

SYMPOSIUM ON RADIOISOTOPES

INTRODUCTION

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The past few years have witnessed a tremendous acceleration of industrial activity in the nuclear field. Industrial groups are employing radioactive tracers to unravel processing mysteries, radiation gages to improve process control, and are interested either in harnessing radiation to create new products or in evaluating the effect of radiation on the performance of their products for reactor use.

Committee E-10 was created some years ago in anticipation of being of service to other ASTM groups as an advisor in this rapidly changing atomic energy scene. Through the individual professional activities of our committee membership we see developing the standards and techniques of tomorrow. It has been one of our primary objectives to bring such thought-provoking and educational information before the general membership of ASTM. This symposium represents such an effort, and brings contributions from some of the most prominent people in their respective fields.

The use of radioisotopes in industry is becoming legend, saving hundreds of millions of dollars each year in terms of process and product improvements and knowledge gained. In the selection of

symposium topics you will find illustrated the amazing breadth of radioisotope tracing. Case histories are presented ranging from electroplating studies, the evaluation of rubber deterioration, and the mechanism of detergency, to the analysis of trace materials by neutron irradiation and the achievement of process control via tracers during full-scale petroleum refinery operations.

The papers on precision industrial gaging of either moving or static solids and solutions will suggest to the reader a wealth of opportunities for future standards and useful applications.

In addition, virtually all companies represented in ASTM will find the final two articles particularly stimulating, whether they manufacture a product destined for use in the nuclear reactor field or are simply interested in exploiting radiation *per se* to initiate new processes or alter the properties of an existing product. These provocative discussions are: "Will ASTM Standards Be Influenced by Radiation Effects in Metals?" and "The Problem of Establishing Specifications for Irradiated Organic Materials."

Industrial progress in the nuclear and applied radiation field has undeniably been tied to the rate of technical training and exchange of information on the subject. Our firm hope and continuing effort will be directed toward this end by assisting any and all interested ASTM groups.

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