In view of the high values for silica obtained with the animals exposed to 100 per cent ball-milled dust, it is important to note that their pulmonary response was much less than that of animals exposed for 24 months to the short fiber asbestos in the previous experiment. This again indicates that the biologic activity of asbestos inhaled into the lung is not increased by a reduction in size of the fibers.

Reaction in White Rats and Mice.—In this experiment 40 rats were exposed for periods up to 20 months and 24 mice for periods up to 12 months. In neither species did even a suggestion of asbestosis develop, and reaction was limited to phagocytosis of inhaled particles by widely scattered dust cells which remained free in air spaces or were transported to the tracheobronchial lymph nodes. No asbestosis bodies were found in the rats, but in the mice there were a very few small, nonhaustrated forms within phagocytes.

TABLE 10.—*Analyses of Lungs of Guinea Pigs Exposed to Dust in Inhalation Experiment with 100 per Cent Ball-Milled Asbestos Dust*

Exposure to Dust, Mo.	Period in Normal Air, Mo.	Amt. of Ash, % of Dried Lung	Total SiO_2, % of Dried Lung	Total SiO_2, % of Ash	Tissue Reaction *
Dust Exposure Continuous During Life					
1	0	4.85	0.21	4.28	
		4.30	0.30	7.05	
		4.35	0.24	5.60	0
2	0	4.66	0.23	4.90	
		4.60	0.34	7.40	
		5.05	0.61	12.01	0
3	0	5.60	0.70	12.47	
		5.07	0.32	6.38	
		5.74	0.56	9.77	0
5	0	5.10	0.38	7.51	
		5.08	0.38	7.47	
		5.02	0.39	7.72	0
8	0	4.35	0.52	11.86	0
12	0	5.65	1.25	22.16	
		6.24	1.45	23.28	0
16	0	5.40	1.02	18.96	
		5.01	1.11	21.95	±
20	0	5.65	1.28	22.60	
		5.20	1.28	24.61	±
24	0	6.30	1.85	29.05	
		5.56	1.21	21.70	±
Dust Exposure Followed by Prolonged Residence in Normal Air					
28	2	7.25	1.57	21.63	
		8.67	2.19	25.24	+
28	8	5.25	0.68	12.99	
		5.96	0.87	14.55	+
28	12	6.38	0.84	13.08	
		5.17	0.64	12.41	2+

* The symbols averaging the tissue reaction in each group represent merely the relative degree of reaction, ranging from 0 to ± (questionable) to 2+ (the maximum observed in this experiment). The relationships apply only within this table and cannot be compared with symbols in other tables.

Summary and Interpretation of Inhalation Experiment with 100 per Cent Ball-Milled Asbestos Dust.—The tissue reaction observed in this experiment was not as intense as that in the previous investigation with short fiber asbestos. The reaction was slower in development and less extensive even though more dust accumulated in the lungs. Since there were fewer fibers longer than 3 microns in the material used in this experiment, the results tend to confirm the interpretation made in the summary of the previous short fiber experiment that the reaction is not primarily chemical in nature, and to support the impression that reduction in size of asbestos fibers does not increase the biologic activity of asbestos inhaled into the lung.