

INSURANCE COMPANY OF NORTH AMERICA
LIFE INSURANCE COMPANY OF NORTH AMERICA
PACIFIC EMPLOYERS GROUP

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PLAINTIFF'S EXHIBIT

CAP-475

February 13, 1975

Mr. Gerald Fox
Cement Asbestos Products Co.
South 28th Street
Van Buren, Arkansas

INA

Re: Policy No. NWC 47 27 43
Cement Asbestos Products
South 28th St., Van Buren, Ark.

Dear Mr. Fox:

Thank you for insuring with INA.

A valuable part of INA service is our professional Customer Protection Services. Working together to identify hazards and assisting you in successfully controlling your losses is important and beneficial to both you and INA.

On January 7, 1975, I visited your plant and conducted an Environmental Health Survey and as a result, I am attaching recommendations for your consideration.

Please review these recommendations carefully. They represent valuable service for your premium dollar and, if implemented, can help you avoid losses that cause injury, property damage and reduced net profit from your business. They also can be important in complying with government laws and regulations.

The attached recommendation pages may not cover all dangerous conditions or practices which may have existed at the time of my survey, but only that which was readily observable with reasonable care and which were relative to the above mentioned insurance coverage.

Will you please indicate to us the action you plan to take regarding these recommendations.

Very truly yours,

Alan Jurisich

Alan Jurisich, M.S.H.
Environmental Health Consultant
CPS - Field Assistance

AJ/sm

cc: Mr. John B. Richardson, American Smelting & Refining Co.
Dept. of Environmental Science, Salt Lake City, Utah

cc: S. Metzger & Co., New York, New York

CAPCO JEN 0002514

POTENTIAL LOSS CAUSES

NAME: Cement Asbestos Products Co.	LOCATION: South 28th St., Van Buren, Arkansas
RECOMMENDATIONS:	
75-1-A. The vent in the blender is a major source of Vinyl Chloride Monomer and presents a carcinogenic hazard to the worker. During certain phases of the blending, volatile gases and vapors are released from the mixer vent and are fortunately blown away from the worker. To ensure that Vinyl Chloride does not enter the blender operator's breathing zone, and does not spread to other areas of the plant, it is highly recommended that the blender be exhausted. Presently, the blender is a closed system except for the mixer vent chute. The blender should be fitted with an exhaust duct so that a negative pressure is created inside of it. Air would then flow into the vent chute and no gases or vapors could escape out of this duct. At least 100 cfm of air per square foot of vent chute area should be exhausted from the blender. The exhaust system should terminate high above the plant, downwind of the prevailing wind direction. 75-2-B. The noise level at the finishing lathe and hydrotester exceed federal standards and therefore present a hearing loss hazard. Engineering control of this noise is unfeasible and administrative controls are not recommended due to the intensity of the noise. It is highly recommended that employees in this area be required to wear hearing protective devices. 75-3-B. The noise level produced by the cyclone separators is excessive and presents a hearing loss hazard to a number of nearby workers. Octave band analysis of this noise (See Appendix III) indicate that it is predominantly low frequency in nature. Apparently the metal walls of the cyclone separators are vibrating and acting as a large "sounding board". The effective	
CLASSIFICATION OF RECOMMENDATIONS	
Each recommendation is classified "A, B, or C" depending upon our estimate of the hazard. An "A" classification denotes a Class "A" Hazard and should receive the highest priority for implementation. Class "A" Hazard—Any condition or practice with the potential for loss of life or body part and/or extensive damage to structure, equipment or material. Immediate attention should be given to the elimination or control of Class "A" hazards. Class "B" Hazard—Any condition or practice with potential of causing serious injury or property damage but less severe than Class "A". Prompt attention should be given to the elimination or control of Class "B" hazards. Class "C" Hazard—Any condition or practice with probable potential for causing non-disabling injury or non-disruptive property damage.	

POTENTIAL LOSS CAUSES

NAME: Cement Asbestos Products Co.	LOCATION: South 28th St., Var. Buren, Arkansas
RECOMMENDATIONS:	
75-3-B. cont. radiation of low frequency sound is usually limited to large surfaces such as the cyclone separator and its connecting ductwork. In order to reduce the response of the cyclone's vibrating surfaces, and thus reduce the associated noise level, the following modifications should be made. The vibration of the cyclone is due to two driving forces, the turbulence of the air moving inside and the transmission of vibrations created by the air moving system. The response of a vibrating member to a driving force can be reduced by damping the member, improving its support, increasing its stiffness, increasing its mass or shifting its resonant frequency. By adding external treatment, vibration damping will minimize the amplitude of vibration of a noisy radiator by converting part of the vibratory energy into heat. Often, a most important source of sound results from impacts between loosely fastened portions of the vibrating surface. If the loose parts are small in area compared with the driven member, they should be rigidly fastened. If they are large, their points of contact should be isolated with rubber or plastic bumpers or support. Decoupling of the cyclone with its ductwork may be necessary. This can be done by removing a section of the ductwork and replacing it with a resilient material such as neoprene rubber. Motors and drive trains should be mounted on vibration isolators. 75-4-B. The noise produced by the cut off saw on the extruder pipe lines is offensive. Much of the noise is produced by air exhausting from pneumatic cylinders. These	
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POTENTIAL LOSS CAUSES

NAME: Cement Asbestos Products Co.	LOCATION: South 28th St., Van Buren, Arkansas
RECOMMENDATIONS:	
75-4-B. cont. air exhaust ports should be equipped with dispersive type mufflers. If mufflers are already being used they are either worn out or of insufficient capacity. See appendix for an illustration.	
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APPENDIX I

Asbestos Standard

1910.93a Asbestos

- b) Permissible exposure to airborne concentrations of asbestos fibers - Standard effective July 7, 1972. The 8 hour time-weighted average airborne concentration of asbestos fibers to which any employee may be exposed shall not exceed five fibers, longer than 5 microns, per cubic centimeter of air.
- (2) Standard effective July 1, 1976. The 8-hour time weighted average airborne concentration of asbestos fibers to which any employee may be exposed shall not exceed two fibers longer than 5 microns per cubic centimeter of air.
- (3) Ceiling concentration. No employee shall be exposed at any time of an airborne concentration of asbestos fibers in excess of 10 fibers, longer than 5 microns, per cubic centimeter of air.

AIR CONTAMINANT STANDARDS

APPENDIX II

(This standard refers to several types of air contaminants which include gases, vapors, mists, fumes and dust.)

Exposures by inhalation, ingestion, skin absorption, or contact to any material or substance at a concentration above those specified in the "Threshold Limit Values of Airborne Contaminants of 1970" of the American Conference of Governmental Industrial Hygienists (ACGIH), listed in Table I, shall be avoided or protective equipment shall be provided and used.

Threshold Limit Value (TLV) refers 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 effect. These values refer to time-weighted concentrations for a 7 or 8 hour work day and a 40 hour work week. However, some substances are predominantly fast acting and their TLV is more appropriately based on this response. Substances with this type of response are best controlled by a ceiling "C" limit that should never be exceeded for more than 15 minutes. Exposure to employees for greater periods of time may result in (a) intolerable irritation, (b) chronic, or irreversible tissue change, or (c) narcosis of sufficient degree to increase accident proneness, impair self-rescue or materially reduce work efficiency. Contaminants that have been assigned TLV's on a time-weighted average without a "C" designation do have a value which should never be exceeded. The values are calculated by using the Excursion TLV Factor that can be determined from the following chart:

Excursion Factor	
if TLV > 0-1 (ppm or mg/m ³)-----	3
if TLV > 1-10 (ppm or mg/m ³)-----	2
if TLV > 10-100 (ppm or mg/m ³)-----	1.5
if TLV > 100-1000 (ppm or mg/m ³)-----	1.25

Table I below is a partial list of TLV's published by OSHA. It also includes excursion limits and indicates those substances whose TLV is on the list of intended changes of TLV's published by the ACGIH.

TABLE I

THRESHOLD LIMIT VALUES FOR SUBSTANCES IN WORKROOM AIR

<u>Substance</u>	<u>TLV ppm</u>
Vinyl Chloride	1.0

NOISE LEVEL STANDARD

APPENDIX III

Noise: Section 1910.95 of the Occupational Safety and Health Act of 1970 states in part, that when employees are subjected to sound exceeding those listed in Table G-16, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of Table G-16, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.

It also states that in all cases where the sound levels exceed the values in Table I, a continuing effective hearing conservation program shall be administered.

TABLE G-16 - PERMISSIBLE NOISE EXPOSURES

<u>Duration per day, hours</u>	<u>Slow Level dBA Slow Response</u>
8	90
6	92
4	95
3	97
2	100
1 - 1/2	102
1	105
1/2	110
1/4 or less	115

When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered rather than the individual effect of each. If the sum of the following fractions; $C_1/T_1 + \dots C_n/T_n$ exceeds unity, then the mixed exposure should be considered to exceed the limit value. C_n indicates the total time of exposure at a specified noise level, and T_n indicates the total time of exposure permitted at that level.

Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

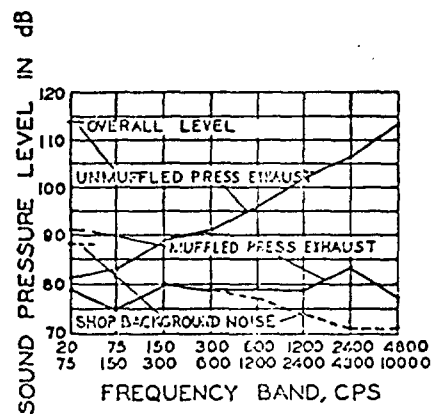
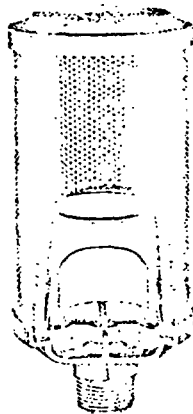
A continuing, effective hearing conservation program as required by the Federal Safety and Health Act can help to reduce noise exposure.



NOISE SURVEY DATA



NAME CEMENT ASBESTOS PRODUCTS CO.		POLICY NUMBER NWC 47 27 43																	
LOCATION Van Buren, Arkansas		SURVEY DATE January 7, 1975																	
Work Area Surveyed: Cyclone Area	OCTAVE BAND NOISE ANALYSIS <table border="1"><caption>Octave Band Noise Analysis Data (Top Graph)</caption><thead><tr><th>Band Center Frequency (Hz)</th><th>Sound Pressure Level (dB)</th></tr></thead><tbody><tr><td>125</td><td>89</td></tr><tr><td>250</td><td>94</td></tr><tr><td>500</td><td>83</td></tr><tr><td>1k</td><td>82</td></tr><tr><td>2k</td><td>77</td></tr><tr><td>4k</td><td>60</td></tr><tr><td>8k</td><td>65</td></tr></tbody></table>			Band Center Frequency (Hz)	Sound Pressure Level (dB)	125	89	250	94	500	83	1k	82	2k	77	4k	60	8k	65
Band Center Frequency (Hz)				Sound Pressure Level (dB)															
125				89															
250				94															
500	83																		
1k	82																		
2k	77																		
4k	60																		
8k	65																		
Permissible Exposure (Hrs/Day) 6																			
Noise Level (dBA): 92																			
Comments: General area around cyclone separators.																			
Work Area Surveyed:	OCTAVE BAND NOISE ANALYSIS <table border="1"><caption>Octave Band Noise Analysis Data (Bottom Graph)</caption><thead><tr><th>Band Center Frequency (Hz)</th><th>Sound Pressure Level (dB)</th></tr></thead><tbody><tr><td>125</td><td></td></tr><tr><td>250</td><td></td></tr><tr><td>500</td><td></td></tr><tr><td>1k</td><td></td></tr><tr><td>2k</td><td></td></tr><tr><td>4k</td><td></td></tr><tr><td>8k</td><td></td></tr></tbody></table>			Band Center Frequency (Hz)	Sound Pressure Level (dB)	125		250		500		1k		2k		4k		8k	
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Noise Level (dBA):																			
Comments:																			



Exhausting air at high pressure often produces high noise levels. The noise may be reduced by reducing the high velocity responsible for noise generation. The required velocity reduction may be obtained with a dispersive muffler which distributes the air flow over a large area. When an Allied Witan muffler as shown was attached to the exhaust of a 100 ton bull press, the noise was reduced as indicated by the curves. Note that the noise from the muffled exhaust scarcely exceeded shop background noise except in the higher bands.

Example 11.P—Reduce velocity.

Buyer's Guide to Materials for Noise and Vibration Control

This Buyer's Guide lists manufacturers and suppliers of materials for the control of noise, vibration, and mechanical shock. Refer to the table below and preceding each of the four major categories for the various classifications by material type.

Sound absorptive materials are porous or fibrous materials which absorb sound energy — they do not block the transmission of sound.

Sound barrier materials are dense, impervious materials which block the transmission of sound energy — they generally reflect rather than absorb sound.

Vibration damping materials are viscoelastic materials

that absorb vibrational energy or restrain the vibratory motion of mechanical structures.

Vibration isolation materials are resilient materials that isolate mechanical structures from forced vibration or shock energy sources.

For easy reference to the company or product wanted, find the appropriate category in the table below. Then locate the manufacturer by referring to the company listings and product sub-classifications. Companies which appear in bold-face type are advertisers in this issue.

I. Sound-Absorptive Materials

1. Fiberglass
2. Glass Fiber & Foam
3. Mineral Fiber & Porous Metals
4. Mineral Wool
5. Perforated Acoustic Tile
6. Perforated Sheet Metal
7. Plastic Acoustic Tiles
8. Stuffed Assembly Units
9. Spray-on Absorptive Coatings
10. Wood Fiber & Board
11. Wood & Fiberglass Panel & Other

II. Sound-Barrier Materials

1. Acoustic Fibers
2. Fiberglass Sheet & Panel Composites

III. Gypsum Board

4. Insulation Board
5. Lead Sheet
6. Loaded Plastic Sheet
7. Loaded Plastic-Plastic Foam Composites
8. Loaded Rubber Sheet
9. Plastic Cellulose Composites
10. Particle Board
11. Saturated & Swelling Taper
12. Semi-Liquid Composites
13. Sheet Metal-Fiberglass Composites
14. Sheet Metal-Plastic Foam Composites

IV. Vibration Damping Materials

1. Adhesives
2. Elastomers
3. Mastic Sheet & Tile
4. Plastic Sheet & Tile
5. Semi-Liquid Composites, Mastic Tiles
6. Semi-Liquid Composites, Plastic Board
7. Sheet Metal-Elastomer Composites
8. Tapes

V. Vibration Isolation Materials

1. Acoustic Fibers & Composites
2. Elastomers
3. Fibrous Elastomers & Boards

I. Sound-Absorptive Materials

1. Fiberglass
2. Glass Fiber & Foam
3. Mineral Fiber & Porous Metals
4. Mineral Wool
5. Perforated Acoustic Tile
6. Perforated Sheet Metal
7. Plastic Acoustic Tiles
8. Stuffed Assembly Units
9. Spray-on Absorptive Coatings
10. Wood Fiber & Board
11. Wood & Fiberglass Panel & Other

Acoustics, Inc., 1700 E. 8th St., Tampa, FL 33611 (2.7)

Acoustics, Inc., 17210 Oakview Rd., Detroit, MI 48219 (3)

Acoustic Industries, Inc., Fiberglass Products Div., 2709 E. 2nd St., W. Memphis, TN 38112 (7)

Alfred Witak Co., 13000 Progress Hwy., Cleveland, OH 44133 (5.6)

Alper Acoustics Div., P.O. Box 27153, New Orleans, LA 70117 (6)

Amalgamated Acoustical Products, 8740 Broadway, New York, NY 10019 (2.1)

Amfibon, Inc., 111 Park Rd., South Plainfield, NJ 07080 (7.2)

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