FILE NAME: Asbestos Cement Pipe and Sheet (ACPS)

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Johns-Manville

MARKETING BULLETIN

CP-78-40

Division Headquarters
October 6, 1978

TO: ALL PIPE PERSONNEL

WHAT PIPE IS SAFE?

I am attaching a Health Facts bulletin put out by Hal Olson of the U.S. Pipe Division. Recently there have been television articles regarding the hazards of using asbestos based products and no doubt many of you are having questions put to you by your customers.

Hal has brought up several good points in this bulletin which should permit you to discuss the topic more knowledgeably. One interesting point he makes toward the end of the paper is that more work has been done on the use of asbestos cement pipe and it could be argued that it is now determined to be the least likely to represent a health hazard. This is a new approach and one worth putting forward.

J. F. SMALL

Health Facts

Johns-Manville Pipe Products Marketing Division

September 21, 1978

WHAT PIPE IS SAFE?

The concern that is being generated about asbestos in water supply is increasing daily. A year ago it was rarely reported in the newspapers that utilities were questioning the use of A/C Pipe because of a suspected health hazard, but there were literally thousands of articles about the health hazards of airborne asbestos. Today there are many articles reporting that water utilities are expressing concern about the use of A/C Pipe. Emotional outbursts of uninformed citizens are reported, and once in print, such irresponsible statements often take on a quality of authenticity. When such emotion is generated, it frequently becomes politically expedient to abandon the use of A/C Pipe. It is for this reason that it is so important to inform responsible public officials about the facts before an emotional situation develops that gets the press and the citizens clamoring to ban A/C Pipe.

One would have to deaf and blind not to be aware that asbestos has been designated as a carcinogen. The National Cancer Institute and the U.S. Dept. of HEW have recently been running spot T.V. commercials warning people who have worked with asbestos to consult their doctors. A recent T.V. documentary by Jules Bergman was devoted to the hazards associated with asbestos. Articles are still appearing in newspapers about asbestos sprayed ceilings in schools and other public buildings.

What is not so well publicized is the fact that what can be said about A/C Pipe as a possible health hazard can be said with equal force about the other commonly used water main materials.

1. All commonly used pipes can contribute minor amounts of carcinogenic materials to water supply:
   a. Galvanized iron pipe can contribute cadmium lead and zinc to water.
   b. PVC Pipe can release vinyl chloride monomer.
   c. A/C Pipe when carrying very aggressive water, can impart asbestos to water.
   d. Asphalt or coal tar lined iron or steel pipe can release polynuclear aromatic hydrocarbons. (PAH's)

   All of these are recognized carcinogens.

2. The amount of toxic material entering water supply from flowing through pipe is extremely minute, and there has been no data developed that would show any of these piping materials represents a health hazard

3. The EPA has studies underway at the present time investigating all of the above listed materials to measure the amount of carcinogens that can enter the water supply, and to evaluate their potential as a health hazard to the public who drinks the water.

At the 5th Annual Water Quality Technology Conference, sponsored by AWWA last December, two papers were presented by representatives of EPA. In their paper "Water Quality Deterioration in the Distribution System", it states, "To prevent corrosion of cast iron or steel pipes and to aid in the curing of cement lined pipes, the inside of such pipes may be lined with asphalt or coal-tar coatings. Depending upon conditions, temperature, thickness and age, during the production of these coatings polynuclear aromatic hydrocarbons(PAH's) may be released. The solubility of most PAH's in water is relatively low; however, a number of representatives of the PAH's are known carcinogens...".

In a second paper "High Pressure Liquid Chromatography for the Measurement of Polynuclear Aromatic Hydrocarbons in Water", it states, "The level of these PAH's in drinking water becomes quite important when related to the health effect of the compounds, as some of the PAH's produce cancer in laboratory animals."

In "Drinking Water and Health", a report by the Safe Drinking Water Committee of the National Academy of Sciences, it recommends that strict limits of some PAH's be applied in drinking water standards.

In "Human Health and the Environment-Some Research Needs" (U.S. Dept. H.E.W. 1977) it states, "Methods capable of both quantitative and qualitative anaylsis should be develped to detect important classes of water borne organic toxicants, such as polynuclear aromatic hydrocarbons...".

From the above it can be seen that A/C Pipe is not alone in piping materials that can contribute a recognized carcinogen to water supply, and that the EPA recognizes this fact and is evaluating all pipes as potential health hazards.

A/C Pipe is however, unique in that more work has been done to try and evaluate asbestos in water supply as a health hazard than has been done to evaluate the dangers associated with PAH's, Vinyl Chloride Monomer, and Cadmium as found in potable water as a health hazard. All studies involving asbestos in water as a health hazard have proven negative.

Three such studies have been reported in the prestigious American Journal of Epidemiology:

1. An Investigation of the Use of A/C for Public Water Use and the Incidence of Gastrointestinal Cancer in Connecticut. Vo. 107 No. 2.
   By J. Malcolm Harrington and Associates

   "No association was noted between these asbestos risk scores and gastro-intestinal tumor incidence".

2. Investigating Possible Effects of Asbestos in City Water: Surveillance of Gastrointestinal Cancer Incidence in Duluth, Minnesota. Vol.103 No.4
   By B.S. Levy and Associates

   "Although some differences in G.I. Cancer incidence occurred among the three cities in 1969-1971, there was no consistent pattern of statistically significant differences observed".

3. Cancer Mortality and Asbestos Deposits Vol. 104 No.5
   By T.R. Fears

   "The study of cancer mortality rates in these matched counties provides no evidence that naturally-occurring asbestos is a great hazard to the general population of counties with asbestos deposits".

For several years, FDA has been conducting an extensive study on rats being fed 1% of their total diet as asbestos. Preliminary reports of this study also have not shown that ingested asbestos even in those massive amounts compared to that ingested with water(230,000,000 times the asbestos found in water), has resulted in an increased death rate in the rats attributable to asbestos ingestion.

I would presume that epidemiology studies would also indicate that PAH's as found in water supplies that flow through asphalt lined iron pipes are in such minute amounts that they too, do not increase the risk of cancer to those who drink the water; but to-date, I know of no such study that would confirm this. As a consequence, it could be argued that at this time, A/C pipe is the one piping material that has been determined to be the least likely to represent a health hazard.

Copies of the two papers by EPA reported in the Proceedings of the AWWA 5th Annual Water Quality Conference and referenced in this bulletin, have been sent to District Managers. Referenced American Journal of Epidemiology articles have been previously sent to District Managers.

H.L. Olson, Manager
Environmental & Engineering Developments
PIPE DIVISION

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cc: D. Markusson 2-18
L. Sorrentino 1-06
W. McCallie 2-17

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