

"In practice it is the dust of quicklime and slaked lime, given off in the course of manufacture and manipulation, which gives rise to the well known lesions. This very fine dust is deposited readily on the mucous membranes and skin. When inhaled it may penetrate as far as the respiratory tract."

Although lime has a tendency to irritate the mucous membranes of the respiratory tract, it is not considered particularly hazardous when breathed in small quantities at intermittent intervals. However, complications may result when a large amount of the dust is breathed more or less regularly. Therefore, it is desirable to wear an approved respirator such as the MSA "Comfo" or the Willson "Dust-tite".

B - METALLIC ZINC DUST: Metallic zinc dust (90% through 300 mesh) is an important constituent in Pipe Thread Coating Compound. About 1500 pounds of this material is used per batch, and about fifty batches are made per month. The zinc dust comes in 400 pound wooden kegs or 500 pound steel drums. According to a chemical analysis, this zinc dust is 99.20% metallic zinc and 0.80% zinc oxide (ZnO). The particle size distribution of a typical sample as determined by a standard screen analysis is:

All through 120 mesh screen

3.76%	retained on	200 mesh
2.04%	"	" 250 "
22.24%	"	" 325 "

The zinc dust is dumped from the keg or drum onto a metal sheet in front of the kettle and shoveled into the kettle by two or three men (with an average service of about three months) from the General Labor Department. This is a very dusty operation. One sample taken during the shoveling of zinc dust had as high as 68,760,960 particles per cubic foot of air the average concentration being 28,331,328 particles, less than ten microns, per cubic foot. The workmen are exposed to this dust about thirty minutes per batch or approximately 2-1/2 hours per month. They wear dust respirators. About 95% of these dust particles are dark grey, opaque, angular in appearance under the Konimeter microscope, and about five microns or less in size; 5% appear slightly angular, crystalline, ten microns or less in size. The crystalline material is probably zinc oxide.

What Physiological Effect is Produced by Zinc Dust? Although zinc oxide (ZnO) produces definite physiological effects, metallic zinc dust does not seem to affect the person breathing it other than that caused by the inhalation of any inert dust. Nevertheless some investigators are of the opinion that zinc is not entirely inert and harmless. Certainly it is not as harmful as lead or arsenic, but the United States Public Health Service has certain limitations on the amount of zinc that is permitted in drinking water. According to Nuck, E. Remy, and F. Foltzmann (Jour. Indust. Hyg., Vol. 12, 1930, page 171 Ab.) Zinc dust can cause lung trouble after being inhaled in large quantities. Zinc dust is also very definitely explosive.

C - ASBESTOS "FLOAT": Float asbestos is used in the manufacture of tractor lubricants. It comes in 150 pound cloth bags by railroad, about 2000 bags to a car. From 200 to 3000 pounds are used per batch and from two to fifteen batches are made per month. The bags of asbestos float are dumped into the mixing kettle by three men with an average service of twelve years. These laborers are exposed to dust about forty minutes per batch. Dust concentration as high as 8,269,440 particles, ten microns or less in size, per cubic foot are produced during the dumping of asbestos float, the average being 3,058,560 particles per cubic foot. About 98% of these particles are slightly angular, round, transparent in appearance under the Konimeter microscope. and two microns or less in size; 2% are round, semi-opaque,