PLAINTIFF'S EXHIBIT

UC-4949

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File

Calidria ASBESTOS

UNION CARBIDE

UNION CARBIDE CORPORATION · METALS DIVISION · P. O. BOX 579 · NIAGARA FALLS, N.Y. 14302 · TEL: 716-278-3376

January 12, 1978

Dr. Herb Davis
Celanese Plastics Company
86 Morris Avenue
Summit, NJ 07901

Dear Herb:

The following is a brief recap of our telephone conversation yesterday regarding the fiber length distribution of our "Calidria" asbestos products. The request for information on this subject originated with Joe Wynn of your purchasing department, who asked that it be submitted directly to you.

We normally report the length of all our products as averaging five microns, with some fibers up to 20 microns probably being present. This is basically true for all of our products, as the same ore is used for our entire product line, and it is assumed that we do nothing in our processing which alters the length of the individual fibers. However, as I have never been sure where this data came from, I asked our metallography lab to take a quick look at three of our products. The work was not intended to be an "in depth research project," and I am sure that some bias may exist in their results.

The products considered were:

1. "Calidria" RG-144 - A highly purified and well liberated fiber. (Presently being used at your Bishop, TX plant.)

2. "Calidria" RG-244 - Similar to RG-144 but which contains an amorphous silica coating.

3. COF-25 - Probably the purest and most liberated grade which we can produce commercially at this time.

Each sample was dispersed in alcohol, utilizing a small amount of ultrasonic energy in order to break up some of the clumps and aspirated onto a carbon-coated copper grid. They were then examined under a transmission electron microscope at 20,000X and the length of 100 fibers selected at random measured. The results are presented in the attached table.

Since our telecon yesterday, I obtained a prepublication copy of a paper describing similar work on "Calidria" RG-144 by Mount Sinai School of Medicine, the pertinent portion being enclosed. I have not made a comparison between the two sets of data, having chosen to let someone with a better understanding of statistics to do this. However, eyeballing the results, they seem to be in the same ballpark.

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Also, in regards to your question concerning the aspect ratio for defining an asbestos fiber, I am submitting the first page of a draft of the analytical method for determining asbestos fibers in air as specified by NIOSH. As paragraph 1.3 points out, a particulate with a length to diameter ratio of 3 to 1 or greater is to be considered a fiber.

Please let us know if we can provide additional information.

Very truly yours,

Gordon L. Dickson
Manager-Eastern Region
Sales & Technical Service

GLD:dal
Enclosures

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"CALIDRIA" ASBESTOS FIBER LENGTH DISTRIBUTION
(Determined 12/77 by Niagara Falls Metallography Lab)

Fiber Length (μ)	Fiber Count RG-144	RG-244	COF-25
0.1	1	5	3
0.2	8	7	10
0.3	8	10	2
0.4	11	16	9
0.5	12	4	18
0.6	6	1	1
0.7	4	4	1
0.8	2	1	2
0.9	1	1	1
1.0	11	9	18
1.5	10	8	4
2.0	10	5	7
2.5	2	6	5
3.0	5	7	6
4.0	3	5	2
5.0	2	-	1
6.0	1	3	4
7.0	2	2	2
8.0	1	-	3
9.0	-	1	1
10.0	-	1	-
11.0	-	1	-
12.0	-	2	-
15.0	-	1	-
TOTAL	100	100	100

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