Draft for Introduction for Mailing
Piece on Health Aspects of Fiberglas

ECA - 6/12/41

[redacted]

Fiberglas is a new basic material.

When a new basic material is offered to industry, it is right and proper that workmen, personnel directors, safety engineers, plant physicians, insurance underwriters, and representatives of governmental agencies devoted to protecting the welfare of workers should ask: "Does the manufacture and use of this material introduce new ~~un~~ unknown or uncontrollable health hazards?"

It is right and proper that this question be asked about Fiberglas. Those who ask it are entitled to a complete, authoritative, documented answer. They will recognize, too, that those who are engaged in the manufacture of Fiberglas necessarily must have reassured themselves about the health aspects of the material before offering it for sale--for two reasons:

1. From a humanitarian point of view, no company can afford to subject its employees to an unknown hazard.
2. From a cold business point of view, no company can afford to jeopardize its own existence by subjecting itself to the liability of unknown hazards that may be encountered by those to whom it supplies the material.

~~Those~~ Thus sound business reasons dictated years ago--long before Owens-Corning Fiberglas Corporation was formed to manufacture and sell glass in fibrous or filament form--that careful, scientific investigations be carried out by impartial research experts to determine whether Fiberglas introduced any hazards ~~not~~ already known. The Corporations attitude in undertaking these investigations is expressed in the words of its president: "If there is any unknown or uncontrollable industrial hazard in the manufacture or application of this material, we want no part of it."

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Reassuring are the results of that original research and of the research undertaken subsequently to supplement the scientific investigations carried out years ago. Fiberglas has been given a clean bill of health, and the health record of employees in the plants where Fiberglas is manufactured as well as wide field experience of applicators and rehandlers throughout the country justifies the conclusion that Fiberglas introduces no new industrial hazards.

Here is the evidence—

Dr. Leroy U. Gardner, Director of the Saranac Laboratory for the Study of Tuberculosis, has investigated the biological activity of glass wool dust. He injected finely powdered glass wool into animals. He put it in the ear veins of rabbits and the stomachs of guinea pigs. He made these tests because, he writes:

> "Experience in this laboratory and elsewhere has demonstrated that these methods are adequate to demonstrate the capacity of a mineral dust to produce fibrosis. Investigation of over 20 different types of dust has indicated that if no reaction occurs in organs other than the lungs, it will not occur in the respiratory tract and that conversely dusts like silica and asbestos that are known to produce fibrosis of the lungs also cause fibrosis in other tissues when injected in sufficient quantities."

And here is Dr. Gardner's conclusion, embodied in his six-page report dated May 5, 1936:

> "Neither plain nor oiled glass wools have caused fibrous or any chronic progressive reaction by injection, and therefore it is a reasonable conclusion that their inhalation would likewise fail to produce such effects.

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Dr. Gardner reports further that he injected glass wool dust into the veins of rabbits, which showed "no gross evidence of reaction."

"These results," he says, "are in every way comparable to to those observed with inert dusts. Uncombined silica, on the other hand, produces acute inflammation followed by progressive fibrosis....

"The general conclusion that both oiled and plain glass wools are incapable of exciting progressive fibrosis in the tissues," Dr. Gardner adds, "is warranted from these observations in view of the wide experience in this laboratory with these methods of testing the biologic activity of inorganic dusts."

Dr. Gardner concludes the report with this statement:

"Trusting these findings may allay any skepticism as to a theoretical hazard involved from the handling of glass wool, I am ...."

Dr. Gardner has supplemented his ingestion experiments with inhalation experiments in which he compelled test animals to live in an atomosphere with a high concentration of glass fiber dust. In a progress report dated December 17, 1940, he wrote:

"....the animals exposed to glass wool dust are showing little or nothing. There are plenty of wool fibers in the atmosphere but they are not penetrating the lungs to an appreciable degree and I don't believe ever will. The fibres tend to matt on rafters and other objects in the room. I presume it does so in the nostrils of exposed guinea pigs so that little of it reaches their lung tissue. I feel certain that the same must be true of human beings who work where this material is being handled."

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And on January 17, he added:

"....animals exposed to Fiberglas for a year's time fail to inhale any glass in fibrous form.

"A little of the granulated material produced in fracturing this material gets into the lungs in the form of particulate matter and there sets up very slight amounts of benign chronic inflammatory reaction. However, I feel quite positive that we are not going to encounter any evidence of an asbestos-like reaction because none of the fiber reaches the interior of the lungs."

Dr. Gardner's findings are supported by other authorities. For example, in an article on "Response of Peritoneal Tissue to Industrial Dusts" by J. W. Miller and R. R. Sayers, published in U.S. Public Health Reports 56 (7) 264 - 72 (1941) and excerpted in the May, 1941, publication of the American Ceramic Society (Vol. 20, No. 5), glass wool is listed among "twenty-seven dusts causing an inert reaction."

Another reference of interest is in the "Questions and Answers" Section of Occupational Hazards and Safety, Volume 1, Number 4 (January, 1938), page 40. In response to an inquiry about possible silicosis hazard in handling glass wool, the editor replies:

> "Careful investigation of the possible silicosis in the handling of glass wool indicates that there is no silicosis hazard involved. Extensive tests and studies have been conducted both in the laboratory and field and results indicate that the inhalation of glass wool PARTICLEs will not cause silicosis."

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In his "Interim Report on Glass Wool Inhalation Experiment" dated May 16, 1941, Dr. Gardner opens with this statement:

"Experiments still in progress at the Saranac Laboratory lead to the tentative conclusion that <u>there can be little or no injury to the lungs from exposure to glass wool dust because the material is not inhalable</u>."

The complete report follows:

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