

P.O'Hara

LEAD INDUSTRIES ASSOCIATION, INC.

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OR 9-0020

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Don G. Fowler
Director of Health and Safety

June 9, 1967

To: All Members of the LIA Health and Safety Committee

Re: Pennsylvania and Montana Air Quality Standards

Attached you will find a copy of the official Pennsylvania "Ambient Air Quality Criteria" as adopted April 25, 1967. Also attached you will find a listing of the Ambient Air Quality Standards adopted by the Montana State Board of Health on May 27, 1967. A copy of the official decision in Montana is not yet available.

You will note that, in the Pennsylvania publication, there is no explanation of the "tentative" used after the substance lead.

This action in Pennsylvania and Montana reflects the pressure on public bodies to take affirmative action relating to pollution, whether fully necessary or not.

Very truly yours,

J.C. Roumes

James C. Roumes
Assistant Director
Health and Safety

JCR/jv
Att.

cc: J.R. Englehorn
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P

Look around with lead

MONTANA AMBIENT AIR QUALITY STANDARDS

Pollutant	Standards		
	Board of Health Staff Recommendations - 3/28/67 Letter	Advisory Council Recommendations at Meeting May 4, 1967	Adopted by State Board of Health May 27, 1967
Sulfur Dioxide (West-Gatch Method only)	0.02 ppm 0.10 ppm	Need further advice on RAA 0.10 ppm 24 hr - not to be exceeded over 1%	0.02 ppm maximum annual average, 0.10 ppm 24 hr. average not to be exceeded over 1% of days 3 month period, 0.25 ppm 1 hr average in 4 days (max.)
Reactive Sulfur	0.25 mg SO ₃ /100 ² cu ft RAA 0.50 mg SO ₃ /100 ² cu ft RAA	0.25 mg SO ₃ /100 ² cu ft RAA 0.50 mg SO ₃ /100 ² cu ft RAA	0.25 mg SO ₃ /100 ² cu ft RAA 0.50 mg SO ₃ /100 ² cu ft RAA
Suspended Sulfate	4 µg/m ³ of Air RAA 12 µg/m ³ of Air RAA	4 µg/m ³ of Air RAA 12 µg/m ³ of Air RAA	4 µg/m ³ of Air RAA 12 µg/m ³ of Air RAA
Sulfuric Acid Mist	4 µg/m ³ of Air RAA 12 µg/m ³ of Air - 1% of Time 30 µg/m ³ of Air-Hourly Avg.- 1% of Time	4 µg/m ³ of Air RAA 12 µg/m ³ of Air - 1% of Time 30 µg/m ³ of Air-Hourly Avg.- 1% of Time	4 µg/m ³ of Air RAA 12 µg/m ³ of Air - 1% of Time 30 µg/m ³ of Air-Hourly Avg.-1% of Time
Hydrogen Sulfide	0.03 ppm-1 hr. avg.-Twice in 5 days 0.05 ppm-1 hr. avg.-Twice per year	Need further advice Recommendation no standard be set at present time	0.03 ppm-1 hr. avg.-Twice in 5 days 0.05 ppm-1 hr. avg.-twice per year
Carbon Monoxide	0.02 ppm avg. for 8 hrs	" "	Deferred setting of Standard
Carbon Dioxide	5 ppm - avg. for 8 hrs	No standard necessary	Deferred setting of Standard
Total Suspended Particulate	75 µg/m ³ of Air RAA 200 µg/m ³ of Air - Not over 1% of days	75 µg/m ³ of Air RAA 200 µg/m ³ of Air - Not over 1% of days	75 µg/m ³ of Air RAA 200 µg/m ³ of Air - Not over 1% of days

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Pollutant	Standards		
	Board of Health 5/1/61 Recommendation 3/7/67 Letter	Advisory Council Recommendations at Bechtel Bay 6, 1967	Adopted by State Health Bay 2/1
Suspended Particulate (Selling Ind.)	0.5 ton/1000 ft. 1 foot ZCH	0.5 ton/1000 ft. 1 foot ZCH	Deferred within standard
Settled Particulate (Settling Ind.)	10 ton/eq. after 3 Hr. avg. Residential 20 ton/eq. after 3 Hr. avg. Gvy. Ind.	10 ton/eq. after 3 Hr. avg. Residential 20 ton/eq. after 3 Hr. avg. Gvy. Ind. 5 ton/eq. (Background)	15 ton/eq. after 3 Hr. avg. Avg. Residential (includes 5 ton/eq. background) 30 ton/eq. after 3 Hr. avg. Avg. Gvy. Ind. (includes 5 ton/eq. background)
Lead	1.0 $\mu\text{g}/\text{m}^3$ 24 hr. avg.	5.0 $\mu\text{g}/\text{m}^3$ 24 hr. avg.	5.0 $\mu\text{g}/\text{m}^3$ 30 day avg.
Nitrogen Oxides	0.1 ppm avg. for 1 hr.	Recommendation no standard to set at present time. Please further advise.	Recommendation no standard to set at present time. Please further advise.
Fluoride	0.1 $\mu\text{g}/\text{m}^3$ 24 hr. avg.	" "	0.01 $\mu\text{g}/\text{m}^3$ 30 day peak
Hydrogen Sulfide (Total for 1 hr. 1 hr.)	1.0 parts per million per 1 hr.	" "	1.0 parts per million per 1 hr.
Hydrogen Sulfide by Vg. Tests	35 parts per million	35 parts per million	35 parts per million
Hydrogen Sulfide (continuous)	0.3 ppm per sq. centimeter	Recommendation no standard to set at present time. Please further advise.	0.3 ppm per sq. centimeter

Notes - EPA is monitoring annual average.

EPA is monitoring after 30 days of average.

ROC is the 100% of the area.

ppm is 100.

ppm is 1000.

ppm is 10000.

Service factor is calculated by dividing actual type of stress by 365 days. It is necessary to provide
the service factor of 1.0 that operates continuously.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
AIR POLLUTION COMMISSION

Air Quality Criteria

Adopted:
April 25, 1967

Pennsylvania's Ambient Air Quality Criteria - 1967

I. Introduction

In accordance with Section 5 (f) (1) of the Pennsylvania Air Pollution Control Act, the Act of January 1, 1960, P. L. 1116, as April 25, 1967 the Air Pollution Commission adopted the Ambient Air Quality Criteria shown below.

On this same date, the Commission appointed a Council of Technical Advisors to assist the Air Quality Criteria as a continuing body to periodically review the adopted criteria and report to the Commission at least once a year, or suggested modifications or changes, if any, to these criteria based on the reference standard sampling and analytical procedures.

II. Purpose

The following criteria will be used by the Commission in:

1. Evaluating the results of community air pollution studies conducted by the Department of Health.
2. Determining the need for air pollution control regulations in regions of the Commonwealth to achieve these objectives.
3. Developing rules and regulations in accordance with Section 5 (f) (1) of the Pennsylvania Air Pollution Control Act.

III. Criteria

Until additional pertinent information becomes available with respect to the effects of the substances listed below which leads to recommendations by the Council and in addition or addition to the Commission, the following air quality criteria shall apply in Pennsylvania.

Ambient Air Quality Criteria^(a) - 1982

Substance 24-hour 24-hr. 1 yr.

A. Air Basin Average^(b)

1. suspended particulate (total) 100 $\mu\text{g}/\text{m}^3$
2. settled particulate (total) 1.0 mg/cm^2

B. Single Point Measurement

1. suspended particulate (total)	150 $\mu\text{g}/\text{m}^3$	500 $\mu\text{g}/\text{m}^3$	-
2. settled particulate (total)	1.5 mg/cm^2 ^(c)	-	-
3. lead (limitative)	5 $\mu\text{g}/\text{m}^3$	-	-
4. beryllium	0.01 $\mu\text{g}/\text{m}^3$	(d)	-
5. sulfates (as SO_4)	10 $\mu\text{g}/\text{m}^3$	30 $\mu\text{g}/\text{m}^3$	-
6. sulfuric acid mist	-	(d)	(d)
7. fluorides (total soluble, as HF)	-	5 $\mu\text{g}/\text{m}^3$	-
8. sulfur dioxide	7.05 ppm	0.35 ppm	0.5 ppm
9. nitrogen dioxide	(d)	-	-
10. oxides	-	(d)	(d)
11. hydrogen sulfide	-	0.005 ppm	0.1 ppm
12. carbon monoxide	-	15 ppm	-

(a) Criteria values, not to be exceeded.

(b) Based upon results from geographically uniformly spaced sampling stations.

(c) Not to be exceeded as the average of three consecutive sampling periods.

(d) As Council of Technical Advisors on Ambient Air Quality Criteria is directed to consider such criterion.

The values listed above should be considered as representing minimum quality, not necessarily desirable quality. They should be considered as goals, not necessarily immediately attainable. The values are not precise and are derivative from the values to not evidence of injury or adverse effects. In general, the criteria are based on a design concept and require both the presence of a receptor and an exposure time equal to or greater than those listed.

Blank spaces in the listing are purposeful. In general, for the range of concentrations encountered in outdoor air, substances with 24-hour values only have chronic effects; substances with 24-hr or 1-yr values only have acute effects; substances with all three time interval values have both chronic and acute effects. Effects considered are both biological and physical.

The Commission will publish and make available a supplement to these criteria containing information on which the criteria are based. This supplement will be posted from time to time as the criteria are revised as an additional reference for use as available.

IV. Sampling and Analytical Techniques

The sampling and analytical procedures employed to measure ambient levels of contaminants are to be consistent with obtaining accurate results which are representative of the conditions being evaluated. The following sampling and analytical techniques may be used directly or applied as reference standards against which other methods may be calibrated. These listed techniques are subject to revision, as provided for in Section I.

Reference Standards - 1967

<u>Substance</u>	<u>Sample Matrix</u>	<u>Analytical Method</u>
suspended particulates (total)	high-volume filtration (1)*	gravimetric (1)
settled particulates (total)	open top cylinder (2)	gravimetric (2)
lead	high-volume filtration (1)	spectrographic (1)
beryllium	high-volume filtration (1)	spectrographic (1)
sulfates	high-volume filtration (1)	turbidimetric (3)
fluorides	filtration plus gas absorption (4)	strontium oroschromic cyanide (4)
sulfur dioxide	gas absorption (5) (6)	Foto, et al modification of West-Gaebe method (5) (6)
nitrogen dioxide	gas absorption (7)	Grice-Hallman method (7)
hydrogen sulfide	gas absorption (8)	methylene blue method (8)
carbon monoxide	long path cell (9)	infrared absorption (9)

* Numbers in parentheses refer to reference . . . end of document.

V. References

- (1) "Air Pollution Criteria of the National Air Sampling Society," *Journal of Air Pollution* 1957, 1961, Public Health Service Pub. No. 979, Washington, D. C., 1957.
- (2) "Recommended Standard Method for Continuous Test Cell Survey (ASTM-1, Revision 1)," *ASTM Air Pollution Test Methods Committee*, J. 1957, 1958, *ASTM J. Res.*, 14, 127 (1958).
- (3) Interbranch Chemical Analysis Committee, "Selected Methods for the Measurement of Air Pollutants," *ASTM Pub. No. 459*, 1958, Cincinnati, Ohio, 1958, p. 1-4.
- (4) "Standard Method of Test for Inorganic Fluoride in the Atmosphere," *ASTM Standards on Methods of Atmospheric Sampling and Analysis*, Philadelphia, Penna., 1963, p. 67.
- (5) West, F.W. and Cooke, G.C., "Reaction of Sulfur Dioxide with Nitrogen Dioxide (II), Subsequent Colorimetric Determination," *Anal. Chem.*, 23, 1005 (1951).
- (6) Tate, J.B. et al., "Nitrite Interference in Spectrophotometric Determination of Atmospheric Sulfur Dioxide," *Anal. Chem.*, 37, 443 (1965).
- (7) Tate, J.B. et al., "Colorimetric Determination of Nitrogen Dioxide in the Atmosphere," *Anal. Chem.*, 36, 1519 (1964).
- (8) Juckey, W.B. et al., "Ultraviolet Determination of Sulfur Dioxide in Air," *Anal. Chem.*, 34, 1719 (1962).
- (9) Juckey, W.B. et al., "Continuous Determination of Carbon Monoxide and Hydrocarbons in Air by a Modified Infrared Method," *J. Air Poll. Control Assoc.*, 9, 410 (1959).