailing address if correspondence is to be directed to a location different than that specified above.

C44 _____ C63

 NUMBER STREET ADDRESS
 C64 _____ C77 C78 C79 D75 D79

 CITY STATE ZIP CODE

5. Compliance Status - The emissions from this source can cannot meet the emission limitations contained in the National Emission Standards on or before (date which is 90 days after the promulgation of the standards).

Signature of owner, operator or other responsible official

NOTE: If the emissions from the source will exceed those limits set by the National Emission Standards for Hazardous Air Pollutants, the source will be in violation and subject to Federal enforcement actions unless granted a waiver of compliance by the Administrator of the Environmental Protection Agency. The information needed for such waivers is listed in Section II of this form.

EPA USE ONLY G14 G15 G46 G53
 EP SCC

- B. PROCESS INFORMATION. Part B should be completed separately for each point of emission for each hazardous pollutant.

3

1. Process Description - Provide a brief description of each process (e.g., "hydrogen and box" in a mercury chlor-alkali plant, "grinding machine" in a beryllium machine shop). Use additional sheets if necessary.

G21 _____ G45

2. Pollutant Emitted - Indicate the type of hazardous pollutant emitted by the process. Indicate "AB" for asbestos, "BE" for beryllium, or "HG" for mercury.

G19 G20

3. Amount of Pollutant - Indicate the average weight of the hazardous material named in item 2 which enters the process in pounds per month (based on the previous twelve months of operation).

G54 _____ G60

4. Control Devices

- a. Indicate the type of pollution control devices, if any, used to reduce the emissions from the process (e.g., venturi scrubber, baghouse, wet cyclone) and the estimated percent of the pollutant which the device removes from the process gas stream.

H19 _____ H34 H51 H53
 PRIMARY CONTROL DEVICE TYPE PERCENT REMOVAL EFFICIENCY
 H35 _____ H50 H54 H56
 SECONDARY CONTROL DEVICE TYPE PERCENT REMOVAL EFFICIENCY

- b. Asbestos Emission Control Devices Only

1. If a baghouse is specified in item 4a give the following information:

- The air flow permeability in cubic feet per minute per square foot of fabric area:

Air flow permeability = _____ cfm/ft²

Date by which on-site construction or installation of emissio.
control equipment or process modification is to be completed.

L54 L59
[] [] [] 03
MONTH DAY YEAR

Date by which final compliance is to be achieved.

L54 L59
[] [] [] 04
MONTH DAY YEAR

Signature of owner or operator

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PPG INDUSTRIES, INC.
CARCINOGEN CONTROL PROGRAM

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PPG INDUSTRIES, INC.
CARCINOGEN CONTROL PROGRAM

I. INTRODUCTION

There are chemicals that have either been proved to be carcinogenic in man or have induced cancer in animals under experimental conditions. The purpose of this program is to protect the health of our employees, community, and neighbors from the hazards of contact with chemicals that are known to be carcinogenic.

II. POLICY

Appropriate measures will be taken to prevent the introduction of and, where already present, effect the elimination or control of all carcinogenic chemicals. No exposure of persons to carcinogenic chemicals shall be permitted by the respiratory, skin, or oral routes. Whenever and wherever the materials listed in the OSHA Emergency Temporary Standard on Certain Carcinogens are being used within the facilities of the corporation, a compliance program will be in force to assure compliance with this OSHA Standard and this Carcinogen Control Program.

III. RESPONSIBILITIES

The Vice President of Manufacturing of the Division has the responsibility for implementing the Carcinogen Control Program. The Divisional Director or Manager of Environmental Control is responsible to the Vice President to direct all Division activities pertaining to carcinogen control consistent with the protection of health, OSHA Standards, and policy and standards set by the Company and Division. The Company Medical Director will provide consultation to General Office and Facilities' Personnel responsible for the Carcinogen Control Program. The Facility's Manager has the responsibility for implementing the Carcinogen Control Program in the Facility. Other staff responsibilities required to implement the program are set forth below.

IV. OSHA-EMERGENCY TEMPORARY STANDARD ON CERTAIN CARCINOGENS

1. INTRODUCTION

A recent survey of company facilities indicated that some of the chemicals listed in this Standard in Paragraph (b)(1), were present in other than chemical laboratory quantities.

2. PARAGRAPH 1910.93c CARCINOGENS

The following is a reproduction of the entire Standard which is followed by comments and/or recommendations concerning PPG implementation on specific paragraphs of the Standard.

Title 29—Labor

CHAPTER XVII—OCCUPATIONAL SAFETY
AND HEALTH ADMINISTRATION, DE-
PARTMENT OF LABORPART 1910—OCCUPATIONAL SAFETY AND
HEALTH STANDARDSRevision of Emergency Temporary Standard
on Certain Carcinogens

On May 3, 1973, an emergency temporary standard on certain carcinogens was promulgated under section 6(c) of the Williams-Steiger Occupational Safety and Health Act of 1970 (38 FR 10929). The standard is based on the findings that the substances listed in the standard are harmful, that exposure to any of the substances poses a grave danger, that employees are being exposed to them, and that the emergency temporary standard is necessary to protect the employees from grave danger.

Since the publication of the standard, numerous comments, objections, and recommendations have been received. A whole range of issues has thus been raised. The finding that all the listed substances are harmful to humans has been questioned, as well as the wisdom of regulating on a common basis fourteen substances of varying properties and uses, and the necessity of all the requirements of the standard.

The emergency temporary standard has been reexamined in the light of the new comments and arguments. And it has been determined that certain changes in the standard are necessary to tailor the requirements for different types of workplaces and work operations, and to clarify the standard.

Therefore, pursuant to section 6(c) of the Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1596; 29 U.S.C. 655) and Secretary of Labor's Order No. 12-71 (36 FR 8754), 29 CFR 1910.93c is revised to read as set forth below.

The principal changes made by the revision are:

(1) The standard as revised deals more particularly with different work operations, such as isolated environment operations, closed system operations, and open vessel operations;

(2) The particularization of the standard has permitted the specification of different control measures necessary to protect employees engaged in the different categories of operations. Compare paragraph (c)(1) with paragraph (c)(2); and,

(3) The legend on the warning sign and label is changed to apprise employees more accurately of the hazards to which they are exposed. The original findings concerning the toxicity of all the fourteen substances listed in the standard, the grave danger resulting from exposure to any of them, and the exposure of employees to them, are reconfirmed. And the standard as revised is considered necessary and sufficient to protect employees from the grave danger from exposure to any of the substances.

§ 1910.93c Carcinogens.

(a) *Scope and application.* This section applies to any workplace in which a carcinogen is manufactured, processed, used, repackaged, released, handled or stored, but shall not apply to any workplace involving transshipment of carcinogens in sealed containers.

(b) *Definitions.* (1) "Carcinogen" means any of the substances listed below, or any mixture containing 1 percent or more of such substances, by weight.

Compound No.	Chemicals	Chemical abstract registry No.
1.....	2-Acetylaminofluorene.....	53063
2.....	4-Aminodiphenyl.....	92671
3.....	Benzidine (and its salts).....	92875
4.....	3,3'-Dichlorobenzidine (and its salts).....	91941
5.....	Dimethylaminoazobenzene.....	60117
6.....	alpha-Naphthylamine.....	134327
7.....	beta-Naphthylamine.....	91596
8.....	4-Nitrobiphenyl.....	92933
9.....	N-Nitrosodimethylamine.....	63759
10.....	beta-Propiolactone.....	57578
11.....	bis-Chloromethyl ether.....	542861
12.....	Methyl Chloromethyl ether.....	107302
13.....	4,4'-Methylene(bis)2-chloroaniline.....	101144
14.....	Ethyleneimine.....	151564

(2) "Controlled area" means an area to which access or egress by employees is required to be restricted and controlled by the employer under this section.

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

(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.

(5) "Closed system" means an operation or equipment involving a carcinogen where the containment precludes, under normal conditions, the exposure by any route of employees to a carcinogen.

(6) "Laboratory type hood" means a device enclosed on three sides, and the top and bottom, ventilated to withdraw air inward and away from the open side, designed and constructed in such a way that an operation involving a carcinogen within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(c) *Requirements for areas containing carcinogens.* A controlled area shall be established by the employer where a carcinogen is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated environment operations.* Where a carcinogen is contained within an isolated environment, such as a "glove box," employees working with such environments shall, upon each exit from

the area, be required to wash their hands and arms at the point of exit from the area containing the isolated environment.

(2) *Closed system operations.* Where a carcinogen is stored in sealed containers, or contained in a closed system, such as fully enclosed process or transfer equipment, including pipes, and sample ports or openings are not used while a carcinogen is contained within:

(i) Access to the controlled area shall be restricted to only employees who work in that area.

(ii) Upon entering the controlled area at the first entry of the work day employees shall be provided with and be required to put on and wear clean work clothing, such as smocks, coveralls, or long-sleeved shirt and long pants.

(iii) Such employees shall be required to remove and leave that clothing at the point of exit upon each exit from that area.

(iv) Such employees shall be required to wash hands and face upon each exit from that area, not necessarily at the point of exit, but in the establishment.

(v) Such employees shall be required to shower after last daily exit from that area, not necessarily at the point of exit, but in the establishment.

(3) *Closed system transfer or charging or discharging point operations.* In operations involving "laboratory type hoods," or in locations where a carcinogen is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers with venting to the atmosphere:

(i) Access to the controlled area shall be restricted to only employees who work in that area.

(ii) Continuous local exhaust ventilation shall be maintained to prevent the dispersion of the carcinogen to areas where employees could, without such ventilation, be exposed to the carcinogen.

(iii) Upon entering the controlled area at the first entry of the work day all employees shall be provided with and be required to put on and wear clean work clothing, such as smocks, coveralls or long-sleeved shirts and long pants.

(iv) Employees in the controlled area involved in carcinogen handling operations shall be provided with and be required to wear personal protective equipment adequate to prevent exposure to a carcinogen.

(v) Such employees shall be required to remove and leave that clothing at the point of exit upon each exit from that area.

(vi) Such employees shall be required to wash hands and face upon each exit from that area, not necessarily at the point of exit, but in the establishment.

(vii) Such employees shall be required to shower after last daily exit from that area, not necessarily at the point of exit.

(viii) Employees in the controlled area shall be required to remove and leave all protective equipment at the hood site or charging, discharging or transfer point after work at that site or point.

August 8, 1973

TO: HOLDERS OF PPG OCCUPATIONAL HEALTH POLICY MANUALS

SUBJECT: REVISION OF EMERGENCY TEMPORARY STANDARD ON CERTAIN CARCINOGENS
- PUBLISHED IN THE FEDERAL REGISTER, JULY 27, 1973

Attached is a copy of the subject revision. Please substitute this in Section 10.4, Paragraph IV.2. for the May 3, 1973, Standard, which it replaces. The principal changes made by the revision are that the revised Standard deals more particularly with different work operations, thereby permitting specification of different control measures in the different categories of operations; also, there are changes in the wording of signs and labels.



Lee B. Grant, M.D.
Medical Director

LBG:lc
Attachment

| BB 0002455 |

(4) *Open vessel operations.* Where a carcinogen is contained in a vessel open to the work environment:

(i) Access to the controlled area shall be restricted only to employees who work in the area.

(ii) Continuous local exhaust ventilation shall be maintained at such operation locations sufficient to prevent the dispersion of the carcinogen to areas where employees could, without such ventilation, be exposed to contact with the carcinogen.

(iii) Clean work clothing shall be provided to employees whenever they enter such a controlled area and shall be required to be worn by employees working in the controlled area. Such garments shall include footwear, socks, underwear, outerwear, and head covering.

(iv) Employees working in the controlled area shall be provided with and be required to wear personal protective equipment adequate to prevent exposure to a carcinogen.

(v) Employees working in the controlled area shall be required to remove and leave all work clothing and protective equipment at the point of exit from the controlled area, and shall shower at that point, upon each exit from the controlled area.

(vi) Toilet and drinking facilities may not be used in the controlled area.

(5) *Other Operations.* In operations involving the decontamination of surfaces containing a carcinogen, either as a part of cleanup of leaks or spills, maintenance or repair operations on systems or equipment, or any operation involving work in an area where direct contact with a carcinogen could result without protection, each employee entering an affected area where operations of that type are being performed shall:

(i) Be provided with a clean, full, impervious, pressurized, air-supplied suit;

(ii) Be required to put on the suit before entering the affected area and engaging in such operation;

(iii) Be required to wear the suit in such an area and during the operation;

(iv) Be decontaminated before leaving the area and before removing the suit; and

(v) Be required to shower after removing such suit.

(6) *"Out-of-doors operations."* In an operation described in paragraphs (c) (1) through (5) of this section that is out-of-doors, rather than being confined in an enclosed structure, general mechanical ventilation is not required.

(d) *General controlled area requirements.* In addition to the controlled area requirements for types of operations listed in paragraph (c) of this section the following requirements apply to all controlled areas.

(1) Each employer shall establish and maintain a list of employees entering a controlled area. The list shall be made available on request to authorized representatives of the Secretary of Labor.

(2) The employer shall provide all work clothing, protective clothing, equip-

ment and wash and shower supplies, including towels, required by this section.

(3) Any required shower rooms shall be provided in accordance with § 1910.141. Shower supplies may be introduced into a shower room only through a noncontaminated area.

(4) No food or beverage shall be permitted within a controlled area.

(5) No smoking or smoking materials or tobacco products shall be allowed within a controlled area.

(6) Appropriate instructions and signs shall be posted to inform employees of the procedures that must be followed in entering and leaving a controlled area.

(7) Any equipment, material, or any other items that are to be taken into or removed from a controlled area shall be taken in or removed from such area in a manner which does not contaminate any employees outside the controlled area.

(8) When only removal of outer clothing or personal protective equipment is required under paragraph (c) of this section at point of exit from a controlled area, an employee must be able, upon exit from the controlled area, to enter the change room, remove outer work garments and equipment and leave them in that room.

(9) When change and shower facilities are required under paragraph (c) of this section at point of exit from a controlled area, they shall be arranged so that upon exit, an employee must be able to enter a separate dirty change room where he can undress completely and leave every item of clothing and equipment. He must then be able to shower in an adjacent room which he can enter through an entrance designed to prevent the escape of carcinogens from the dirty change room to the shower room. Thereafter, he must be able to enter a clean change room where his street clothes are in his locker.

(10) When work area garments or protective clothing and equipment are required under paragraph (c) of this section to be worn in a controlled area, a clean change room must be provided so that before entering the controlled area the employee can change into clean work area garments or protective clothing and equipment in an area not containing contaminated or used work clothing or equipment and without passing through such a contaminated area to enter the controlled area. The clean change room shall have individual storage facilities for storage of street clothes and clean protective clothing and equipment.

(11) Continuous general mechanical exhaust ventilation shall be provided in controlled areas, or other positive means provided, so that air from the controlled area does not flow to non-controlled areas. Local exhaust ventilation may satisfy this requirement. Clean makeup air shall replace air removed.

(e) *Signs and labels.* (1) Entrances to controlled areas shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT

In this area

This agent may be hazardous to your health

AUTHORIZED PERSONNEL ONLY

For isolated environment operations, the sign shall be posted on or near the isolated environment structure.

(2) Equipment, material, and clothing contaminated with a carcinogen shall not be removed from a controlled area, unless it is either decontaminated or sealed in impervious containers bearing the legend:

DANGER

Contaminated with

CANCER-SUSPECT AGENT

This agent may be hazardous to your health

(3) Entrances to every controlled area for operations described in paragraph (c) (5) of this section shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT

EXPOSED IN THIS AREA

This agent may be hazardous to your health

FULL IMPERVIOUS PRESSURIZED AIR-SUPPLIED SUIT REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(f) *Cleaning.* Controlled areas involving open vessel operations or other operations, as described in paragraph (c) (4) and (5) of this section, shall be cleaned thoroughly not less than once each working day. Employees engaged in the cleaning shall be provided, and shall be required to wear, personal protective equipment adequate to prevent exposure to a carcinogen. Such employees shall be required to wash down carefully before removing protective equipment, and then shower.

(g) *Decontamination.* Decontamination processes shall be established and implemented to remove carcinogens on surfaces of equipment, materials, and the decontamination facility, that are known to be contaminated with a carcinogen.

(h) *Waste disposal.* Waste disposal methods and processes shall be established and implemented which do not permit carcinogens to be introduced into noncontrolled areas.

(i) *Medical surveillance programs.* Each employer subject to this section shall report in writing to the Occupational Safety and Health Administration, Office of Standards, Room 504, 400 First Street, NW., Washington, D.C. 20210, information as to any kind of medical surveillance program that has been voluntarily instituted by the employer.

(j) *Monitoring.* All employers subject to this section shall report in writing to the same office information as to the type of monitoring system that has been instituted.

(k) *Reporting.* Every employer subject to this section shall report in writing to the Occupational Safety and Health Administration, Office of Standards, the following information:

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(1) The address of each of his controlled areas;

(2) The name and other identifying information as to the particular carcinogens present in each of his controlled areas;

(3) The approximate number of employees entering each of his controlled areas during a representative week of normal operations in the controlled area; and

(4) The manner in which the carcinogens are present in each of his controlled areas, e.g., whether a carcinogen is manufactured, processed, used, repackaged, released, or otherwise handled.

Effective date. This section shall become effective on July 30, 1973.

(Sec. 6, Public Law 91-596, 84 Stat. 1593 (29 U.S.C. 655). Secretary's Order No. 12-71 (38 FR 8754))

Signed at Washington, D.C., this 24th day of July 1973.

JOHN STENDER,
Assistant Secretary of Labor.

[FR Doc.73-15510 Filed 7-26-73;8:45 am]

1 BB 0002457 1

PPG INDUSTRIES, INC.
POLICY ON REQUESTS FOR HEALTH HAZARD EVALUATIONS
UNDER O.S.H.A.

I. INTRODUCTION

The Code of Federal Regulations, Title 42, Part 85, Requests for Health Hazard Evaluations, was published November 6, 1972, and a copy is attached. The provisions of this Part 85 are applicable to requests submitted by any employer or authorized representative of employees pursuant to Section 20(a)(6) of the Occupational Safety and Health Act of 1970, for a determination of potentially toxic effects of any substance normally used or found in any place of employment to which the Act is applicable.

Since the effective date of the Act, PPG has initiated no such requests and only a few have been initiated by our employees. The industrial hygiene and occupational medical staff of PPG can provide the expertise which will eliminate the necessity of company-initiated requests. It is hoped that proper indoctrination of employees who may be exposed to an in-plant environmental health hazard should also preclude the necessity of our employees initiating such requests.

II. POLICY

No employee shall be permitted to work where he may be exposed to a recognized environmental health hazard without being thoroughly indoctrinated by medical, safety, and/or industrial hygiene personnel as to the nature of the hazard, control measures being employed, and what is required of him to protect his health. Such indoctrination shall be repeated at least annually.

BB 0002459

Any request for health hazard evaluation known to have been submitted by an employee or employee group under Part 85 will be brought to the immediate attention of the appropriate Divisional Director of Environmental Control. Whenever in his judgment it would be desirable and is possible, he will arrange to perform environmental surveys concurrently with those being done by NIOSH. The Plant Manager will be responsible for advising NIOSH of information or photographs which would compromise trade secrets.

enter without delay and at reasonable times any place of employment for which a request has been submitted, to inspect and investigate during regular working hours and at other reasonable times, and within reasonable limits and in a reasonable manner, any such place of employment, and all pertinent conditions, structures, machines, apparatus, devices, equipment, and materials therein as may be directly related to the determination whether any substance normally found in the place of employment for which a request has been submitted has potentially toxic effects in such concentrations as used or found. In connection with any such investigation, such NIOSH employees may question privately any employer, owner, operator, agent, or employee and review records required by the Act and regulations, and other related records.

(b) Areas containing information which is classified by any agency of the U.S. Government in the interest of national security will be inspected only by NIOSH employees who have obtained the appropriate security clearance.

§ 85.6 Advance notice of visits.

(a) Advance notice of visits to the place of employment may be given to expedite a thorough and effective investigation. Advance notice will not be given when, in the judgment of the NIOSH officer, giving such notice would adversely affect the validity and effectiveness of the investigation.

(b) Where a request in accordance with this part has been made by an authorized representative of employees, advance notice in accordance with paragraph (a)

this section will be given by NIOSH to the requester, the representative of the employees for purposes of collective bargaining if such representative is other than the requester, and to the employer.

(c) Where a request in accordance with this part has been made by any employer, advance notice will be given by NIOSH to the employer. Upon the request of the employer, NIOSH will inform the authorized representative of employees of the visit: *Provided*, The employer furnishes NIOSH in writing with the identity of such representative and with such information as is necessary to enable NIOSH promptly to inform such representative of the visit.

§ 85.7 Conduct of investigations.

(a) Prior to beginning an investigation, NIOSH officers shall present their credentials to the owner, operator, or agent in charge at the place of employment, explain the nature, purpose, and scope of the investigation and the records specified in § 85.5 which they wish to review. Where the investigation is the result of a request submitted by an authorized representative of employees, a copy of the request shall be provided to the employer, except where the requester or any person authorizing the requester pursuant to § 85.3(b)(4)(ii) has indicated that NIOSH not reveal his name to the employer, in which case, a summary of the basis for the request shall be provided to the employer.

(b) At the commencement of an investigation, the employer should precisely identify information which can be obtained in the workplace or workplaces to be inspected as trade secrets. If the NIOSH officer has no clear reason to question such identification, such information shall not be disclosed except in accordance with the provisions of section 20(a)(6) and section 15 of the Act. However, if NIOSH at any time questions such identification by an employer, not less than 15 days' notice to an employer shall be given of the intention to remove the trade secret designation from such information. The employer may within that period submit a request to the Director, NIOSH, to reconsider this intention and may provide additional information in support of the trade secret designation. The Director, NIOSH, shall notify the employer in writing of the decision which will become effective no sooner than 15 days after the date of such notice.

(c) NIOSH officers are authorized to collect environmental samples and samples of substances, to take or obtain photographs related to the purpose of the investigation, employ other reasonable investigative techniques, including medical examinations of employees with the consent of such employees, and to question privately any employer, owner, operator, agent, or employee. The employer shall have the opportunity to review photographs taken or obtained for the purpose of identifying those which contain or might reveal a trade secret.

(d) NIOSH officers shall comply with all safety and health rules and practices at the place of employment being investigated, and they shall provide and use appropriate protective clothing and equipment. In situations requiring specialized or unique types of protective equipment, such equipment shall be furnished by the employer.

(e) The conduct of investigations shall be such as to preclude unreasonable disruption of the operations of the employer's establishment.

§ 85.8 Provision of suitable space for employee interviews and examinations; identification of employees.

An employer shall, on request of the NIOSH officer, provide suitable space, if such space is reasonably available, to NIOSH to conduct private interviews with, and examinations of, employees. NIOSH officers shall consult with the employer as to the time and place of the medical examination and shall schedule such examinations so as to avoid undue disruption of the operations of the employer's establishment. NIOSH shall conduct, and assume the medical costs of, examinations conducted under this part.

§ 85.9 Representatives of employers and employees; employee requests.

(a) NIOSH officers shall be in charge of investigations. Where the request for a health hazard evaluation has been made by an authorized representative of employees, a representative of the employer and a representative authorized by his employees who is an employee of the employer shall be given an oppor-

tunity to accompany the NIOSH officer during the initial physical inspection of any workplace for the purpose of aiding the investigation by identifying the suspected hazard. The NIOSH officer may permit additional employer representatives and such additional representatives authorized by employees to accompany him where he determines that such additional representatives will further aid the investigation. However, if in the judgment of the NIOSH officer, good cause has been shown why accompaniment by a third party who is not an employee of the employer is reasonably necessary to the conduct of an effective and thorough investigation of the workplace, such third party may accompany the NIOSH officer during the inspection: *Provided, however*, That access by such persons to areas described in paragraph (d) of this section shall be in accordance with the requirements of such provision, and access to areas described in paragraph (e) of this section shall be with the consent of the employer. A different employer and employee representative may accompany the officer during each different phase of an inspection if this will not interfere with the conduct of the investigation.

(b) NIOSH officers are authorized to resolve all disputes as to who is the representative authorized by the employer and employees for the purpose of this section. If there is no authorized representative of employees, or if the NIOSH officer is unable to determine with reasonable certainty who is such representative, he shall consult with a reasonable number of employees concerning matters directly related to the health hazard evaluation.

(c) NIOSH officers are authorized to deny the right of accompaniment under this section to any person whose conduct interferes with a fair and orderly physical inspection.

(d) With regard to information classified by an agency of the U.S. Government in the interest of national security, only persons authorized to have access to such information may accompany an officer in areas containing such information.

(e) Upon request of an employer, any representative authorized under this § 85.9 by employees in any area containing trade secrets shall be an employee in that area or an employee authorized by the employer to enter that area.

§ 85.10 Imminent dangers.

Whenever, during the course of, or as a result of, an investigation under this part, the NIOSH officer believes that there is a reasonable basis for an allegation of an imminent danger, NIOSH will immediately advise the employer and those employees who appear to be in immediate danger of such allegation and will inform appropriate representatives of the Department of Labor or the State agency designated under section 18(b) of the Act.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

REQUEST FOR HEALTH HAZARD EVALUATION

This form is provided to assist in registering a request for a health hazard evaluation with the U.S. Department of Health, Education, and Welfare as provided in Section 20(a)(6) of the Occupational Safety and Health Act of 1970 and 42 CFR Part 85. (See Statement of Authority on Reverse Side).

Name of Establishment Where Alleged Hazard(s) Exist _____

Company { Street _____ Telephone _____
Address { City _____ State _____ Zip Code _____

1. Principal Company Activity _____
(manufacturing, construction, transportation, services, etc.)

2. Specify the particular building or worksite where the alleged hazard is located, including address _____

3. Specify the name and phone number of employer's agent(s) in charge. _____

4. Describe briefly the hazard(s) which exists by completing the following information:

Identification of Hazard or Toxic Substance(s) _____

Trade Name (If Applicable) _____ Chemical Name _____

Manufacturer _____ Does the material have a warning label? Yes _____ No _____

If Yes, attach copy of label or a copy of the information contained on the label.

Physical Form: Dust ☐ Gas ☐ Liquid ☐ Mist ☐ Other ☐

Type of Exposure? Breathing ☐ Swallowing ☐ Skin Contact ☐

Number of People Exposed _____ Length of Exposure (Hours/Day) _____

Occupations of Exposed Employees _____

5. Using the space below describe further the nature of the conditions or circumstances which prompted this request and other relevant aspects which you may consider important, such as the nature of the illness or symptoms of exposure, the concern for the potentially toxic effects of a new chemical substance introduced into the workplace, etc.

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CUMULATIVE SUPPLEMENT TO
JULY 1974 EDITION OF
NIOSH CERTIFIED PERSONAL PROTECTIVE EQUIPMENT

SEPTEMBER 1974

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Center for Disease Control
National Institute for Occupational Safety and Health
Morgantown, West Virginia 26505

BB 0002466

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¹This table of contents lists all entries in the July 1974 edition and this supplement. Items marked with an asterisk appear in this supplement.

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PREFACE

This cumulative supplement to the July 1974 publication, NIOSH CERTIFIED PERSONAL PROTECTIVE EQUIPMENT, lists approvals and certifications issued between July 18, 1974 and September 1, 1974.

A new table has been added, describing the pressure range and hose length range for each approved supplied-air respirator.

Comments on this publication, and requests for additional information, should be sent to the Director, Testing and Certification Laboratory, National Institute for Occupational Safety and Health, 944 Chestnut Ridge Road, Morgantown, WV 26505.

II. GAS DETECTOR TUBE UNITS

The following gas detector tube units have been approved by the National Institute for Occupational Safety and Health since July 18, 1974:

B. Gastec Model 400 Aspirating Pump (Bendix PN 2417535) has been certified for use with

8. Trichloroethylene - Model 132H gas detector tube, TC-84-038, August 9, 1974.

D. Kitagawa Model 400 Aspirating Pump has been certified for use with

8. Hydrogen Sulfide - Model 120b gas detector tube, TC-84-037, July 23, 1974.

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III. RESPIRATORY PROTECTIVE DEVICES

The following respiratory protective devices have been approved by the U.S. Department of the Interior, Bureau of Mines and the U.S. Department of Health, Education, and Welfare, National Institute for Occupational Safety and Health, since July 18, 1974.

Self-Contained Breathing Apparatus

18. SurvivAir[®] part numbers 9038-00, 9038-02, 9838-00, and 9838-02 demand-type one-half hour compressed-air self-contained breathing apparatus. Approval TC-13F-44, issued to SurvivAir Div., U.S. Divers Co., August 30, 1974.

19. SurvivAir[®] part numbers 9038-20, 9038-22, 9838-20, and 9838-22 pressure demand-type one-half hour compressed-air self-contained breathing apparatus. Approval TC-13F-45, issued to SurvivAir Div., U.S. Divers Co., August 30, 1974.

Supplied-Air Respirators

9. Scott catalog numbers 9616-11, -12, -15, -21, -22, and -25; and 4622-11, -12, -15, -21, -22, and -25 supplied-air respirators with 4266-15, 4265-25, and 4264-50 air-supply hose. Approval TC-19C-71, issued to Scott Aviation, August 20, 1974.

10. Scott catalog numbers 4616-18, -19, -28, and -29; and 4622-18, -19, -28, and -29 supplied-air respirators with 4259-15, 4258-25, and 4257-50 air-supply hose. Approval TC-19C-72, issued to Scott Aviation, August 20, 1974.

Dust, Fume, and Mist Respirators

16. A.O. R1050 single-use respirator for respiratory protection against pneumoconiosis and fibrosis-producing dusts. Approval TC-21C-147, issued to American Optical Corp., August 14, 1974.

17. Safeline 5350 single-use respirator for respiratory protection against pneumoconiosis and fibrosis-producing dusts. Approval TC-21C-148, issued to Safeline Products, August 14, 1974.

18. Scott part numbers 662-1 and 662-2 respirators (with 502-R filter) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M³, and radionuclides. Approval TC-21C-149, issued to Scott Aviation, August 20, 1974.

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Chemical-Cartridge Respirators

21. A.O. R5052 respirator (with R52 cartridges) for respiratory protection against not more than 10 parts per million chlorine, 50 parts per million hydrogen chloride, and 50 parts per million sulfur dioxide. Approval TC-23C-60, issued to American Optical Corp., August 14, 1974.

22. A.O. R6052 respirator (with R52 cartridges) for respiratory protection against not more than 10 parts per million chlorine, 50 parts per million hydrogen chloride, and 50 parts per million sulfur dioxide. Approval TC-23C-61, issued to American Optical Corp., August 14, 1974.

23. Safeline 5221 respirator (with 5963 cartridges) for respiratory protection against not more than 10 parts per million chlorine, 50 parts per million hydrogen chloride, and 50 parts per million sulfur dioxide. Approval TC-23C-62, issued to Safeline Products, August 14, 1974.

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TABLES FOR IDENTIFICATION
OF APPROVED COMPONENT PARTS

Table III-1. Self-contained breathing apparatus component parts, by approval number.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-13F-44	SurvivAir Div., U.S. Divers Co.	9038-00, 9038-02, 9838-00, 9838-02,	9411-12 or 9413-20, facepiece. 9118-00, regulator. 9602-47, low-pressure warning. 9151-45, cylinder and valve assembly. 9457-00, back-pack assembly.
TC-13F-45	SurvivAir Div., U.S. Divers Co.	9038-20, 9038-22, 9838-20, 9838-22	9411-60 or 9413-60, facepiece. 9118-01, regulator. 9602-47, low-pressure warning. 9151-45, cylinder and valve assembly. 9457-00, back-pack assembly.

Table III-3. Supplied-air respirators component parts, by approval number.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-19C-72	Scott Aviation	4616-18, -19, -28, and -29 4622-18, -19, -28, and -29	742 or 4704, facepiece. 6119, breathing tube. 4199 or 4199-1, flow control valve and cartridge assembly. 4225, air-supply hose.
TC-19C-73	Scott Aviation	4616-11, -12, -15, -21, -22, and -25 4622-11, -12, -15, -21, -22, and -25	742 or 4704, facepiece. 6119, breathing tube. 4196 or 4196-1, flow control valve and cartridge assembly. 4286, air-supply hose.

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Table III-4. Dust, fume, and mist respirators component parts, by approval number.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-21C-147	American Optical Corp.	R1050	R1050, respirator assembly.
TC-21C-148	Safeline Products	5350	5350, respirator assembly.
TC-21C-149	Scott Aviation	662-1 and 662-2	805 or 742, facepiece. 502-R, filter.

Table III-5. Chemical-cartridge respirators component parts, by approval number.

Approval number	Approval issued to	Respirator number(s)	Component parts, number(s) and description
TC-23C-60	American Optical Corp.	R5052	50206, basic respirator subassembly.
TC-23C-61	American Optical Corp.	R6052	51071, basic respirator subassembly.
TC-23C-62	Safeline Products	5221	05862, basic respirator subassembly. 5963, cartridges.

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PRESSURE RANGES AND HOSE-LENGTH RANGES FOR APPROVED
SUPPLIED-AIR RESPIRATORS

Approval number	Respirator(s)	Hose-length range, feet	Pressure range, psi
TC-19C-64	Casco PI-800	15	5 - 17
TC-19C-64	U.S. Safety Services PI-80	15	5 - 17
TC-19C-65	SurvivAir ^R 9011-12, 9811-12	4 - 250	50 - 125
TC-19C-66	SurvivAir ^R 9011-14, 9811-14	4 - 250	50 - 125
TC-19C-67	SurvivAir ^R 9011-13, 9811-13	4 - 250	50 - 125
TC-19C-68	SurvivAir ^R 9011-15, 9811-15	4 - 250	50 - 125
TC-19C-69	3M W-810, W-840, W-856, W-858, W-870	25 - 300	50 - 90
TC-19C-70	3M W-820, W-880, W-881, W-888, W-890	25 - 100	65 - 90
TC-19C-71	Scott 4616-18, -19, -28, -29; and 4622-18, -19, -28, -29	6 - 16	15 - 50
		16 - 22	50 - 250
TC-19C-72	Scott 4616-11, -12, -15, -21, -22, -25; and 4622-11, -12, -15, -21, -22, -25	12 - 25	15 - 50
		25 - 40	50 - 250

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ADDENDA: NIOSH CERTIFIED PERSONAL PROTECTIVE EQUIPMENT, SEPTEMBER 1974

The following respiratory protective devices were approved by the Bureau of Mines and the National Institute for Occupational Safety and Health between September 1, 1974 and September 20, 1974:

Dust, Fume, and Mist Respirators

19. MSA® part numbers 88479 and 457117 respirators (with part number 88480 filter) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M³, and radionuclides. Approval TC-21C-150, issued to Mine Safety Appliances Co., September 9, 1974.
20. Welsh 7506 respirator (with 7500-6 filters) for respiratory protection against dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf and asbestos-containing dusts and mists. Approval TC-21C-151, issued to Welsh, A Textron Co., September 11, 1974.
21. Welsh 7580 respirator (with 7500-8 filters) for respiratory protection against dusts, fumes, and mists having a time-weighted average less than 0.05 mg/M³, and radionuclides. Approval TC-21C-152, issued to Welsh, A Textron Co., September 11, 1974.

Chemical-Cartridge Respirators

24. Welsh 7504 respirator (with 7500-4 cartridges) for respiratory protection against not more than 300 parts per million of ammonia. Approval TC-23C-63, issued to Welsh, A Textron Co., September 11, 1974.
25. Welsh 7514 respirator (with 7500-4 cartridges and 7500-6 filters) for respiratory protection against not more than 300 parts per million of ammonia, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-64, issued to Welsh, A Textron Co., September 11, 1974.
26. Welsh 7503 respirator (with 7500-3 cartridges) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide. Approval TC-23C-65, issued to Welsh, A Textron Co., September 11, 1974.
27. Welsh 7513 respirator (with 7500-3 cartridges and 7500-6 filters) for respiratory protection against not more than 1,000 parts per million organic vapors, 10 parts per million chlorine, 50 parts per million hydrogen chloride, or 50 parts per million sulfur dioxide, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-66, issued to Welsh, A Textron Co., September 11, 1974.

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28. Willson 1222 respirator (with R22 cartridges) for respiratory protection against not more than 10 parts per million chlorine. Approval TC-23C-67, issued to Willson Products Div., ESB Inc., September 11, 1974.
29. Willson 122210 respirator (with R22 cartridges and R10 filters) for respiratory protection against not more than 10 parts per million chlorine, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-68, issued to Willson Products Div., ESB Inc., September 11, 1974.
30. Willson 1223 respirator (with R23 cartridges) for respiratory protection against not more than 50 parts per million sulfur dioxide. Approval TC-23C-69 issued to Willson Products Div., ESB Inc., September 11, 1974.
31. Willson 1224 respirator (with R24 cartridges) for respiratory protection against not more than 300 parts per million ammonia or 100 parts per million methyl amine. Approval TC-23C-70, issued to Willson Products Div., ESB Inc., September 11, 1974.
32. Willson 122410 respirator (with R24 cartridges and R10 filters) for respiratory protection against not more than 300 parts per million ammonia, 100 parts per million methyl amine, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-71, issued to Willson Products Div., ESB Inc., September 11, 1974.
33. Willson 122310 respirator (with R23 cartridges and R10 filters) for respiratory protection against not more than 50 parts per million sulfur dioxide, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-72, issued to Willson Products Div., ESB Inc., September 11, 1974.
34. Welsh 7511 respirator (with 7500-1 cartridges and 7500-6 filters) for respiratory protection against not more than 1,000 parts per million organic vapors, dusts and mists having a time-weighted average not less than 0.05 mg/M³ or 2 mppcf, and asbestos-containing dusts and mists. Approval TC-23C-73, issued to Welsh, A Textron Co., September 11, 1974.

Tables for identification of component parts of the respirators listed in the addenda will be included in the next cumulative supplement.

BB 0002475



PPG INDUSTRIES, INC./1000 RIDC PLAZA/BLAWNOX, PA. 15238/P. O. BOX 2811/PITTSBURGH, PA. 15230/AREA 412/782-6700

J. T. DESTEFANO, Manager
Environmental Control, Glass Division

July 17, 1975

To: All Holders of OHPM

Subject: Respirator Use

It is the intent of the Glass Division to comply with all legal requirements for respirator use. It is therefore stated that all respirators used in the division will be NIOSH approved for contaminant present.

All OSHA regulations promulgated contain a section on respirator applications; these regulations will be followed regarding type of respirator; i.e., chemical cartridge, air supplied, etc. The actual respirator unit will be specified by the plant environmental control engineer in consultation with the Glass Division Industrial Hygienist.

The plant respirator program will then be implemented by incorporating medical examinations, employee education and respirator use inspections.

A handwritten signature in dark ink, appearing to read 'R. L. Rubino', written in a cursive style.

R. L. Rubino
Industrial Hygienist

RLR/lis

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RESPIRATORS APPROVED BY THE BUREAU OF MINES
AS OF MAY 24, 1972

A Revision of Information Circular 8436

by

E. J. Kloos¹ and R. H. Schutz²

ABSTRACT

This publication lists devices approved jointly by the Secretary of Interior and the Secretary of Health, Education, and Welfare, as of May 24, 1972, under provisions of Section 11.2, Part 11, Subchapter B of Chapter 1, Title 30, Code of Federal Regulations (37 F.R. 6244, March 25, 1972), for use in mines as respiratory protection in oxygen-deficient atmospheres, and in gases, vapors, dusts, fumes, and mists. Included are self-contained breathing apparatus, gas masks, and supplied-air, dust, fume, mist, and chemical-cartridge respirators. Names and addresses of manufacturers appear in the appendix.

INTRODUCTION

This Bureau of Mines publication, a revision of Information Circular 8436,³ lists respirators approved by the Bureau as of May 24, 1972. The Secretary of Interior and the Secretary of Health, Education, and Welfare have generally restricted use of respirators in hazardous mine atmospheres to those most recently approved (Section 11.2, Part 11, Subchapter B of Chapter 1, Title 30, Code of Federal Regulations, 37 F.R. 6244, March 25, 1972). The newer devices are usually more efficient and comfortable than older approved devices. Therefore, only those respirators approved under Bureau of Mines Schedules 14F for gas masks, 19B for supplied-air respirators, 21B for dust, fume, and mist respirators, and 23B for chemical cartridge respirators are listed. An exception has been made only for self-contained breathing apparatus: All breathing apparatus approved under Schedules 13 through 13E are listed.

¹Research chemist.

²Supervisory research chemist (now Director, Testing and Certification Laboratory, National Institute for Occupational Safety and Health, Department of Health, Education, and Welfare, Morgantown, W. Va.).

³Schutz, R. H., and E. J. Kloos. Respiratory Protective Devices Approved by the Bureau of Mines as of December 31, 1968. A Revision of Information Circular 8281. BuMines Inf. Circ. 8436, 1969, 32 pp.

SELF-CONTAINED BREATHING APPARATUS

Apparatus	Approval No.	Breathing gas source	Approved service life	Type of apparatus
M-S-A Cat. No. 70001 McCas.....	1303	Compressed oxygen	2 hours...	Closed circuit.
M-S-A Cat. Nos. 48439 and 458313.....	1303S	do.....	do....	Do.
M-S-A Chemox Cat. Nos. 96578 and 458310..	1307	Oxygen-generating canister.	1 hour....	Do.
Scott Air-Pak Model No. 6000A2MS.....	1308	Compressed air...	1/2 hour..	Open-circuit demand.
Scott Air-Pak Model No. 6000A2MSP.....	1308, 13D-08	do.....	do....	Open-circuit demand and pressure-demand.
Scott Air-Pak I Model No. 900000 series..	13D-08, 13E-08	do.....	do....	Open-circuit demand.
Scott Air-Pak II Model No. 900014 series.	13D-08, 13E-08	do.....	do....	Open-circuit demand and pressure-demand.
M-S-A Cat. No. 95766.....	13D-10	do.....	do....	Open-circuit demand.
M-S-A Cat. Nos. 93181 and 95767.....	13D-10	do.....	do....	Open-circuit pressure-demand.
M-S-A Cat. Nos. 95066 and 457153.....	13E-10	do.....	do....	Open-circuit demand.
M-S-A Cat. No. 95069.....	13E-10	do.....	do....	Open-circuit pressure-demand.
Globe Guardsman part Nos. 2275-2GA and 2295-2GA.	13D-11	do.....	do....	Open-circuit demand.
Globe Guardsman part No. 2526-2.....	13E-11	do.....	do....	Do.
U.S. Divers Model No. 9030.....	13D-12	do.....	do....	Do.
U.S. Divers Model No. 9030-20.....	13D-12	do.....	do....	Open-circuit demand and pressure-demand.
Aro Models LP-1-A and LPA.....	13D-14	Liquid air.....	2 hours...	Open-circuit pressure-demand.
Aro Models LP-1-0 and LPO.....	13D-15	Liquid oxygen...	do....	Do.
Drager BG-174.....	13D-16	Compressed oxygen	do....	Closed circuit.
M-S-A Cat. No. 95063.....	13E-21	Compressed air...	1/2 hour..	Open-circuit pressure-demand.
Scott part Nos. 900002 and 9000015.....	13E-22	do.....	15 minutes	Open-circuit demand and pressure-demand.
M-S-A Cat. No. 96359.....	13E-23	do.....	10 minutes	Open-circuit pressure-demand; combination escape apparatus and Type C supplied-air respirator.
U.S. Divers Model No. 9038.....	13E-24	do.....	1/2 hour..	Open-circuit demand.
U.S. Divers Model No. 9038-20.....	13E-24	do.....	do....	Open-circuit demand and pressure-demand.
Scott part No. 900050.....	13E-25	Compressed oxygen	4 hours...	Closed circuit.
Drager BG-174A.....	13E-26	do.....	3 hours...	Do.

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RESPIRATORS APPROVED BY THE BUREAU
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M-S-A 84871, 86201, 86202, 86173, 457083, and 457080....	14F-60	-	X	-	-	-	-	-	-	-	-	X	-
M-S-A 84879, 84893, 84885, 86225, 86226, 457069, 457087, and 457067.....	14F-61	-	-	-	X	X	-	-	X	-	-	X	-
M-S-A 84873, 86203, 86204, 86174, 457084, and 457079....	14F-62	-	-	X	-	-	-	-	-	-	-	X	-
M-S-A 86178, 86113, 86115, 86229, 86230, 457073, 457088, and 457132.....	14F-63	-	-	X	-	-	-	-	-	-	-	X	-
M-S-A 86176, 86109, 86111, 86227, 86228, 457071, 457089, and 457068.....	14F-64	X	-	-	-	X	-	-	-	-	-	X	-
M-S-A 84877, 86207, and 86208.....	14F-65	X	-	-	-	X	-	X	-	X	-	X	-
M-S-A "All Service".....	14F-65A	X	-	-	-	X	-	X	-	X	-	X	-
M-S-A 86217, 86209, and 86210.....	14F-66	X	-	-	-	X	-	X	-	X	-	X	X
M-S-A 86218, 86211, 86212, 85859, 457076, and 457074....	14F-66A	X	-	-	-	X	-	X	-	X	-	X	X
Willson WLG, WLGW, and TLGW (LG10).....	14F-68	-	-	-	-	X	-	-	X	-	-	-	-
Willson WLG, WLGW, and TLGW (LG10G).....	14F-69	-	-	-	-	X	-	-	X	-	-	X	X
Acme 688-1.....	14F-70	-	-	-	-	X	-	-	X	-	-	X	X
Welsh 7811 and 7811T.....	14F-71	-	-	-	-	X	-	-	-	-	-	X	-
Pulmosan 1806.....	14F-72	-	X	-	-	-	-	-	-	-	-	-	-
Pulmosan 1803.....	14F-73	-	-	-	-	-	-	X	-	-	-	-	-
Pulmosan 1801F.....	14F-74	-	-	-	-	X	-	-	-	-	-	X	-
Scott/Acme 691-1, 691-2, and 691-1-P.....	14F-75	X	-	-	-	X	-	-	-	-	-	-	-
M-S-A Self-Rescuer W-65.....	14F-76	-	-	-	-	-	-	-	-	X	-	-	-
Scott/Acme 184-CL and 184-CL-W.....	14F-77	-	X	-	-	-	-	-	-	-	-	-	-
Welsh 7831 and 7831T.....	14E-78	X	-	-	-	X	-	X	-	X	-	X	-
Welsh 7832 and 7832T.....	14E-79	X	-	-	-	X	-	X	-	X	-	X	-
Drager Self-Rescuer No. 810..	14F-80	-	-	-	-	-	-	-	-	X	-	-	-
Scott/Acme Self-Rescuer 8164..	14F-81	-	-	-	-	-	-	-	-	X	-	X	-

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CONTINUOUS-FLOW, SUPPLIED-AIR RESPIRATORS

Respirator	Approval No.	Pressure range, psi	Half-mask	Full facepiece	Hood or helmet
Sly "Purair" helmet.....	19B-11	3-5	-	-	X
Willson GA2, GA8, GAF, GAFW, and TAFW..	19B-12	10-25	X	X	-
Willson GA2H, GAHW, and TAHW.....	19B-30	40-100	X	X	-
Scott-Acme 4615-1, 4616-1, 4615-3, and 4616-3.....	19B-31	8-17/17-30	X	X	-
M-S-A 82554, 82254, 82597, and 82584...	19B-32	12-16	-	-	X
M-S-A 84612 and 84535.....	19B-33	40-100	X	X	-
M-S-A 84535, 84612, 87058, 87043, and 457161.....	19B-34A	40-100	X	X	-
M-S-A 457162, 93520, 93516, 93513, and 93524.....	19B-34B	10-15	X	X	-
Chicago Eye Shield Nos. 603 RH, RS, and RG.....	19B-35	15-35	-	-	X
M-S-A 87071.....	19B-37A	40-100	X	-	-
M-S-A 93521 and 93522.....	19B-37B	10-15	X	-	-
M-S-A 93518, 93527, and 93530.....	19B-38	10-15	-	X	-
M-S-A 87963, 87964, and 87965.....	19B-38A	40-100	-	X	-
M-S-A 84304, 82289, 88377, and 88376...	19B-41	10-15	-	X	X
M-S-A 84304, 82289, 88376, 88377, and 84536.....	19B-41A	40-100	-	X	X
Pulmosan AL-180 and HA-99.....	19B-44	20-25	-	X	X
Rite Hardware 460-15.....	19B-48	12-20	-	-	X
M-S-A 72662, 34727, 34728, 94494, and 450168.....	19B-52	16-22	-	X	X
M-S-A 94861, 94862, 94863, and 94864...	19B-53	15-20	-	-	X
A. O. R6099.....	19B-54	8.5-25	X	-	-
Personal Environment Systems 810, 858, 870, and 856.....	19B-56	25-35	-	-	X
Bullard 46-S, 46-D, 36-L, 36-LD, 77-S, and 77-D.....	19B-57	80-95	-	-	X
Personal Environment Systems 820, 880, 888, and 881.....	19B-58	60-80	-	-	X
Personal Environment Systems 920, 980, 988, and 981.....	19B-59	60-80	-	-	X
A. O. ASH series.....	19B-60	10-60	-	-	X
Safeline 7501-7511 series.....	19B-61	10-60	-	-	X
Safeline 5775.....	19B-63	8.5-25	X	-	-

HOSE MASKS, SUPPLIED-AIR RESPIRATORS

Respirator	Approval No.	Hose length	Half-mask	Full facepiece	Hood or helmet
M-S-A type B 457623	19B-62	75 ft	-	X	-

DUST, FUME, AND MIST RESPIRATORS--Continued

Respirator	Approval No.	Protection afforded in addition to dusts			
		Mists	Fumes	Radio-nuclides	Radon daughters
A. O. 1040.....	21B-107	X	-	-	-
Safeline 5340.....	21B-108	X	-	-	-
North RP-161.....	21B-109	-	-	-	-
Willson 1210.....	21B-110	X	-	-	-
Willson 1211.....	21B-111	X	X	-	-
M-S-A 76869.....	21B-113	X	-	-	-
Welsh 7100.....	21B-114	X	-	-	-
Scott/Acme 8101-R.....	21B-115	X	X	X	-
Scott/Acme 659-1, 662-1, 662-2, and 652-1 with 502R filter.....	21B-116	X	X	X	-
Welsh 7406.....	21B-117	-	-	-	-
Welsh 7506.....	21B-118	X	-	-	-
M-S-A 86430 and 94688.....	21B-119	X	-	-	-
M-S-A Peru.....	21B-120	X	-	-	-
Willson 560.....	21B-121	X	-	-	-
M-S-A 456608.....	21B-122	X	-	-	-
M-S-A 456607.....	21B-123	X	-	-	-
North RP-162.....	21B-124	X	-	-	-
A. O. 8190.....	21B-125	X	X	-	X
Safeline 5540.....	21B-126	X	X	-	X
A. O. 8157.....	21B-127	X	X	X	-
Safeline 5557.....	21B-128	X	-	-	-
Welsh 7165.....	21B-129	-	-	-	-
M-S-A 459059.....	21B-130	X	X	X	-
Pulmosan C-263 with 10924 face cushion.....	21B-131	X	X	X	-

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CHEMICAL CARTRIDGE RESPIRATORS--Continued

Respirator	Approval No.	Approved for protection against inhalation of organic vapors and--					
		Pneumo- coniosis- producing dusts	Toxic dusts	Pneumo- coniosis- producing mists	Toxic mists	Toxic fumes	Mists of paints, lacquers, and enamels
Bausch & Lomb 5R2110	23B-25	X	X	X	X	-	-
A. O. 8155.....	23B-26	X	X	X	X	-	-
Glendale GR 2021-20.	23B-27	-	-	-	-	-	X
Bausch & Lomb 5R2120	23B-27	-	-	-	-	-	X
Scott/Acme 8201-OV..	23B-28	-	-	-	-	-	-
Scott/Acme 8101-OV..	23B-29	-	-	-	-	-	-
Safeline 5551.....	23B-30	-	-	-	-	-	-
Safeline 5555.....	23B-31	X	X	X	X	-	-
A. O. R8151P.....	23B-32	X	X	X	X	-	X
Safeline 5560.....	23B-32	X	X	X	X	-	X
A. O. R8191P.....	23B-33	X	X	X	X	-	X
Safeline 5521.....	23B-33	X	X	X	X	-	X
A. O. R8175P.....	23B-34	X	X	X	X	-	X
Willson 1221.....	23B-35	-	-	-	-	-	-
Willson 122110.....	23B-36	X	X	X	X	-	-
Willson R122113.....	23B-37	X	X	X	X	X	-
Willson R122114.....	23B-38	-	-	-	-	-	X
Scott/Acme 8176.....	23B-39	-	-	-	-	-	X

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SECTION 50 - HAZARDOUS MATERIALS

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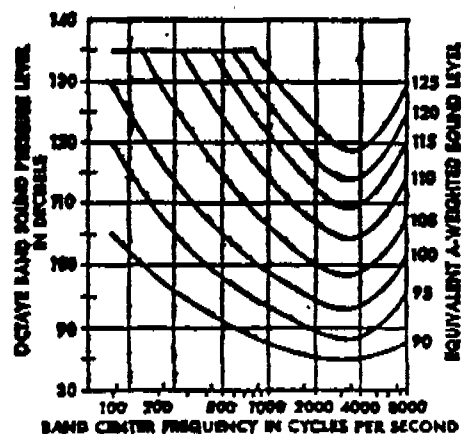
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§ 1910.95 Occupational noise exposure.

(a) Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table G-16 when measured on the A scale of a standard sound level meter at slow response. When noise levels are determined by octave band analysis, the equivalent A-weighted sound level may be determined as follows:

Figure G-1



Equivalent sound level contours. Octave band sound pressure levels may be converted to the equivalent A-weighted sound level by plotting them on this graph and noting the A-weighted sound level corresponding to the point of highest penetration into the sound level contours. This equivalent A-weighted sound level, which may differ from the actual A-weighted sound level of the noise, is used to determine exposure limits from Table LG-16.

(b) (1) When employees are subjected to sound exceeding those listed in Table

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Subpart G—Occupational Health and Environmental Control

§ 1910.93 Air contaminants.

An employee's exposure to any material listed in table G-1, G-2, or G-3 of this section shall be limited in accordance with the requirements of the following paragraphs of this section.

(a) Table G-1:

(1) *Materials with names preceded by "C"—Ceiling Values.* An employee's exposure to any material in table G-1, the name of which is preceded by a "C" (e.g., C Boron trifluoride), shall at no time exceed the ceiling value given for that material in the table.

(2) *Other materials—8-hour time weighted averages.* An employee's exposure to any material in table G-1, the name of which is not preceded by "C", in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average given for that material in the table.

(b) Table G-2:

(1) *8-hour time weighted averages.* An employee's exposure to any material listed in table G-2, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that material in the table.

(2) *Acceptable ceiling concentrations.* An employee's exposure to a material listed in table G-2 shall not exceed at any time during an 8-hour shift the acceptable ceiling concentration limit given for the material in the table, except for a time period, and up to a concentration not exceeding the maximum duration and concentration allowed in the column under "acceptable maximum peak above the acceptable ceiling concentration for an 8-hour shift".

(3) *Example.* During an 8-hour work shift, an employee may be exposed to a concentration of Benzene above 25 p.p.m. (but never above 50 p.p.m.) only for a maximum period of 10 minutes. Such exposure must be compensated by exposures to concentrations less than 10 p.p.m. so that the cumulative exposure for the entire 8-hour work shift does not exceed a weighted average of 10 p.p.m.

(c) Table G-3: An employee's exposure to any material listed in table G-3, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that material in the table.

(d) Computation formulas:

(1) (i) The cumulative exposure for an 8-hour work shift shall be computed as follows:

$$E = \frac{C_1 T_1 + C_2 T_2 + \dots + C_n T_n}{8}$$

where:

E is the equivalent exposure for the working shift.

C is the concentration during any period of time T where the concentration remains constant.

T is the duration in hours of the exposure at the concentration C.

The value of E shall not exceed the 8-hour time weighted average limit in table

TABLE G-1—Continued

Substance	p.p.m.*	mg./g†
Ethanolthiol, see Ethylmercaptan		
Ethanolaniline	3	6
2-Ethoxyethanol—Skin	200	740
2-Ethoxyethylacetate (Cellosolve acetate)—Skin	100	540
Ethyl acetate	400	1,400
Ethyl acrylate—Skin	25	100
Ethyl alcohol (ethanol)	1,000	1,000
Ethylamine	10	18
Ethyl sec-amyyl ketone (5-methyl-3-heptanone)	25	120
Ethyl benzene	100	435
Ethyl bromide	200	890
Ethyl butyl ketone (5-Heptanone)	80	230
Ethyl chloride	1,000	2,600
Ethyl ether	400	1,200
Ethyl formate	180	800
O-Ethyl mercaptan	10	25
Ethyl silicate	100	800
Ethylene chlorohydrin—Skin	5	25
Ethylene diamine	10	25
Ethylene dibromide, see 1,2-Dibromoethane		
Ethylene dichloride, see 1,2-Dichloroethane		
O-Ethylene glycol dinitrate and/or Nitroglycerin—Skin	0.5	1
Ethylene glycol monomethyl ether acetate, see Methyl cellosolve acetate		
Ethyleneimine—Skin	0.5	1
Ethylene oxide	50	90
Ethylidene chloride, see 1,1-Dichloroethane		
N-Ethylmorpholine—Skin	20	94
Formal		15
Formaldehyde dust		1
Fluoride (as F)		2.5
Fluorine	0.1	0.2
Fluorochloroformethane	1,000	4,000
Formic acid	5	9
Furfural—Skin	5	20
Furfuryl alcohol	80	200
Glycidol (3,2-Epoxy-1-propanol)	80	180
Glycol monomethyl ether, see 2-Ethoxyethanol		
Guthion ®, see Asinaphthylmethyl		
Hydrazine		0.5
Hydrochloric—Skin		0.5
Heptane (n-heptane)	500	2,000
Hexachloroethane—Skin	1	10
Hexachlorocyclopentadiene—Skin		0.2
Hexane (n-hexane)	500	1,000
2-Hexanone	100	410
Hexone (Methyl isobutyl ketone)	180	610
sec-Hexyl acetate	50	300
Hydrazine—Skin	1	1.5
Hydrogen bromide	3	10
C-Hydrogen chloride	5	7
Hydrogen cyanide—Skin	10	11
Hydrogen peroxide (30%)	1	1.4
Hydrogen selenide	0.05	0.2
Hydroquinone		2
C-Iodine	0.1	1
Iron oxide fume		10
Isocamyl acetate	100	525
Isocamyl alcohol	100	200
Isobutyl acetate	180	700
Isobutyl alcohol	100	300
Isophorone	25	160
Isopropyl acetate	250	900
Isopropyl alcohol	400	980
Isopropylamine	5	12
Isopropylether	870	2,700
Isopropyl glycidyl ether (IGER)	80	240
Ketene	0.5	0.9
Lead acetate		0.15
Lindane—Skin		0.5
Lithium hydride		0.025
L. F. G. (Liquified petroleum gas)	1,000	1,000
Magnesium oxide fume		15
Malathion—Skin		15
Maleic anhydride	0.25	1
C-Manganese		5
Mesityl oxide	25	100
Methanethiol, see Methyl mercaptan		
Methoxyalcohol		15
2-Methoxyethanol, see Methyl cellosolve		
Methyl acetate	200	610
Methyl acetylene (propyne)	1,000	1,000
Methyl acetylenecyclopropane mixture (P.P.)	1,000	1,000
Methyl acetate—Skin	10	25
Methylal (dimethoxyethane)	1,000	2,100
Methyl alcohol (methanol)	200	270
Methylamine	10	12
Methyl amyl alcohol, see Methyl isobutyl carbino		

TABLE G-1—Continued

Substances	P.P.M.	mg./lit.
Methyl (acetyl) ketone (C- Hexanone)	100	405
O Methyl isomide-Skin	20	80
Methyl butyl ketone, see 2- Hexanone		
Methyl cellosolve-Skin	25	50
Methyl cellosolve acetate-Skin	75	150
Methyl chloroform	350	1,900
Methylcyclohexane	500	2,000
Methylcyclohexanol	100	475
o-Methylcyclohexanone-Skin	100	480
Methyl ethyl ketone (M.E.K.), see 2-Butanone		
Methyl formate	100	350
Methyl isobutyl-Skin	5	25
Methyl isobutyl carbinol-Skin	25	100
Methyl isobutyl ketone, see Hexone		
Methyl isocyanate-Skin	0.02	0.05
O Methyl mercaptan	10	30
Methyl methacrylate	100	470
Methyl propyl ketone, see 2- Pentanone		
O α Methyl styrene	100	480
O Methyl vinyl bisphenyl isocyanate (MDI)	0.02	0.2
Molybdenum:		
Soluble compounds		5
Insoluble compounds		15
Monomethylamine-Skin	2	9
O Monomethylhydrazine- Skin	0.2	0.35
Morpholine-Skin	30	70
Naphthalene (crystal)	100	400
Naphthalene	10	50
Nickel carbonyl	0.001	0.007
Nickel, metal and soluble compds, as Ni		1
Nicotine-Skin		0.5
Nitric acid	2	5
Nitric oxide	25	30
p-Nitroaniline-Skin	1	4
Nitrobenzene-Skin	1	5
p-Nitrochlorobenzene-Skin		1
Nitroethane	100	310
Nitrogen dioxide		5
Nitrogen trichloride	10	50
Nitroglycerin-Skin	0.2	5
Nitromethane	100	350
1-Nitropropane	25	50
2-Nitropropane	25	50
Nitrotoluene-Skin	5	30
Nitrotrichloromethane, see Chloroform		
Octachlorocyclopentane-Skin		0.1
Octane	500	2,500
Oil misc. mineral		5
Octonum tetraoxide		0.005
Oxalic acid		0.1
Oxygen difluoride	0.05	0.2
Ozone	0.1	0.5
Paracetamol-Skin		0.1
Parathion-Skin		0.1
Parathion	0.005	0.01
Pentachlorophthalene-Skin		0.5
Pentachlorophthalic-Skin		0.5
Pentane	1,000	2,000
p-Perchloric acid	200	300
Perchloromethyl mercaptan	0.1	0.5
Perchloric fluoride	5	15.5
Pertroleum distillates (naphtha)	500	2,000
Phenol-Skin	5	10
p-Phenylenediamine-Skin		0.1
Phenyl ether (vapor)	1	7
Phenyl ether-diethyl mixture (vapor)	1	7
Phenylglycidyl ether, see Epoxies		
Phenyl glycidyl ether (P.G.E.)	10	60
Phenylhydrazine-Skin	5	22
Phenylmethylhydrazine (P.M.H.)- Skin		0.1
Phosgene (carbonyl chloride)	0.1	0.4
Phosphine	0.5	0.4
Phosphoric acid		1
Phosphorus (yellow)		0.1
Phosphorus pentachloride		1
Phosphorus pentasulfide		1
Phosphorus trichloride	0.5	5
Phthalic anhydride	2	12
Picric acid-Skin		0.1
Pival (O-C-Pivalyl)-2,2- indandione		0.1
Platinum (Soluble Salts) as Pt		0.005
Propargyl alcohol-Skin	1	
Propane	1,000	1,900
n-Propyl acetate	200	600
Propyl alcohol	250	520
n-Propyl nitrate	25	115
Propylene dichloride	70	300
Propylene imine-Skin	5	5
Propylene oxide	100	300
Pyrene, see Methylanthracene		
Pyrethrum		5
Pyridine	5	15
Quinone	0.1	0.4
RDX-Skin		1.4

TABLE Q 1 - Continued

Substance	p.p.m.*	mg./Ml.*
Rhodium, metal fume and salts, as Rh.....		0.1
Soluble salts.....		0.001
Ronnel.....		10
Rotenone (commercial).....		5
Selenium compounds (as Se).....		0.2
Selenium hexafluoride.....	0.05	0.4
Silver, metal and soluble compounds.....		0.01
Sodium fluorosulfate (100%)—Skin.....		0.05
Sodium hydride.....		2
Stibine.....	0.1	0.5
Standard solvent.....	500	2,960
Strychnine.....		0.15
Sulfur dioxide.....	5	15
Sulfur hexafluoride.....	1,000	6,000
Sulfuric acid.....		1
Sulfur monosulfide.....	1	6
Sulfur pentasulfide.....	0.025	0.25
Sulphury fluoride.....	5	20
Synvar, see Di. Azeton ®.....		
2,4,5-T.....		10
Tartratum.....		5
TEEP—Skin.....		0.2
Tellurium.....		0.1
Tellurium hexafluoride.....	0.02	0.2
TEPP—Skin.....		0.05
O Terphenyls.....	1	9
1,1,1,2-Tetrachloro-2,2-dimethoxyethane.....	500	4,170
1,1,1,2-Tetrachloro-1,2-dimethoxyethane.....	500	4,170
1,1,1,2-Tetrachloroethane—Skin.....	5	35
Tetrachloroethylene, see Perchloroethylene.....		
Tetrachloromethane, see Carbon tetrachloride.....		
Tetrachloronaphthalene—Skin.....		2
Tetraethyl lead (as Pb)—Skin.....		0.075
Tetrahydrofuran.....	250	500
Tetraethyl lead (as Pb)—Skin.....		0.07
Tetramethyl azoxymethane—Skin.....	0.5	3
Tetramethylenethane.....	1	5
Ticel (2,4,6-trinitrophenyl-methylmethanone)—Skin.....		1.5
Tellurium (soluble compounds)—Skin as Te.....		0.1
Tellurium.....		5
Tin (inorganic compounds, except oxides).....		2
Tin (organic compounds).....	0.02	0.1
O Toluene-2,4-dichloroanate.....	5	0.14
O Toluene—Skin.....	5	22
Topaphane, see Chlorinated camphane.....		
Tributyl phosphate.....		5
1,1,1-Trichloroethane see Methyl chloroform.....		
1,1,2-Trichloroethane—Skin.....	10	45
Thiambutoloxide.....		15
Trichloromethane, see Chloroform.....		
Trichloronaphthalene—Skin.....		5
1,2,3-Trichloropropane.....	50	500
1,1,2-Trichloro-1,2,2-trifluoroethane.....	1,000	7,000
Triethylamine.....	25	100
Trichloromonochloromethane.....	1,000	4,200
2,4,6-Trinitrophenol, see Picric acid.....		
2,4,6-Trinitrophenylmethyl-sulfonamide, see Tetryl.....		
Trinitrotoluene—Skin.....		1.5
Tri-n-octyl phosphite.....		4.1
Triphenyl phosphite.....		3
Turpentine.....	100	500
Uranium (soluble compounds).....		0.02
Uranium (insoluble compounds).....		0.25
O Varsolam:.....		
VO, dust.....		0.5
VO, fume.....		0.1
Vinyl benzene, see Styrene.....		
C Vinyl chloride.....	500	1,500
Vinylcarbazole, see Acrylonitrile.....		
Vinyl toluene.....	100	400
Warfare.....		0.1
Xylene (xytol).....	100	425
Xylylene—Skin.....	5	25
Yttrium.....		1
Zinc chloride fume.....		1
Zinc oxide fume.....		5
Zinc dust.....		5

*1970 A401103.

* Approximate milligrams of particulate per cubic meter of air.

(No fortune "o" is used to avoid confusion with other value notations.)

^d An atmospheric concentration of not more than 0.05 p.p.m., or personal protection may be necessary to avoid hazards.

- As sampled by method that does not collect vapor.
- For control of general room air, biologic monitoring is essential for personnel control.

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I BB 0002501 I

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MEETING

OSHA REGULATIONS ON TOXIC EXPOSURE -

~~THE LAKE CHARLES APPROACH~~

Call with John 2 hrs
(by Sept 23)
Meeting with SPM leaders
End of month

Until recently, the Occupational Safety and Health Administration has concentrated on accident safety. Now, it is focusing on long-term health hazards, particularly from exposure to toxic chemicals.

Before looking at the substances which are monitored at the Lake Charles Plant, perhaps it would be beneficial to define some of the OSHA nomenclature.

~~PEL~~. TWA ~~ASCH~~, time weighted average, is the amount of a substance to which a person may be exposed, without personal protective equipment, for 8 hours per day, 5 days per week, without predictable injury. (TLV, threshold limit value, is sometimes used interchangeably with TWA.) This particular nomenclature was adopted by the American Conference of Governmental Industrial Hygienists.

STEL, short-term exposure limit, is the maximum exposure to which a person may be subjected for a period of time less than the regular work shift. For example, although benzene's TLV is 10 ppm, a worker should not be exposed to more than 50 ppm of it for longer than 10 consecutive minutes.

MAC, maximum acceptable ceiling, is the maximum exposure concentration without regard to time.

PEL, permissible exposure limit, is frequently used interchangeably with TLV or TWA, but can also apply to STEL or MAC.

AL, action level, is defined as one-half of PEL. It has been accepted arbitrarily as the level below which additional measurements of the same exposure will probably not exceed PEL. This allows for statistical uncertainty in taking a small, selected number of samples, as well as for inaccuracy of the method and the apparatus.

Corporate occupational health standards currently exist for 115 substances. These internal exposure limits have gone through a comprehensive review process and form the basis for the personnel monitoring computer system. We will discuss this system in more detail later.

PPG standards apply only to the results of personnel monitoring conducted at plant locations. To meet the needs of those individuals who are responsible for performing surveys and evaluating the need for control, permissible exposure limits have been adopted for each substance monitored, i.e., a 15-minute short term exposure limit (STEL) and/or an 8-hour time weighted average (TWA) exposure limit.

By design, the numerical value of a PPG standard may be equivalent to or more strict than present OSHA standards. In those cases where the PPG standards are more restrictive than recognized published limits, it should not be construed as implying that the lower limit was adopted on the basis of a recognized hazard likely to cause death or serious physical harm. The PPG standard is a prudent, conservative standard. All the relevant OSHA standards on the threshold limit values recommended by the American Conference of Governmental Industrial Hygienists have not been directly incorporated as PPG standards. This is for several reasons including:

1. OSHA has not, in general, revised all of their TWAs to reflect information developed since 1969.
2. OSHA's values do not specifically provide a "short-term exposure limit" for evaluating 15-minute excursion periods.
3. ACGIH's recommended limits are not always universally accepted.
4. Neither listing currently includes established limits on all chemical substances of concern to PPG.

To provide uniform recommended exposure limits for the industrial health programs of PPG, permissible exposure limits have been adopted. In general, PPG's 8-hour TWA limit reflects OSHA's standard where one is available. Short-term exposure limits normally reflect an ACGIH recommended level. Where a substance does not appear in either source, values have been developed based on available scientific information.

PPG permissible exposure limits only apply to the evaluation of single hazardous agents and generally do not take into consideration multiple exposures or any contribution to exposure by the cutaneous routes of absorption.

Here at Lake Charles, the following substances are checked:

Amorphous Silica

Asbestos

Caustic Mist

Chlorine

Lead

Mercury

Nuisance Dust

Respirable Silica

Organics - including:

EDC

VC

VDC

Others

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Our program for monitoring exposure to these substances is administered primarily by the industrial hygiene section of the Safety Department. Also involved are the Environmental Department and the Laboratory.

Our industrial hygienist, Jon Shepherd, works with the laboratory to set up a personnel monitoring program for the year. The goal for personnel monitoring is to check worst case individuals who have potential for exposure to hazardous chemicals. It is the intent of the personnel monitoring program that workers be protected from exposure to hazardous substances. With that in mind, each of us have certain responsibilities as we go about our day-to-day work schedule.

Workers have the responsibility to:

1. Work in a manner to avoid known hazardous chemical exposure.
2. Properly wear protective equipment as he was trained.
3. Work safely using common sense.
4. Make sure procedures have been followed to make a job safe.

To help monitor the effectiveness of our program, an area/personnel monitoring computer program was written. As with most computer programs, improvements continue to be made with our present system.

The primary purpose of the A/P computerized monitoring system is to ensure every worker a safe and healthful work environment. The objectives of this monitoring program are:

1. The detection of unsatisfactory or potentially hazardous exposure conditions.
2. The identification of worker exposure on an individual and group basis.
3. The documentation of compliance with recognized exposure standards.
4. The evaluation of control methods in use, including the adequacy of the personal protective devices in use.

The sampling results stored in the computer can be accessed and presented in a master file list or any of four special reports. The master file prints out all the information stored for each sample. The four reports print out results (1) by compound, (2) by department, (3) by employee, and (4) by compounds overstandard.

Evaluation of these reports can highlight abnormal situations or problem areas. More time and effort can be focused on these areas and less on normal situations so that prompt action can be taken to institute proper control measures where necessary.

This system also provides a permanent record for monitoring and analytical data and results. This aspect is important now and will become more so in the future as OSHA requires records to be kept for lengthy periods on more and more chemicals. The specific OSHA standards presently in effect require records to be kept anywhere

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from 20 to 40+ years. The general recordkeeping requirement for chemicals not covered by a specific standard is 5 years.

The A/P computer program is due to be updated with the enhancement program as soon as the steering committee gives the go ahead. These enhancements are designed to improve and expand the capabilities of the present system.

Future plans include the incorporation of a biological monitoring system into the computer program. This would enable blood and/or urine results to be pulled in a master file list, which contains all the information input for each sample or in one of three reports. These reports list results (1) by employee, (2) by job category, and (3) as an overstandard summary.

The computerized monitoring system is presently a passive one, data is put in and can be retrieved upon request. A future goal is to convert the system to an active one. This system would be called Health and Occupational Surveillance System (HOSS). By active, we mean crosslinking all the different types of results, e.g., A/P monitoring, blood and/or urine results, medical records, work histories, etc., and letting the computer tell us when to reschedule sampling based on evaluation of previous results.

You are probably wondering - How do I as an SPU leader fit into the framework of the previously discussed program. In short, you are responsible for implementation of the program to provide a safe and healthful workplace for both you and your workers.

When workers are overexposed to hazardous chemicals, it is your responsibility to notify the affected employee by filling out an Employee Notification of Overexposure. (Employee signs but does not get a copy.)

It is your responsibility to find out why the overexposure occurred and finally to take preventive measures to correct deficiencies when they exist.

This process is set in motion by a three part form which is initiated by the lab for an overexposure.

The pink sheet is sent directly to the SPU leader. You are to complete the form and return it to Jon Shepherd within five days.

Jon works closely with Environmental Affairs, the Medical Department, and the laboratory to resolve problem areas of concern.

I need more here - ideas would be appreciated!

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