

Report on

THE CONCENTRATION OF METHYL ALCOHOL AND TEL IN THE AIR ABOUT THE "VITOL" CANNING OPERATION AT THE PURE OIL COMPANY'S BULK PLANT IN CINCINNATI

Introduction

Air samples were taken on several occasions at the breathing level of the workmen engaged in filling quart cans with "Vitol" antiknock and power fluid at the Cincinnati bulk plant of the Pure Oil Company.

Observations and Remarks

September 7, 1948

The first inspection of the operation was made by Dr. Karl V. Kitzmiller and Mr. J. Cholak on this date, while experimental filling was being carried out. The machine had been set up in the open on a loading platform between two doors of a warehouse. A tarpaulin had been hung along the open side (or outside) of the platform, to provide protection against rain and also with the idea that any breeze would be channeled along the platform and thus would aid in the removal of vapors. Some difficulty was experienced in the operation of the filling equipment, because of pressure which was built up in the filling line. As a result there was considerable spraying and spilling of the fluid whenever the valves were opened for filling cans. Further spillage occurred as the cans moved along the conveyor to the capping end of the machine, and fluid was continually dripping to the floor both at the filling and at the capping ends of the machine. The plant management was therefore advised to provide rubber gloves, aprons, and boots for the filler as well as for the worker who loaded the cartons with the

cans as they came from the capping end of the machine. It was suggested that containers be set at the points of greatest drippage in order to keep as much of the fluid as possible off the floor.

September 8, 1948

Actual canning was started September 8. The recommended safety measures involving the use of rubber gloves, aprons, and boots were being observed quite faithfully by the filler, but the loader at times removed his gloves and wore no apron or boots. The machine was moist with fluid. Two cans were set in position to catch the major portion of the drippage from the machine, but some fluid reached the floor. The day was warm and clear with very little breeze, and, as a result no movement of air was noted on the platform. Air samples were taken at the filling and capping ends of the machine. Simultaneous samples were collected for lead and methyl alcohol determinations. The results are recorded in the accompanying table.

September 10, 1948

The high values obtained for the air samples of September 8 suggested the need for further checking of the atmosphere. Accordingly, it was planned to take additional samples for the determination of TEL. On arriving at the plant, however, it was found that due to a faulty motor, the canning operation could not be resumed until Monday morning, September 13. Nevertheless, since there appeared to be appreciable odor about the machine a general air sample was taken on the platform. The result recorded in the table while below a promptly dangerous level was appreciably higher than that found for a control sample taken at the Kettering Laboratory. Because of the high results of September 8 and the relatively high