DEC 18 1969




# SPECIAL HAZARDS SURVEY

Prepared for: OWENS CORNING
FIBERGLAS CORPORATION
BERLIN, NEW JERSEY
October 30, 1969

## SUBJECT

INDUSTRIAL HYGIENE SURVEY

**P.S.** PERSONAL SERVICE
FROM THE OFFICE OF

PICTON-CAVANAUGH, INC.

---

Prepared by:

E. B. ENGEL
INDUSTRIAL HYGIENIST

Survey date:

OCTOBER 30, 1969

An Engineering Service of: LIFE & CASUALTY Hartford, Connecticut

PLTFS' OUT EX 9F for id
RJB 1/23/79

This report is prepared to assist the named insured in a loss control program. It is confidential and is not to be used for any other purpose. It does not purport to include every loss potential, code violation or occasion to good practice but relates only to those hazards specifically examined and described herein.

OWENS CORNING FIBERGLAS CORPORATION
BERLIN, NEW JERSEY

October 30, 1969

PURPOSE: This visit was made to conduct our annual industrial hygiene survey to evaluate potential occupational health exposures in this plant.

CONCLUSIONS: A very definite exposure to asbestos exists throughout the production areas of this plant. Free silica which is responsible for silicosis is present but not in amounts high enough to be significant.

CONTACTS: The following persons were contacted: P. Scheuerle, Plant Manager, A. Courtier, Personnel Supervisor and Safety Coordinator, R. Grimmie, Production Manager, D. Atkinson, Plant Engineer and Miss F. Clift, R.N., Plant Nurse. Mr. W. McKinney, Manager of the Engineering Department of our Haddonfield, New Jersey Office accompanied Mr. S. Wheeler and the writer on this survey.

PROCEDURES: Air samples for dust were collected by drawing air at the rate of 0.1 cubic feet per minute through midget impingers using distilled water as a collecting medium. The dust was counted on a light field as outlined in the United States Public Health Service method for dust counting. Samples of ledge dust were collected in the area of the air samples to determine the presence of asbestos and free silica. The presence of asbestos was demonstrated microscopically using polarized light. The presence of free silica was determined by phase contrast microscopy.

RESULTS: The results of our air samples are listed in Appendix A.

CRITERIA: In evaluating the results of air samples, we use as guides threshold limit values which have been adopted by the American Conference of Governmental Industrial Hygienists. The threshold limit values refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse effects. Because of wide variation of individual susceptibility, exposure of an occasional individual at or even below the threshold limit value may not prevent discomfort, aggravation of a preexisting condition, or occupational illness. Threshold limit values should be used as guides in the control of health hazards and should not be regarded as fine lines between safe and dangerous conditions.

Threshold limits are based on the best available information from industrial experience, from experimental human and animal studies, and when possible, from a combination of the three. We feel that the threshold limit values are the best guidance for the control of health exposures. Of course, when local, State or Federal regulations set limits other than those of the threshold limit values, then the strictest limits will have to be applied.

The current threshold limit value for dust containing asbestos is five million particles per cubic foot. The limit is set on the total amount of dust present if it contains asbestos regardless of the amount of asbestos present. The 1969 revision of the threshold limit values has posted in its list of intended changes the threshold limit value for asbestos containing dust of two million particles per cubic foot. When a change is contemplated in the threshold limit value, a notice of that change is published for two years. After that time, if there is no information to indicate that the revision should not take place, then the revised threshold limit value becomes the permanent one. Both of the limits cited above are based upon the standard impinger, light field count technique which was used, in part, to cross the boundary between the current and the revised standard. An additional proposed threshold limit value is twelve fibers per milliliter greater than five microns in length as determined by the membrane filter method at 430 times phase contrast magnification. This technique was not used during this survey.

The threshold limit value for free silica is determined by dividing 250 by the sum of the percentage of free silica present plus five. The threshold limit value then will vary for each sample depending upon the percentage of free silica present. The threshold limit value for free silica for the samples which we collected is listed with that sample in Appendix A.

DISCUSSION: Due to the low amount of free silica present in our samples, the threshold limit value with respect to free silica is considerably above the results of our samples and above the threshold limit value for asbestos containing dust. Limiting concentration on dust exposures will be based on the threshold limit value for asbestos dust.

Of the twelve samples taken, eight are above the current threshold limit value and all are above the proposed threshold limit value. I conclude, therefore, that there is a generalized exposure to asbestos dust throughout the production areas of this plant with the possibility of asbestosis cases arising always present. Employees should be monitored medically.

To reduce the possibility of asbestosis arising in employees, it would be best to control the environment in which they work. This, of course, could be done by eliminating asbestos in the product itself. We realize, however, that the nature of the product may require the presence of asbestos so the decision on eliminating it will have to be made on the basis of product evaluation and is beyond the scope of our survey.

The second environmental control is to reduce the dust exposures in the air. This can be done by the installation of exhaust ventilation designed in accordance with good industrial ventilation practice. Good housekeeping is also essential in reducing the amount of dust. During the survey, it was observed that the sweeping machine was being operated in a manner which did not allow for the maximum pickup of accumulated dust. Part of the dust exposure occurs from the movement of traffic over dusty floors.

RECOMMENDATIONS:

A. The exhaust ventilation system should be gone over to be sure that

it is operating at peak capacity.

B. General housekeeping should be improved to decrease the amount of airborne dust caused by vehicle traffic.

Edward B. Engel

Edward B. Engel
Industrial Hygienist

mf

APPENDIX A

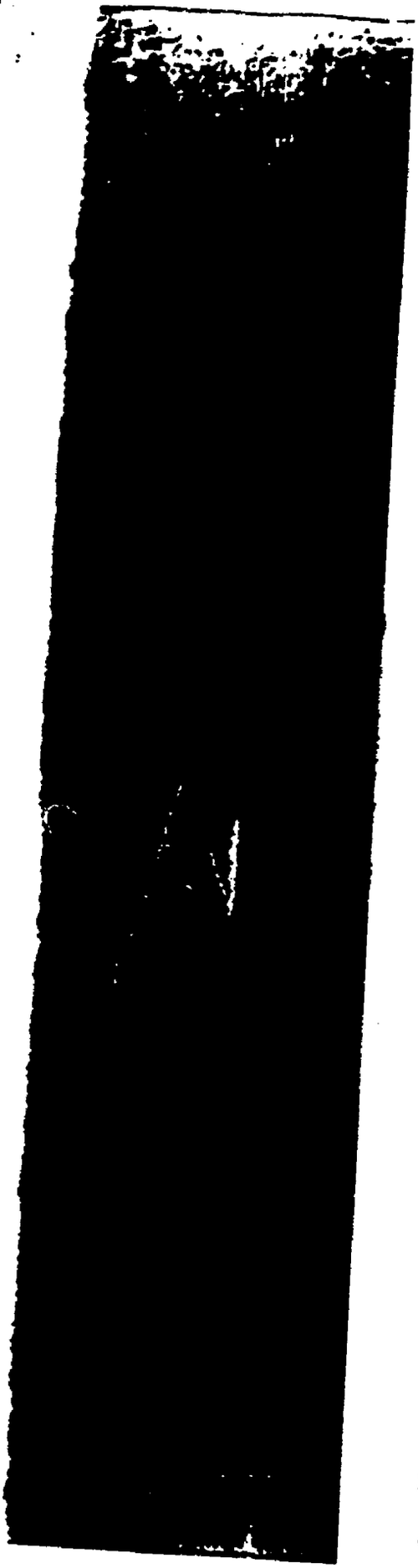
OWENS CORNING FIBERGLAS CORPORATION
BERLIN, NEW JERSEY

October 30, 1969
Dust in Air

| Location | Asbestos | % Free Silica | Free Silica TLV | Dust Count |
|---|---|---|---|---|
| 1. Mold Cleaning | | | | |
| a. entrance of roto blast | present | 4.7% | 26 mppcf | 5.3 mppcf |
| b. exit of roto blast | present | 4.7% | 26 mppcf | 2.1 mppcf |
| 2. Batch House Operator | present | 14.1% | 13 mppcf | 3.7 mppcf |
| 3. Flatware Finishing | | | | |
| a. Feed end | present | 16.0% | 12 mppcf | 10.9 mppcf |
| b. Between sanders 1 & 2 | present | 16.0% | 12 mppcf | 5.0 mppcf |
| c. Packing | present | 16.0% | 12 mppcf | 22.1 mppcf |
| 4. A-Saw | none | none | | 5.0 mppcf |
| 5. B-Saw | present | none | | 6.8 mppcf |
| 6. Special Assembly | | | | |
| a. Saw 1204 | present | 5.0% | 25 mppcf | 3.0 mppcf |
| b. Saw 4547 | present | 5.0% | 25 mppcf | 9.1 mppcf |
| 7. Form Stripping Line 2 | present | 6.0% | 23 mppcf | 4.8 mppcf |
| 8. Form Stripping Line 3 | present | 6.0% | 23 mppcf | 12.2 mppcf |

TLV - Threshold Limit Value (see criteria paragraph of report)
mppcf - millions of particles per cubic meter of air

All samples except 3b taken in breathing zone of worker in area.



PLAINTIFF'S EXHIBIT K-231

DEC [illegible] 1969

# SPECIAL HAZARDS SURVEY

Prepared for: OWENS CORNING
FIBERGLAS CORPORATION
BERLIN, NEW JERSEY
[illegible]

**SUBJECT**

INDUSTRIAL HYGIENE SURVEY

**P.S.** PERSONAL SERVICE
FROM THE OFFICE OF

PICTON-CAVANAUGH, INC.

Prepared by:

E. B. ENGEL
INDUSTRIAL HYGIENIST

EXHIBIT
Konzen 5
9h 5/12/90

Survey date:

OCTOBER 30, 1969

An Engineering Service of Aetna LIFE & CASUALTY Hartford, Connecticut

42 007 00

This report is prepared to assist the named insured in a loss control program. It is confidential and is not to be used for any other purpose. It does not purport to include every loss potential, code violation or exception to good practice but relates only to those hazards specifically examined and described herein.

C 2468-81 6-68

OWENS CORNING FIBERGLAS CORPORATION
BERLIN, NEW JERSEY

October 30, 1969

PURPOSE: This visit was made to conduct our annual industrial hygiene survey to evaluate potential occupational health exposures in this plant.

CONCLUSIONS: A very definite exposure to asbestos exists throughout the production areas of this plant. Free silica which is responsible for silicosis is present but not in amounts high enough to be significant.

CONTACTS: The following persons were contacted: P. Scheuerle, Plant Manager, A. Courtier, Personnel Supervisor and Safety Coordinator, R. Grimme, Production Manager, J. Atkinson, Plant Engineer and Miss F. Clift, R.N., Plant Nurse. Mr. J. McKinney, Manager of the Engineering Department of our Haddonfield, New Jersey Office accompanied Mr. S. Wheeler and the writer on this survey.

PROCEDURES: Air samples for dust were collected by drawing air at the rate of 0.1 cubic feet per minute through midget impingers using distilled water as a collecting medium. The dust was counted on a light field as outlined in the United States Public Health Service method for dust counting. Samples of ledge dust were collected in the area of the air samples to determine the presence of asbestos and free silica. The presence of asbestos was demonstrated microscopically using polarized light. The presence of free silica was determined by phase contrast microscopy.

RESULTS: The results of our air samples are listed in Appendix A.

CRITERIA: In evaluating the results of air samples, we use as guides threshold limit values which have been adopted by the American Conference of Governmental Industrial Hygienists. The threshold limit values refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse effects. Because of wide variation of individual susceptibility, exposure of an occasional individual at or even below the threshold limit value may not prevent discomfort, aggravation of a preexisting condition, or occupational illness. Threshold limit values should be used as guides in the control of health hazards and should not be regarded as fine lines between safe and dangerous conditions.

Threshold limits are based on the best available information from industrial experience, from experimental human and animal studies, and when possible, from a combination of the three. We feel that the threshold limit values are the best guidance for the control of health exposures. Of course, when local, State or Federal regulations set limits other than those of the threshold limit values, then the strictest limits will have to be applied.

42 007 0021

The current threshold limit value for dust containing asbestos is five million particles per cubic foot. The limit is set on the total amount of dust present if it contains asbestos regardless of the amount of asbestos present. The 1969 revision of the threshold limit values has posted in its list of intended changes the threshold limit value for asbestos containing dust of two million particles per cubic foot. When a change is contemplated in the threshold limit value, a notice of that change is published for two years. After that time, if there is no information to indicate that the revision should not take place, then the revised threshold limit value becomes the permanent one. Both of the limits cited above are based upon the standard impinger, light field count technique which was used, in part, to cross the boundary between the current and the revised standard. An additional proposed threshold limit value is twelve fibers per milliliter greater than five microns in length as determined by the membrane filter method at 430 times phase contrast magnification. This technique was not used during this survey.

The threshold limit value for free silica is determined by dividing 250 by the sum of the percentage of free silica present plus five. The threshold limit value then will vary for each sample depending upon the percentage of free silica present. The threshold limit value for free silica for the samples which we collected is listed with that sample in Appendix A.

DISCUSSION: Due to the low amount of free silica present in our samples, the threshold limit value with respect to free silica is considerably above the results of our samples and above the threshold limit value for asbestos containing dust. Limiting concentration on dust exposures will be based on the threshold limit value for asbestos dust.

Of the twelve samples taken, eight are above the current threshold limit value and all are above the proposed threshold limit value. We conclude, therefore, that there is a generalized exposure to asbestos dust throughout the production areas of this plant with the possibility of asbestosis cases arising always present. Employees should be monitored medically.

To reduce the possibility of asbestosis arising in employees, it would be best to control the environment in which they work. This, of course, could be done by eliminating asbestos in the product itself. We realize, however, that the nature of the product may require the presence of asbestos so the decision on eliminating it will have to be made on the basis of product evaluation and is beyond the scope of our survey.

The second environmental control is to reduce the dust exposures in the air. This can be done by the installation of exhaust ventilation designed in accord with good industrial ventilation practice. Good housekeeping is also essential in reducing the amount of dust. During the survey, it was observed that the sweeping machine was being operated in a manner which did not allow for the pickup of accumulated dust. Part of the dust exposure occurs from the movement of traffic over dusty floors.

RECOMMENDATIONS:

A. The exhaust ventilation system should be gone over to be sure that

42 007 0(

it is operating at peak capacity.

3. General housekeeping should be improved to decrease the amount of airborne dust caused by vehicle traffic.

Edward B. Engel

Edward B. Engel
Industrial Hygienist

mf

42 007 0023

APPENDIX A

OWENS CORNING FIBERGLAS CORPORATION
BERLIN, NEW JERSEY

October 30, 1969
Dust in Air

| Location | Asbestos | % Free Silica | Free Silica TLV | Dust Count |
|---|---|---|---|---|
| 1. Mold Cleaning | | | | |
| a. entrance of rota blast | present | 4.7% | 26 mppcf | 5.3 mppcf |
| b. exit of rota blast | present | 4.7% | 26 mppcf | 2.1 mppcf |
| 2. Batch House Operator | present | 14.1% | 13 mppcf | 3.7 mppcf |
| 3. Flatware Finishing | | | | |
| a. Feed end | present | 16.0% | 12 mppcf | 10.9 mppcf |
| b. Between sanders 1 & 2 | present | 16.0% | 12 mppcf | 5.0 mppcf |
| c. Packing | present | 16.0% | 12 mppcf | 22.1 mppcf |
| 4. A-Saw | none | none | | 5.0 mppcf |
| 5. B-Saw | present | none | | 6.8 mppcf |
| 6. Special Assembly | | | | |
| a. Saw 1204 | present | 5.0% | 25 mppcf | 3.0 mppcf |
| b. Saw 4547 | present | 5.0% | 25 mppcf | 9.1 mppcf |
| 7. Form Stripping Line 2 | present | 6.0% | 23 mppcf | 4.8 mppcf |
| 8. Form Stripping Line 3 | present | 6.0% | 23 mppcf | 12.2 mppcf |

TLV - Threshold Limit Value (see criteria paragraph of report)
mppcf - millions of particles per cubic meter of air

All samples except 3b taken in breathing zone of worker in area.

42 007 0024