SYMPOSIUM ON RADIOISOTOPES IN METALS ANALYSIS AND TESTING

INTRODUCTION

By W. Wayne Meinke[1]

This symposium is intended to acquaint those interested with some of the potentialities for using radioactive tracers and nuclear radiations in metals anaylsis and testing. There are a large number of references to this type of analysis in the literature, but industry has been too hesitant about utilizing them. Of all of the ASTM published procedures, there is not one which utilizes radioactive tracers, and there is only one authorized tracer procedure in the U. S. Pharmacopoeia.

Why is there this reticence? Perhaps early in the years after the war it was because tracers were tied up with Atomic Energy Commission (AEC) authorizations, and most companies found it more convenient not to become entangled in the AEC red tape. This excuse has long since been dispelled by the availability of license-free amounts of tracers. Perhaps another excuse might be the problems involved with potential safety hazards, but again we shall see that license-free amounts of tracers can be handled with general precautions such as would be used in handling cyanide.

This reticence, I believe, is caused primarily by inertia: inertia against trying something new; inertia against these new techniques because they involve more than just a new black box —they also require some manipulation experience.

Our purpose is to try to overcome some of this inertia by showing some of the general types of analysis that can be used in this area, followed by some very specific discussions of what is now being done in industry. A panel discussion will provide an opportunity for questions and informed comments from the floor.

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