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CHEMISTRY AND CHEMICAL ENGINEERING DIVISION
DEPARTMENT OF FIRE TECHNOLOGY FAX (512) 522-3377

TEST FOR EVALUATING THE SMOKE GENERATION
CHARACTERISTICS OF SOLID MATERIALS (ASTM
E662-83/NFPA 258)

TEST REPORT

MATERIAL ID: FLAME SAFE - PAPER SAFE
SwRI PROJECT NO. 01-3779-389
TEST DATE: JUNE 12, 1991

Submitted by:

Glays M. Finley
GLAYS M. FINLEY

JUNE 1991

Prepared for:

FLAME SAFE CHEMICAL CORPORATION
2653 WARFIELD AVENUE
FORT WORTH, TEXAS 76106

Approved by:

Alex B. Wenzel
Alex B. Wenzel, Director
Department of Fire Technology
for
Dr. Robert E. Lyle, Vice President Chemistry
and Chemical Engineering Division



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INTRODUCTION

This report presents the results of a smoke test in accordance with ASTM E662 "Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials."

This test method is used to determine the smoke generated by solid materials using a Smoke Density Chamber. Test specimens are preconditioned at 410°F (60°F) for 24 hours followed by stabilization at 70°F (21°C) and 50-percent relative humidity. Specimens measuring 73 x 73-mm are tested in the vertical mode, while exposed to a radiant heat flux of 2.5 watts per square centimeter. Triplicate runs are conducted in each the flaming and nonflaming exposure. Results are expressed in terms of Specific Optical Density (Ds), which is defined as the measure of the amount of smoke produced per unit area by a material due to nonflaming pyrolytic decomposition and flaming combustion.

The results apply specifically to the specimens tested, in the manner tested, and not to the entire production of these or similar materials, nor to the performance when used in combination with other materials. All test data are on file and are available for review by authorized persons.

SUMMARY OF
RESULTS EXPOSURE:
FLAMING

FLAME SAFE CHEMICAL

Material Tested:

SwRI Project No: 01-3779-389 FLAME
SAFE - PAPER SAFE

Specimen Orientation: VERTICAL
Radiant Heat Flux: 2.5 W/CM²

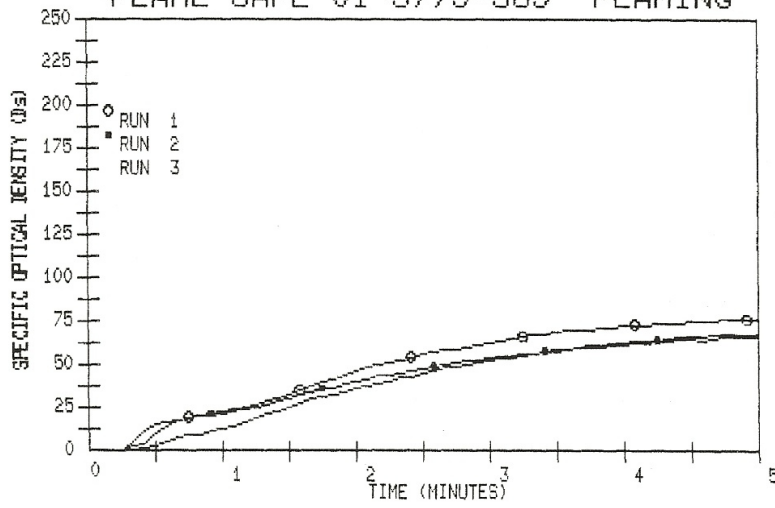
SPECIFIC OPTICAL DENSITY (Ds) DURING 20 MINUTES

RUN #	1.5 min	4 min	MAX Ds	Time to MAX Ds (min:sec)	MAX Ds (corrected)
1	31.9	71.9	77.2	5:20	75.1
2	30.3	62.8	70.3	6:10	69.8
3	25.5	61.5	67.9	6:15	66.8
AVERAG	29.2	65.4	71.8		70.6

COMMENTS

In all three runs there was ignition on contact and immediate smoke. The flame went out at 20 seconds in Run 1, 15 seconds in Run 2, and 20 seconds in Run 3.

FLAME SAFE 01-3779-389 FLAMING



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FLAME SAFE CHEMICAL CO.

SUMMARY OF RESULTS
EXPOSURE: NON-FLAMING

FLAME SAFE CHEMICAL

Material Tested:

SwRI Project No: 01-3779-389
FLAME SAFE - PAPER SAFE

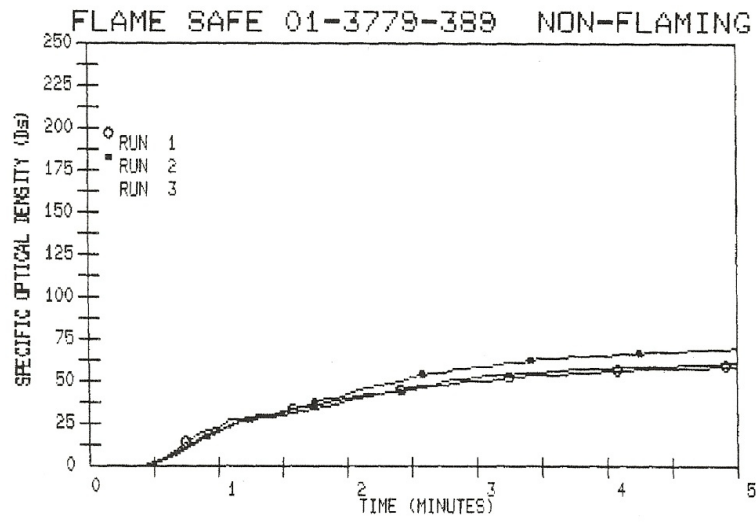
Specimen Orientation: VERTICAL
Radiant Heat Flux: 2.5 W/CM²

SPECIFIC OPTICAL DENSITY (Ds) DURING 20 MINUTES

RUN #	1.5 min	4 min	MAX Ds	Time to MAX Ds (min:sec)	MAX Ds (corrected)
1	31.9	56.3	61.0	6:40	59.3
2	31.5	65.4	72.4	6:55	71.8
3	29.9	58.0	63.4	6:40	62.9
AVERAGE	31.1	59.9	65.6		64.6

COMMENTS

Surface char was noted at 15 seconds in Runs 1 and 2, and 10 seconds in Run 3. White smoke occurred at 20 seconds in Runs 1 and 2, and 15 seconds in Run 3. In all three runs, the sample charred through and separated at the end of the test.



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