

CONTAMINATED TANKS FOR FOOD AND WATER

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N22624

Mr. J. E. Larrows,
Amino Products Company,
Boulevard Building,
Woodward Avenue,
Detroit, Michigan.

Dear Sir:

Mr. H. A. Mack, of the Ethyl Gasoline Corporation, has given us full information on the problem with which you are confronted in connection with certain tanks purchased from Wizard Oil Company, and projected for use for the storage of one of your products. Samples of the contents of these tanks were obtained by a representative of the Dayton division of Ethyl Gasoline Corporation and forwarded to us together with suitable notations on the tanks. The analyses have been completed and we are now in position to make certain recommendations.

The important fact revealed by the analyses is that Tanks 1 and 2 contained relatively large amounts of inorganic lead. The sludge from Tank 1 contained 0.32% of inorganic lead; that from Tank 2 contained 3.00% of inorganic lead. In this connection, it should be borne in mind that large amounts of lead compounds may be found in gasoline tanks, as the result of the deposition of suspended lead compounds carried over from the sweetening process, (litharge and caustic soda treatment). It matters little, therefore, in this instance, whether or not leaded gasoline had been stored in the tanks. Indeed, gasoline storage tanks in general are so likely to contain large quantities of lead compounds, quite apart from their use for the storage of leaded gasoline, that they should not be used for storing food materials or drinking water without thorough investigation. The material from Tank 1 contained a very small quantity of organic lead. That from Tank 2 showed only traces of organic lead. The findings would seem to indicate that both of these tanks had had leaded gasoline in them at some time, but considering the smallness of the quantities of organic lead, this is not entirely certain.

When one considers the long period of storage of liquid material in these tanks, it is quite apparent that dangerous concentrations of lead could occur in the finished product. Therefore, we strongly recommend that these tanks should not be used for the purpose contemplated, until every effort has been made to remove all of the lead-bearing materials from the inside of the tank.

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to sandblast the tank thoroughly. While this would not remove all of the lead-bearing sludge and scale from the crevices and about rivets, it would reduce the total amount of contaminated material inside the tank very considerably, so that when the amounts that go into solution are diluted into the total volume of the contents of the tank, harmful concentrations may be avoided.

It is barely possible that the processing of the materials stored in the tanks would tend to remove dissolved lead. It is more likely that the procedures that reduce the volume of the finished product, as compared with the original material, will tend to concentrate the lead in the material. Accordingly, regardless of the methods of cleaning the tanks, we should advise careful checking of the lead content of the materials introduced into these tanks after some weeks or months of contact with the container, and a corresponding check on the finished product before it is marketed. We shall be glad to give such assistance along these lines as may be feasible.

Very truly yours,

Robert A. Rehoe, M. D.

RAK ef

C. C. Mr. H. A. Mach,
Ethyl Gasoline Corporation,
Mutual Home Building,
Dayton, Ohio.

Mr. Carl Crane,
Animo Products Company,
Rossford, Ohio.

Dr. Willard Machle

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The determination of organic and inorganic lead in sludge and scale samples from a number of tanks of The Aminco Products Company, Toledo, Ohio.

Analysis Number	Description	Grams Sample	Mg. Organic Pb	% Organic Pb	Mg. Inorg. Pb	% Inorg. Pb
41A-4058	Tank #1, sludge swept from tank plus particles of sealing compound	10.0	0.42	0.004	32.0	0.32
41A-4059	Tank #1, sludge from pile outside man-hole (from evidently recent cleaning)	10.0	0.21	0.002	50.0	0.50
41A-4060	Tank #2, sweepings from bottom, scrapings from lower wall	9.0	0.09	0.001	275.0	3.05
41A-4061	Tank #3, sludge from bottom	1.0*	----	-----	0.24	0.024

*This sample practically completely soluble in xylol-alcohol.

Samples Received: 11-13-41

Samples Reported: 11-19-41

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