Institute of Environmental Sciences and Technology

IEST-RP-CC021.3

Contamination Control Division
Recommended Practice 021.3

Testing HEPA and ULPA Filter Media

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CONTENTS

SECTION

1 SCOPE AND LIMITATIONS 5
2 REFERENCES 5
3 TERMS AND DEFINITIONS 6
4 TEST METHODS 7
5 REPORTING AND MARKING 17

FIGURES

1 TYPICAL TEST SYSTEM 9
B1 IMPACT SCORE DEVICE 23
B2 RILL PENETRATION 23

TABLES

B1 95% CONFIDENCE LIMITS FOR THE MEAN VALUE OF A POISSON VARIABLE 20
B2 SINGLE DETERMINATION ANALYSIS 25
B3 DUAL DETERMINATION ANALYSIS 26

APPENDIXES

A CALIBRATION PERIOD SUMMARY 18
B GENERAL INFORMATION 19
C BIBLIOGRAPHY 27

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1 SCOPE AND LIMITATIONS

1.1 Scope

This Recommended Practice (RP) discusses test methods for physical and filtration properties of high-efficiency particulate air (HEPA) and ultra low penetration air (ULPA) filtration media.

Application of this RP is by mutual agreement between the customer and the supplier. Use of this RP should be applied, but not be limited to:

a) Acceptance criteria for test methods;

b) Test aerosol and particle size;

c) Test face velocity.

1.2 Limitations

This RP does not include discussion of special applications testing, such as nuclear, biological, chemical, and other such testing. Although the general approach to testing media outlined in this RP may be used for testing media with lower efficiencies than HEPA media, the user is cautioned that specific recommendations noted on aerosols, statistics, instrumentation, and other factors may not be appropriate.

NOTE: Testing in accordance with this RP may involve hazardous materials, operations, and equipment. This RP does not purport to address all of the safety problems associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

2 REFERENCES

The following documents are incorporated into this RP to the extent specified herein. Users should apply the most recent editions of the references.

2.1 Reference documents

ASTM-D2986: Evaluation of Air Assay Media by the Monodisperse DOP (Dioctyl Phthalate) Smoke Test

ASTM-F649: Standard Practice for Secondary Calibration of Airborne Particle Counter Using Comparison Procedures

ASTM-F778: Standard Methods for Gas Flow Resistance Testing of Filtration Media

IEST-RP-CC007: Testing ULPA Filters

IEST-RP-CC014: Calibration and Characterization of Optical Airborne Particle Counters

MIL-STD-282, Method 603.1: Operation of the E13R (Q101) Water-Repellency-Test Apparatus

TAPPI-T410: Grammage of Paper and Paperboard

TAPPI-T411: Thickness (Caliper) of Paper, Paperboard, and Combined Board

TAPPI-T413: Ash in Paper

TAPPI-T494: Tensile Breaking Properties of Paper and Paperboard (Using Constant Rate of Elongation Apparatus)

TAPPI-T543: Bending Resistance of Paper (Gurley Type Stiffness Tester)

