

- 461 Importance and Uses of Lead. R. L. Ziegfield.
Arch. Environmental Health 8, 202-212 (Feb. 1964).

From the present paper it is obvious that the industrial significance of lead is immense and anything but simple. So likewise is its hygienic significance. Merely to know that a man works in a lead plant or even works with lead is no indication that he has sustained occupational exposure to lead. Because a child has been exposed to paint does not necessarily mean that it has been exposed to lead paint, anymore than exposure to a lead pencil means exposure to lead. It seems obvious that many people working with or exposed to lead may have no dangerous exposure, and it seems equally obvious that if the exposure is understood, it can be controlled. It is not the intention of the author to minimize the importance of effective hygiene in the lead industries. The Lead Industries Association has been fully cognizant of the problems ever since its organization in 1928, has made numerous monetary grants for medical research over the years, and has a health and safety director to cope with these problems. Their plea is for the continuation and extension of thorough investigation of the hygiene problem relative to lead, and the broad dissemination of sound information among all who have reason to be concerned. -- Author's conclusion

- 462 Natural Occurrence of Lead. R. T. P. deTreville.
Arch. Environmental Health 8, 212-221 (Feb. 1964). Reprints Available From
Industrial Hygiene Foundation Upon Request.

In the tables and discussion of this paper it has been shown that there is a low but measurable concentration of lead in soil, water, and food, insofar as these have been examined in widely separated and different areas and communities, from primitive to urban. The average concentration of lead in soil is approximately 16 ppm, garden soils ranging up to 360 ppm, and certain anomalous soils, near natural or artificial sources of lead, containing still higher concentrations up to 10,000 ppm. The average concentration of lead in public water supplies in the United States is about 0.01 ppm, approximately one fifth of the present standard of the United States Public Health Service for potable water. In general, the natural lead content of vegetation, including the edible portions (leaves, fruit, and roots), in the fresh state, is of the order of a few hundredths of a part per million, there being certain notable exceptions in items in which, for some reason related to the physiology of the plant, lead has been concentrated. The flesh of animals and especially certain organs of animals (e.g., the liver), tends to have significantly higher concentrations of lead than does food of vegetable origin, while the skeletal tissues, some of which are used for food (e.g., bone meal), are still higher in their lead content. Somewhat in line with these facts, the natural lead content of the edible tissues of shellfish and crustacea is high. A wide variety of factors result in the contamination of many articles of human food with lead in amounts which vary in significance from negligible to highly significant. On the basis of presently available data, the concentration of lead in the ambient air of cities in the United States may be judged to be of the average of 1 microgram to 5 micrograms per cubic meter, with due regard to geographic, topographic, industrial, commercial, and temporal variables that apply. There are 43 references.

-- Author's summary

- 463 Industrial Hygiene and Medical Control Procedures. Manufacture and Handling of Organic Lead Compounds. A. J. Fleming.
Arch. Environmental Health 8, 266-270 (Feb. 1964).

It has become axiomatic in industry that any chemical, no matter how toxic, can be manufactured or used safely providing prior knowledge of its toxicity and mode of action are available so that procedures and regulations for its safe handling can be devised, and applied faithfully. Suitable regulations must also apply to the users of such compounds, and in the case of tetraethyllead and more recently tetramethyllead, the manufacturers accepted the responsibility of seeing that users of these products

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