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were instructed and guided in safe handling. Over the years, the safety precautions established and the control measures followed have been very successful in promoting the safe handling of tetraethyllead, and the same measures should be equally effective in the handling of tetramethyllead. In essence, the control of the health of employees working with such compounds as these is based on sound clinical medicine, proper industrial hygiene, including, when necessary, the use of adequate analytical procedures for following the extent of the absorption of lead by persons subjected to occupational exposure. As in the case of any other measurement in the laboratory, it is first essential to know what is normal and what is abnormal for the test being performed. The procedures outlined in this paper have been remarkably successful over the years in promoting the safe handling of tetraethyllead and associated compounds, both in their manufacture and in their introduction into gasoline.

- 464 Tetraethyllead Intoxication. L. W. Sanders, Sr.
Arch. Environmental Health 8, 270-277 (Feb. 1964).

The signs and symptoms of tetraethyllead intoxication are not specific or definitive enough to allow for a reasonably certain diagnosis without a sound history of adequate exposure or valid evidence of the absorption of dangerous quantities of this compound of lead. The results of determination of the concentration of lead in the urine (and in the blood) are never available immediately, and frequently are available only in a matter of days. Therefore, a thorough knowledge of the possibilities of exposure becomes of the utmost importance in establishing a diagnosis. It must be emphasized and re-emphasized that tetraethyllead intoxication exhibits itself as purely a psychotic state, for this is the pattern which invariably is seen, and yet is hardly ever identified by physicians who have not had prior experience with it. Whatever other physiologic disturbances may be concurrent with this psychotic disturbance are so masked as not to be in evidence.

- 465 Tetraethyllead and Tetramethyllead. Comparative Experimental Pathology : I. Lead Absorption and Pathology. G. W. H. Schepers.
Arch. Environmental Health 8, 277-295 (Feb. 1964).

Tetraethyllead and tetramethyllead suspended in peanut oil were administered by intragastric intubation to groups of Charles River cesarean-derived albino rats of both sexes. The maximal amounts administered equalled the approximate lethal dose of each compound and also included one tenth, one hundredth, and one thousandth of this dosage. In terms of their lead content, the dosages of tetramethyllead were about 7.6 times greater than those of tetraethyllead. The approximate lethal dose and the one-tenth fraction of this dose of each compound were administered once to individual rats in the respective groups. The smaller dosages were administered successively 100 times, so that their cumulative amounts equalled the doses administered singly. A proportion of the rats, to which the maximum single doses had been given, died. All others survived 21 weeks and were then killed for study. Tissues recovered at necropsy were subjected to histologic appraisal and spectrographic analysis. Both tetraethyllead and tetramethyllead caused significant lesions in various organs, a type of selective distribution of lead in tissues, and specific shifts in the mineral composition of various tissues. The latter will be dealt with in a succeeding paper.

-- Author's summary

- 466 Analytical Methods for Determination of Lead. J. Cholak.
Arch. Environmental Health 8, 222-231 (Feb. 1964).

The selection of an analytical method for lead will depend upon the equipment available, the training and personal preferences of the investigator, and, of course, the nature of the problem. Almost any of the foregoing procedures, whether chemical or instrumental, can be used directly or can be revised and modified to yield reliable results. The attainment of the latter, however, is possible only when the investigator has an intimate knowledge of all the problems and difficulties associated with this type

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