

Occupational Exposure to Organic Lead Compounds

*The Relative Degree of Hazard in Occupational
Exposure to Air-Borne Tetraethyllead
and Tetramethyllead*

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Introduction

Tetraethyllead has been in general use as an antiknock agent in gasoline employed as automobile fuel in the United States of America for more than 30 years. It is now in extensive use throughout the automotive world. From time to time since 1930, fuel and automotive technologists in the United States have manifested interest in the use of other lead alkyls, to improve certain gasolines and the operation of certain automotive engines, through the use of a somewhat more volatile compound than tetraethyllead. Tetramethyllead, by reason of its superior volatil-

ity, appears at this time to be the most satisfactory member of the group, although other members of the intermediate ethylmethyl series of alkyls, along with tetramethyllead, have now found limited commercial use in the United States and in certain other countries. (Only tetraethyllead is used in aviation gasolines.)

Coincident with the advent of tetramethyllead upon the antiknock scene, certain hygienic problems presented themselves in much the same sequence as those associated earlier with the experimental and, eventually, the established use of tetraethyllead. The relative intrinsic toxicity of tetramethyllead, as compared to that of tetraethyllead, had to be examined, and the relative degree of potential hazard (likelihood of absorption) associated with the various occupations involved in its production, distribution, and use had to be

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