1995 116618
N95-23035

OFFGASSING TEST METHODOLOGY FOR COMPOSITE MATERIALS

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ABSTRACT

A significant increase in the use of composite materials has occurred during the past 20 years. Associated with this increased use is the potential for employees to be exposed to offgassing components from composite systems. Various components in composite systems, particularly residual solvents, call offgas under various conditions. The potential for offgassing to occur increases as a composite material is heated under either during cure or during lay-up operations. Various techniques can be employed to evaluate the offgassing characteristics of a composite system. A joint effort between AIA and SACMA resulted in the drafting of a proposed test method for evaluating the offgassing potential of composite materials. The purpose of testing composite materials for offgassing is to provide the industrial hygienist with information which can be used to assess the safety of the workplace. This paper outlines the proposed test method and presents round robin testing data associated with the test method. Also in this presentation if a discussion of classes of compounds which require specialized sampling techniques.

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Biographical Sketch

Dale Scheer is currently a principal technical specialist with McDonnell Douglas Aerospace in St. Louis. He received a Bachelors Degree in Chemistry from the University of Missouri in 1980. For the past ten years he has worked in the area of gas chromatography/mass spectrometry. Much of his work at McDonnell Douglas has focused on the identification of offgassing components resulting from various manufacturing processes. Mr. Scheer is currently coordinating the efforts of the SACMA/AIA Offgassing/Combustion Products Task Force. This task force is developing a test method to evaluate the offgassing characteristics of composite materials.