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NATIONAL BUREAU OF STANDARDS REPORT

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SELECTED BIBLIOGRAPHY

ON

SMOKE MEASUREMENT, CHARACTERIZATION

AND

RELATED SUBJECTS



U.S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

NATIONAL BUREAU OF STANDARDS

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SELECTED BIBLIOGRAPHY ON SMOKE MEASUREMENT, CHARACTERIZATION AND RELATED SUBJECTS

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SELECTED BIBLIOGRAPHY
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ABSTRACT

There are presented in this selected bibliography eighty-seven (87) references pertaining to smoke measurement, characterization, and related subjects. Absorption and scattering measurement techniques of smoke generated during thermal decomposition of materials are paramount in the subject matter. The references are indexed with respect to the publications and organizations involved.

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1. INTRODUCTION

A literature search was conducted to obtain information pertaining to smoke measurement, characterization, and associated subjects. The eighty-seven (87) references contained herein were collected from three general sources: (1) scientific and technical journals; (2) reports of investigations sponsored or conducted by various governmental, industrial, and independent testing organizations; and (3) national standards. The references are indexed with respect to the publications and/or organizations involved.

The bibliography represents the beginning of a continuing effort in this field. The information contained in the references was considered of sufficient importance in describing the state of the art to warrant presentation at this time.

2. SCOPE

The references contained in this bibliography are primarily concerned with the measurement of smoke by absorbed or scattered light techniques. Although some of the references pertain to "aerosols", which is a more general term that includes dusts, smokes and mists within its description, these were kept to a minimum. Efforts were concentrated on smoke generated during the thermal decomposition of materials. "Smokes" cover gaseous disperse systems consisting of particles of low-vapor pressure that settle slowly and are characterized by their mode of formation.

To compliment the smoke measurement subject matter with regard to the hazards presented by the reduction or elimination of visibility as smoke accumulates during a building fire, some references concerned with the human eye, contrast thresholds, and miscellaneous visual concepts have been included.

References pertaining to the determination of particle size distribution, mass or number concentration, coagulation, and other properties were considered outside the scope of this bibliography. A separate literature search is currently being conducted in this area.

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