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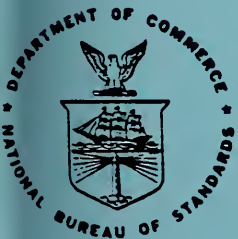
NEW NBS PUB

Hazard I. Volume 3: Data Base Listing

R. W. Bukowski and E. Braun

U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
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U.S. DEPARTMENT OF COMMERCE, Malcolm Baldrige, *Secretary*
NATIONAL BUREAU OF STANDARDS, Ernest Ambler, *Director*

DATA BASE LISTING

The data provided in this volume represents a complete listing of all data in the HAZARD I data base discussed in section 6.3 of Volume 1. This listing is provided for use by those who cannot use the FIREDATA program which requires Dbase III+ (a proprietary data base management software package). This listing was produced with the DUMP utility provided in the FIREDATA program package, and can be updated in the same manner as users add to the data base themselves.

The listing is in four sections:

- Thermophysical Data (of common structural materials)
- Decomposition Data from the Cone Calorimeter
- Decomposition Data from the Furniture Calorimeter
- Toxicity Data

which correspond to the four data base files. Pages are printed only on one side so that individual pages can be replaced as needed. The reader is referred to the discussion in Volume 1 for details on the data sources and limitations.

NOTE: A zero (e.g., 0.0, 0.000) is automatically entered into any location where no data input is provided. Thus, the user should understand that a given value may not be zero, but rather there was no data to input. This is particularly obvious in the cone and furniture calorimeter data where smoke measurements were only recently implemented. The zeros here do not mean that no smoke was produced, but that no data was taken.

SECTION 1 - THERMOPHYSICAL DATA

Thermophysical Data

Material Code: RDO001
Material ID: RED OAK

Form:	Volume Density:	640.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature	Conductivity	Specific Heat	Emissivity
(C)	(kW/(m·K))	(kJ/(kg·K))	
20.0	0.000150	1.3000	0.900
100.0	0.000190	1.8200	0.900
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: FBD001

Material ID: FIBER INSULATING BOARD;WOOD/VEGETABLE

Form:	Volume Density:	240.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature	Conductivity	Specific Heat	Emissivity
(C)	(kW/(m·K))	(kJ/(kg·K))	
20.0	0.000050	1.2500	0.900
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: CNC001

Material ID: CONCRETE,NORMAL WEIGHT,TYPE I CEMENT,DOLOMITE AGGR

Form:	Volume Density:	2200.00 kg/m3	
	Areal Density:	0.000 kg/m2	
Temperature	Conductivity	Specific Heat	Emissivity
(C)	(kW/(m·K))	(kJ/(kg·K))	
20.0	0.001750	1.0000	0.940
100.0	0.001700	1.2000	0.940
200.0	0.001380	1.2000	0.940
500.0	0.000900	1.5000	0.940
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: GBD001

Material ID: GYPSUM BOARD (PLASTERBOARD)

Form:	Volume Density:	800.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature (C)	Conductivity (kW/(m·K))	Specific Heat (kJ/(kg·K))	Emissivity
20.0	0.000160	0.9000	0.900
100.0	0.000130	0.9000	0.900
200.0	0.000130	0.8000	0.900
500.0	0.000170	0.9000	0.900
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: DFR001

Material ID: DOUGLAS FIR 32PCF 0%MOISTURE

Form:	Volume Density:	510.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature	Conductivity	Specific Heat	Emissivity
(C)	(kW/(m·K))	(kJ/(kg·K))	
20.0	0.000130	1.3000	0.900
100.0	0.000170	1.6000	0.900
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: PIN001

Material ID: PINE WOOD (SOUTHERN,SUGAR,WHITE) 10%MOISTURE

Form:	Volume Density:	440.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature	Conductivity	Specific Heat	Emissivity
(C)	(kW/(m·K))	(kJ/(kg·K))	
20.0	0.000120	1.5000	0.900
100.0	0.000150	2.1000	0.900
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: DFR002

Material ID: DOUGLAS FIR 32PCF 30%MOISTURE

Form:	Volume Density:	660.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature	Conductivity	Specific Heat	Emissivity
(C)	(kW/(m·K))	(kJ/(kg·K))	
20.0	0.000190	2.1000	0.900
100.0	0.000240	2.9000	0.900
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: WCH001

Material ID: WOOD, CHARRED, DRY

Form:	Volume Density:	250.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature	Conductivity	Specific Heat	Emissivity
(C)	(kW/(m·K))	(kJ/(kg·K))	
20.0	0.000070	1.0000	0.980
100.0	0.000090	1.4000	0.980
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: DF001

Material ID: DOUGLAS FIR PLYWOOD 10%MOISTURE

Form:	Volume Density:	560.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature (C)	Conductivity (kW/(m·K))	Specific Heat (kJ/(kg·K))	Emissivity
20.0	0.000150	1.5000	0.900
100.0	0.000190	2.1000	0.900
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: GLS001

Material ID: GLASS, PLATE, SODA LIME

Form:	Volume Density:	2500.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature (C)	Conductivity (kW/(m·K))	Specific Heat (kJ/(kg·K))	Emissivity
20.0	0.001400	0.7600	0.950
100.0	0.001500	0.8800	0.000
200.0	0.001600	0.9900	0.000
500.0	0.001900	1.1300	0.000
800.0	0.002600	0.0000	0.000
0.0	0.000000	0.0000	0.000

Thermophysical Data

Material Code: GFI001

Material ID: GLASS FIBER INSULATION 2PCF

Form:	Volume Density:	32.00 kg/m ³	
	Areal Density:	0.000 kg/m ²	
Temperature (C)	Conductivity (kW/(m·K))	Specific Heat (kJ/(kg·K))	Emissivity
20.0	0.000036	0.7200	0.900
100.0	0.000090	0.8600	0.000
200.0	0.000090	0.9900	0.000
500.0	0.000200	1.1700	0.000
0.0	0.000000	0.0000	0.000
0.0	0.000000	0.0000	0.000

SECTION 2 - DECOMPOSITION DATA FROM THE CONE CALORIMETER

Thermophysical Data

Material Code: BRK001

Material ID: CLAY BRICK,COMMON

Form: SOLID

Volume Density: 1900.00 kg/m³

Areal Density: 0.000 kg/m²

Temperature (C)	Conductivity (kW/(m·K))	Specific Heat (kJ/(kg·K))	Emissivity
20.0	0.000720	0.7500	0.930
100.0	0.000750	0.8000	0.000
200.0	0.000800	0.9000	0.000
500.0	0.000850	1.2000	0.000
800.0	0.000900	1.5000	0.000
1000.0	0.000000	0.0000	0.500

Decomposition Data from Cone Calorimeter

Material Code: RDO002

Material ID: RED OAK, 7/8 IN.THICK (1468).

Form: BOARD

Density: 0.00 kg/m³ Thickness: 0.00000 m

Orientation(V/H): V Ignition Mode(P/N): P Incident Energy: 100.00 kW/m²

Initial Mass: 162.300 g Final Mass: 27.300 g

Ignition Time: 9.0 s

	Units	Average
Heat of Combustion	kJ/kg	14980.0
CO Yield	kg/kg	0.0008
CO ₂ Yield	kg/kg	0.0048
HC Yield	kg/kg	0.0011
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H ₂ O Yield	kg/kg	0.6403
SOOT Yield	kg/kg	0.0054
Extinction Area	m ² /kg	.32.970

Time Dependent Data

Time (s)	Heat Release (kW/m ²)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO ₂ Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
10.0	150.00	0.000230	0.000	0.232	0.000	0.000
20.0	375.00	0.000220	0.000	0.113	0.000	0.000
30.0	348.00	0.000200	0.001	0.000	0.000	0.000
40.0	309.00	0.000190	0.001	0.000	0.000	0.000
60.0	256.00	0.000170	0.001	0.000	0.000	0.000
120.0	220.00	0.000150	0.001	0.000	0.000	0.000
360.0	185.00	0.000140	0.000	0.000	0.000	0.000
720.0	281.00	0.000190	0.000	0.000	0.000	0.000
1080.0	57.00	0.000010	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: PIN002
 Material ID: PINE (842)
 Form: BOARD
 Density: 0.00 kg/m3

Thickness: 0.00000 m

Orientation(V/H): V Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2
 Initial Mass: 72.300 g Final Mass: 13.900 g
 Ignition Time: 145.0 s

	Units	Average
Heat of Combustion	kJ/kg	13770.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0232
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
120.0	0.00	0.022000	0.170	1.667	0.000	0.000
150.0	159.60	0.098000	0.023	1.612	0.000	0.000
180.0	103.20	0.070000	0.034	1.865	0.000	0.000
240.0	67.30	0.051000	0.072	1.985	0.000	0.000
360.0	60.20	0.052000	0.077	1.817	0.000	0.000
600.0	91.30	0.066000	0.042	1.884	0.000	0.000
770.0	130.40	0.090000	0.029	1.713	0.000	0.000
900.0	62.90	0.041000	0.112	2.305	0.000	0.000
1080.0	40.20	0.022000	0.242	3.330	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: RDO002
 Material ID: RED OAK, 7/8IN.THICK (1456)
 Form: BOARD
 Density: 0.00 kg/m3 Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 100.00 kW/m2
 Initial Mass: 151.800 g Final Mass: 0.000 g
 Ignition Time: 6.0 s

	Units	Average
Heat of Combustion	kJ/kg	12950.0
CO Yield	kg/kg	0.0104
CO2 Yield	kg/kg	0.0026
HC Yield	kg/kg	0.0014
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.6284
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
10.0	172.90	0.239000	0.001	0.162	0.000	0.000
20.0	335.80	0.228000	0.002	0.005	0.000	0.000
45.0	243.70	0.181000	0.006	0.000	0.000	0.000
70.0	204.10	0.161000	0.007	0.000	0.000	0.000
401.0	156.60	0.144000	0.004	0.000	0.000	0.000
626.0	235.70	0.196000	0.009	0.000	0.000	0.000
751.0	146.10	0.090000	0.008	0.000	0.000	0.000
851.0	40.90	0.021000	0.005	0.000	0.000	0.000
1426.0	31.90	0.002000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: DFR003

Material ID: DOUGLAS FIR (828)

Form: BOARD

Density: 0.00 kg/m3 Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 50.00 kW/m2

Initial Mass: 73.700 g Final Mass: 8.500 g

Ignition Time: 16.0 s

	Units	Average
Heat of Combustion	kJ/kg	12820.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	1.70	0.000000	0.005	0.051	0.000	0.000
10.0	44.60	0.124000	0.031	1.374	0.000	0.000
15.0	191.60	0.117000	0.032	1.420	0.000	0.000
25.0	141.20	0.096000	0.041	1.544	0.000	0.000
60.0	83.10	0.067000	0.068	1.916	0.000	0.000
120.0	64.30	0.057000	0.089	1.823	0.000	0.000
600.0	81.70	0.065000	0.068	1.759	0.000	0.000
750.0	111.30	0.087000	0.043	1.572	0.000	0.000
900.0	55.70	0.031000	0.000	0.000	0.000	0.000
1200.0	35.40	0.014000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: PIN002
 Material ID: PINE (838)
 Form: BOARD
 Density: 0.00 kg/m3

Thickness: 0.00000 m

Orientation(V/H): V Ignition Mode(P/N): P Incident Energy: 50.00 kW/m2
 Initial Mass: 75.400 g Final Mass: 8.900 g
 Ignition Time: 17.0 s

	Units	Average
Heat of Combustion	kJ/kg	14220.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	1.40	0.000000	0.004	0.032	0.000	0.000
10.0	3.00	0.126000	0.033	1.247	0.000	0.000
20.0	223.20	0.131000	0.028	1.398	0.000	0.000
50.0	136.20	0.093000	0.034	1.632	0.000	0.000
80.0	110.90	0.082000	0.039	1.713	0.000	0.000
300.0	99.70	0.076000	0.041	1.666	0.000	0.000
550.0	178.30	0.125000	0.025	1.466	0.000	0.000
620.0	156.20	0.087000	0.040	1.817	0.000	0.000
690.0	61.80	0.028000	0.000	0.000	0.000	0.000
720.0	54.90	0.020000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: DFP002
 Material ID: DOUGLAS FIR PLYWOOD, 1/2IN.THICK (435)
 Form: BOARD
 Density: 0.00 kg/m3 Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2
 Initial Mass: 0.000 g Final Mass: 0.000 g
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	0.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
78.0	-3.00	0.000000	0.000	0.000	0.000	0.000
81.0	8.60	0.108000	0.004	1.350	0.000	0.000
96.0	171.00	0.096000	0.004	1.770	0.000	0.000
120.0	204.30	0.085000	0.005	1.910	0.000	0.000
180.0	87.50	0.056000	0.010	1.560	0.000	0.000
300.0	66.80	0.057000	0.013	1.490	0.000	0.000
465.0	133.90	0.114000	0.003	1.250	0.000	0.000
522.0	172.60	0.113000	0.009	1.410	0.000	0.000
702.0	64.80	0.018000	0.000	0.000	0.000	0.000
828.0	47.20	0.007000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: DFP002

Material ID: DOUGLAS FIR PLYWOOD,1/2IN.THICK (446)

Form: BOARD

Density: 0.00 kg/m³ Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 75.00 kW/m²

Initial Mass: 0.000 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	0.0
CO Yield	kg/kg	0.0000
CO ₂ Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H ₂ O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m ² /kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m ²)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO ₂ Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	-3.80	0.000000	0.000	0.000	0.000	0.000
3.0	1.50	0.172000	0.005	0.140	0.000	0.000
15.0	259.60	0.150000	0.011	1.600	0.000	0.000
45.0	352.90	0.136000	0.013	1.350	0.000	0.000
96.0	132.60	0.108000	0.009	1.080	0.000	0.000
174.0	139.70	0.128000	0.008	1.050	0.000	0.000
279.0	248.90	0.157000	0.010	1.160	0.000	0.000
420.0	69.00	0.023000	0.044	2.700	0.000	0.000
930.0	42.20	0.010000	0.000	0.000	0.000	0.000
1819.0	29.60	0.007000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: GBD002

Material ID: GYPSUM BOARD,1/2IN.THICK (434)

Form:

Density: 0.00 kg/m3 Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2

Initial Mass: 0.000 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	0.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	-7.80	0.000000	0.000	0.000	0.000	0.000
231.0	-6.40	0.000000	0.000	0.000	0.000	0.000
234.0	8.00	0.028000	0.019	3.940	0.000	0.000
243.0	82.00	0.032000	0.064	1.690	0.000	0.000
246.0	81.90	0.028000	0.079	1.560	0.000	0.000
252.0	46.10	0.022000	0.101	1.560	0.000	0.000
258.0	16.70	0.021000	0.101	1.570	0.000	0.000
264.0	13.10	0.023000	0.084	1.370	0.000	0.000
267.0	6.40	0.021000	0.087	1.500	0.000	0.000
288.0	1.10	0.021000	0.052	1.330	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: GBD002

Material ID: GYPSUM BOARD,1/2IN.THICK (448)

Form:

Density: 0.00 kg/m3 Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 75.00 kW/m2

Initial Mass: 0.000 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	0.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	12.80	0.000000	0.000	0.000	0.000	0.000
3.0	7.90	0.085000	0.016	0.280	0.000	0.000
18.0	15.10	0.075000	0.016	1.720	0.000	0.000
24.0	89.60	0.071000	0.018	1.810	0.000	0.000
30.0	161.10	0.069000	0.054	1.320	0.000	0.000
36.0	144.80	0.065000	0.108	0.920	0.000	0.000
42.0	82.90	0.065000	0.092	0.830	0.000	0.000
51.0	49.40	0.060000	0.079	0.760	0.000	0.000
57.0	48.30	0.056000	0.064	0.680	0.000	0.000
96.0	15.40	0.039000	0.041	0.660	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: RD0002

Material ID: RED OAK, 7/8IN.THICK (1454)

Form:

Density: 0.00 kg/m³ Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m²

Initial Mass: 156.900 g Final Mass: 0.000 g

Ignition Time: 169.0 s

	Units	Average
Heat of Combustion	kJ/kg	11550.0
CO Yield	kg/kg	0.0089
CO ₂ Yield	kg/kg	1.1589
HC Yield	kg/kg	0.0051
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H ₂ O Yield	kg/kg	0.6362
SOOT Yield	kg/kg	0.0000
Extinction Area	m ² /kg	4.262

Time Dependent Data

Time (s)	Heat Release (kW/m ²)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO ₂ Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
110.0	0.00	0.000000	0.000	0.002	0.000	0.000
160.0	1.12	0.090000	0.006	1.818	0.000	0.000
175.0	203.47	0.125000	0.004	1.254	0.000	0.000
190.0	137.73	0.095000	0.004	1.302	0.000	0.000
200.0	118.19	0.098000	0.004	1.172	0.000	0.000
290.0	70.39	0.063000	0.002	1.155	0.000	0.000
900.0	59.28	0.062000	0.001	1.029	0.000	0.000
1200.0	89.31	0.084000	0.001	1.158	0.000	0.000
1400.0	146.42	0.128000	0.002	1.178	0.000	0.000
1975.0	26.43	0.013000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: MMA001

Material ID: PMMA 1" BLACK (CB) W/FRAME

TEST 1470

Form: SHEET

Density: 0.00 kg/m³ Thickness: 0.00000 m

Orientation(V/H): V Ignition Mode(P/N): P Incident Energy: 25.00 kW/m²

Initial Mass: 304.900 g Final Mass: 0.000 g

Ignition Time: 172.0 s

	Units	Average
Heat of Combustion	kJ/kg	24000.0
CO Yield	kg/kg	0.0013
CO ₂ Yield	kg/kg	1.9401
HC Yield	kg/kg	0.0019
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H ₂ O Yield	kg/kg	0.7829
SOOT Yield	kg/kg	0.0143
Extinction Area	m ² /kg	95.704

Time Dependent Data

Time (s)	Heat Release (kW/m ²)	Mass Loss (kg/s)	Time Dependent Data			
			CO Yield (kg/kg)	CO ₂ Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
165.0	1.86	0.000001	0.000	2.370	0.014	0.000
185.0	302.20	0.000126	0.000	1.993	0.014	0.000
500.0	397.56	0.000166	0.001	1.970	0.014	0.000
900.0	471.73	0.000196	0.001	1.947	0.014	0.000
1200.0	528.13	0.000220	0.001	1.892	0.014	0.000
1500.0	603.84	0.000252	0.001	1.892	0.014	0.000
1670.0	698.82	0.000291	0.001	1.975	0.014	0.000
1800.0	332.71	0.000139	0.002	2.013	0.014	0.000
2000.0	73.45	0.000031	0.011	2.402	0.014	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: MMA001

Material ID: PMMA 1" BLACK (CB) W/FRAME

TEST 1461

Form: SHEET

Density: 0.00 kg/m3 Thickness: 0.00000 m

Orientation(V/H): V Ignition Mode(P/N): P Incident Energy: 75.00 kW/m2

Initial Mass: 308.300 g Final Mass: 0.000 g

Ignition Time: 19.0 s

	Units	Average
Heat of Combustion	kJ/kg	24000.0
CO Yield	kg/kg	0.0062
CO2 Yield	kg/kg	2.0068
HC Yield	kg/kg	0.0004
HCl Yield	kg/kg	0.0005
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.7869
SOOT Yield	kg/kg	0.0184
Extinction Area	m2/kg	108.735

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	Yield			
			CO (kg/kg)	CO2 (kg/kg)	SMOKE (kg/kg)	Yield (kg/kg)
15.0	3.02	0.000001	0.001	2.614	0.018	0.000
30.0	459.64	0.000192	0.001	2.021	0.018	0.000
60.0	605.43	0.000252	0.004	1.967	0.018	0.000
120.0	725.79	0.000302	0.005	2.024	0.018	0.000
180.0	797.31	0.000332	0.006	1.989	0.018	0.000
240.0	808.86	0.000337	0.006	2.015	0.018	0.000
300.0	812.53	0.000339	0.006	2.020	0.018	0.000
600.0	902.76	0.000376	0.006	2.003	0.018	0.000
765.0	1099.23	0.000458	0.006	2.091	0.018	0.000
900.0	323.86	0.000135	0.010	1.840	0.018	0.000

Decomposition Data from Cone Calorimeter

Material Code: MAT001

Material ID: MATTRESS ASS'Y M05,PU FOAM,RAYON TICKING TEST 296

Form: COMPOSITE

Density: 0.00 kg/m³ Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m²

Initial Mass: 17.100 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	34300.0
CO Yield	kg/kg	0.0000
CO ₂ Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H ₂ O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m ² /kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m ²)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO ₂ Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
15.0	0.00	0.126000	0.000	0.000	0.000	0.000
27.0	293.00	0.126000	0.015	1.600	0.000	0.000
42.0	262.00	0.131000	0.015	1.480	0.000	0.000
51.0	305.00	0.130000	0.018	1.730	0.000	0.000
75.0	288.00	0.112000	0.010	1.860	0.000	0.000
87.0	386.00	0.102000	0.017	2.590	0.000	0.000
96.0	336.00	0.090000	0.013	2.610	0.000	0.000
105.0	379.00	0.072000	0.022	3.620	0.000	0.000
138.0	62.00	0.013000	0.010	5.500	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: PIN002

Material ID: WHITE PINE (WOOD),0.75 IN

(TEST 493)

Form: BOARD

Density: 0.00 kg/m3 Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2

Initial Mass: 72.900 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	8340.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
42.0	0.00	0.000000	0.000	0.000	0.000	0.000
54.0	157.40	0.000189	0.048	4.500	0.000	0.000
78.0	87.60	0.000105	0.031	3.400	0.000	0.000
126.0	54.80	0.000066	0.024	2.750	0.000	0.000
192.0	42.40	0.000051	0.040	2.630	0.000	0.000
456.0	42.60	0.000051	0.061	2.500	0.000	0.000
660.0	55.00	0.000066	0.034	2.360	0.000	0.000
912.0	95.20	0.000114	0.010	2.110	0.000	0.000
1296.0	25.90	0.000031	0.321	3.970	0.000	0.000
3745.0	10.90	0.000013	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: PIN002
 Material ID: WHITE PINE (WOOD), 0.75 IN (TEST 487)
 Form: BOARD
 Density: 0.00 kg/m3 Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 75.00 kW/m2
 Initial Mass: 72.400 g Final Mass: 0.000 g
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	16500.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
6.0	276.40	0.000168	0.019	2.840	0.000	0.000
60.0	111.70	0.000068	0.006	1.680	0.000	0.000
156.0	88.10	0.000053	0.000	1.810	0.000	0.000
300.0	102.50	0.000062	0.003	1.650	0.000	0.000
468.0	151.70	0.000092	0.010	1.570	0.000	0.000
558.0	151.90	0.000092	0.004	1.760	0.000	0.000
678.0	52.10	0.000032	0.023	3.900	0.000	0.000
864.0	34.50	0.000021	0.000	0.000	0.000	0.000
1858.0	30.00	0.000019	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: FPU007

Material ID: FLEXIBLE POLYURETHANE FOAM,FR,2 IN

(TEST 725)

Form: FOAM

Density: 0.00 kg/m3 Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2

Initial Mass: 10.700 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	19350.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
40.0	0.00	0.000000	0.017	0.680	0.000	0.000
50.0	233.90	0.000121	0.065	1.220	0.000	0.000
70.0	266.20	0.000138	0.055	1.320	0.000	0.000
80.0	445.70	0.000230	0.052	1.910	0.000	0.000
105.0	276.50	0.000143	0.087	4.070	0.000	0.000
115.0	52.40	0.000027	0.000	0.000	0.000	0.000
130.0	20.90	0.000011	0.000	0.000	0.000	0.000
160.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: PSF004
 Material ID: POLYSTYRENE FOAM, 2 IN (TEST 437)
 Form: FOAM
 Density: 0.00 kg/m³ Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m²
 Initial Mass: 15.500 g Final Mass: 0.000 g
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	28900.0
CO Yield	kg/kg	0.0000
CO ₂ Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H ₂ O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m ² /kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m ²)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO ₂ Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.039	1.110	0.000	0.000
141.0	1.00	0.000000	0.061	1.720	0.000	0.000
162.0	235.80	0.000082	0.085	2.360	0.000	0.000
186.0	379.80	0.000131	0.077	2.340	0.000	0.000
201.0	405.10	0.000140	0.115	3.620	0.000	0.000
255.0	251.40	0.000087	0.057	4.390	0.000	0.000
285.0	204.40	0.000071	0.062	4.870	0.000	0.000
306.0	24.70	0.000009	0.000	0.000	0.000	0.000
345.0	19.20	0.000007	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: CTN002

Material ID: COTTON FABRIC,FR

(TEST 803A)

Form: FABRIC

Density: 0.00 kg/m3 Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2

Initial Mass: 4.200 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	8980.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
35.0	1.40	0.000002	0.028	0.310	0.000	0.000
45.0	70.70	0.000079	0.138	1.510	0.000	0.000
70.0	17.00	0.000019	0.563	4.750	0.000	0.000
95.0	22.40	0.000025	0.140	0.710	0.000	0.000
135.0	15.20	0.000017	0.000	0.000	0.000	0.000
200.0	5.80	0.000006	0.000	0.000	0.000	0.000
260.0	4.50	0.000006	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: RYN001
 Material ID: RAYON FABRIC
 Form: FABRIC
 Density: 0.00 kg/m3

(TEST 804A)

Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2
 Initial Mass: 1.500 g Final Mass: 0.000 g
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	9000.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
30.0	0.00	0.000000	0.011	0.010	0.000	0.000
35.0	40.50	0.000045	0.011	0.010	0.000	0.000
40.0	89.00	0.000099	0.013	0.020	0.000	0.000
45.0	52.00	0.000058	0.013	0.030	0.000	0.000
50.0	17.90	0.000020	0.015	0.030	0.000	0.000
55.0	9.80	0.000011	0.016	0.030	0.000	0.000
80.0	4.90	0.000005	0.014	0.020	0.000	0.000
131.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: RPU001

Material ID: RIGID POLYURETHANE FOAM,GM-29/GM-30

(TEST 257)

Form: FOAM

Density: 0.00 kg/m3 Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2

Initial Mass: 19.000 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	18310.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
3.0	0.00	0.000000	0.004	0.310	0.000	0.000
15.0	208.70	0.000114	0.290	3.060	0.000	0.000
45.0	90.20	0.000049	0.091	1.940	0.000	0.000
75.0	44.40	0.000024	0.063	1.480	0.000	0.000
171.0	37.40	0.000020	0.046	1.440	0.000	0.000
240.0	43.70	0.000024	0.068	2.370	0.000	0.000
321.0	24.40	0.000013	0.096	4.820	0.000	0.000
399.0	2.60	0.000001	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: RPU002

Material ID: RIGID POLYURETHANE FOAM,FR,GM-31

(TEST 258)

Form: FOAM

Density: 0.00 kg/m3 Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2

Initial Mass: 19.400 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	22750.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
6.0	24.80	0.000011	0.122	1.880	0.000	0.000
12.0	113.60	0.000050	0.199	3.910	0.000	0.000
24.0	87.20	0.000038	0.134	3.720	0.000	0.000
48.0	48.20	0.000021	0.082	2.640	0.000	0.000
63.0	30.30	0.000013	0.080	2.180	0.000	0.000
75.0	8.20	0.000004	0.038	1.410	0.000	0.000
90.0	0.30	0.000000	0.035	1.480	0.000	0.000
102.0	5.50	0.000002	0.039	1.550	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: RPI002

Material ID: RIGID POLYISOCYANURATE FOAM, 2 IN

(TEST 438)

Form: FOAM

Density: 0.00 kg/m3 Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m2

Initial Mass: 17.700 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	12560.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
9.0	50.30	0.000040	0.036	2.050	0.000	0.000
15.0	38.80	0.000031	0.039	2.160	0.000	0.000
21.0	10.40	0.000008	0.061	1.870	0.000	0.000
33.0	4.70	0.000004	0.073	2.700	0.000	0.000
54.0	14.60	0.000012	0.055	2.830	0.000	0.000
69.0	4.70	0.000004	0.114	2.900	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: RPI002

Material ID: RIGID POLYISOCYANURATE FOAM, 2 IN

(TEST 449)

Form: FOAM

Density: 0.00 kg/m³ Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 75.00 kW/m²

Initial Mass: 17.600 g Final Mass: 0.000 g

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	31100.0
CO Yield	kg/kg	0.0000
CO ₂ Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H ₂ O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m ² /kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m ²)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO ₂ Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
6.0	150.30	0.000048	0.071	1.790	0.000	0.000
54.0	88.10	0.000028	0.060	1.800	0.000	0.000
72.0	116.00	0.000037	0.067	1.930	0.000	0.000
117.0	52.90	0.000017	0.101	1.990	0.000	0.000
144.0	67.00	0.000022	0.103	2.460	0.000	0.000
249.0	36.00	0.000012	0.206	3.230	0.000	0.000
324.0	68.40	0.000022	0.319	4.400	0.000	0.000
450.0	43.20	0.000014	0.521	4.450	0.000	0.000
654.0	36.10	0.000012	0.000	0.000	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: PVC002
 Material ID: POLYVINYL CHLORIDE,0.5 IN THICK (TEST 333)
 Form: SHEET
 Density: 0.00 kg/m3 Thickness:0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 75.00 kW/m2
 Initial Mass: 170.700 g Final Mass: 0.000 g
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	8300.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m2)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
30.0	20.50	0.000025	0.048	0.340	0.000	0.000
39.0	93.10	0.000112	0.088	0.540	0.000	0.000
60.0	65.40	0.000079	0.074	0.500	0.000	0.000
72.0	74.60	0.000090	0.079	0.560	0.000	0.000
189.0	59.90	0.000072	0.074	0.610	0.000	0.000
531.0	87.10	0.000105	0.062	0.580	0.000	0.000
573.0	78.50	0.000095	0.060	0.550	0.000	0.000
690.0	98.00	0.000118	0.062	0.590	0.000	0.000
720.0	45.80	0.000055	0.052	0.330	0.000	0.000

Decomposition Data from Cone Calorimeter

Material Code: WNE001
 Material ID: WOOL FABRIC/NEOPRENE PADDING (TEST 722)
 Form: COMPOSITE
 Density: 0.00 kg/m³ Thickness: 0.00000 m

Orientation(V/H): H Ignition Mode(P/N): P Incident Energy: 25.00 kW/m²
 Initial Mass: 82.700 g Final Mass: 0.000 g
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	9000.0
CO Yield	kg/kg	0.0000
CO ₂ Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H ₂ O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m ² /kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW/m ²)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO ₂ Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
30.0	0.00	0.000000	0.016	0.430	0.000	0.000
45.0	316.00	0.000350	0.048	2.410	0.000	0.000
65.0	63.50	0.000071	0.064	2.180	0.000	0.000
90.0	7.20	0.000008	0.097	1.660	0.000	0.000
120.0	8.20	0.000009	0.080	1.600	0.000	0.000
300.0	13.20	0.000015	0.101	1.730	0.000	0.000
450.0	15.30	0.000017	0.163	2.040	0.000	0.000
590.0	17.10	0.000019	0.160	2.060	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

SECTION 3 - DECOMPOSITION DATA FROM THE FURNITURE CALORIMETER

Decomposition Data from Furniture Calorimeter

Material Code: UPC001

Material ID: UPHOLSTERED CHAIR, F21, WOOD FRAME, PU FOAM-FR, OLEFIN

Configuration: CENTER

Ignition Source: GAS BURNER, 50KW, 200S

Initial Mass: 28.300 kg Final Mass: 0.000 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	18100.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
60.0	0.00	0.000000	0.000	0.000	0.000	0.000
150.0	90.00	0.005000	0.030	0.670	0.008	0.000
200.0	450.00	0.025000	0.024	0.760	0.015	0.000
260.0	2100.00	0.116000	0.016	1.070	0.020	0.000
325.0	600.00	0.033000	0.000	0.710	0.022	0.000
450.0	150.00	0.008000	0.016	0.590	0.001	0.000
600.0	150.00	0.008000	0.000	0.540	0.000	0.000
900.0	90.00	0.005000	0.000	0.750	0.000	0.000
2000.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: UPS001

Material ID: UPHOLSTERED\SOFA,F32,WOOD\FRAME,PU FOAM-FR,OLEFIN TEST38

Configuration: CENTER

Ignition Source: GAS BURNER,50KW,200S

Initial Mass: 51.500 kg Final Mass: 0.000 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	18900.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
100.0	150.00	0.008000	0.000	0.740	0.012	0.000
150.0	600.00	0.032000	0.022	1.280	0.014	0.000
215.0	3120.00	0.165000	0.015	0.850	0.023	0.000
290.0	2800.00	0.148000	0.013	0.660	0.024	0.000
400.0	400.00	0.021000	0.016	0.830	0.006	0.000
500.0	225.00	0.012000	0.009	0.780	0.000	0.000
700.0	200.00	0.011000	0.000	0.660	0.000	0.000
1200.0	50.00	0.003000	0.000	0.900	0.000	0.000
2400.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: MAT001

Material ID: MATTRESS, M05, PU FOAM, RAYON TICKING, BEDDING

Configuration: CENTER

Ignition Source: WASTEBASKET+0.72KG CONT

Initial Mass: 10.500 kg Final Mass: 0.000 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	34300.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
370.0	0.00	0.003000	0.000	0.000	0.000	0.000
480.0	1580.00	0.046000	0.000	0.000	0.000	0.000
700.0	0.00	0.008000	0.000	0.000	0.000	0.000
800.0	0.00	0.004000	0.000	0.000	0.000	0.000
900.0	0.00	0.004000	0.000	0.000	0.000	0.000
910.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: CHR003

Material ID: EASY CHAIR, MOLDED PS FOAM FRAME, PU PAD&COVER, C07, TEST 48

Configuration: CENTER

Ignition Source: GAS BURNER, 50KW, 200S

Initial Mass: 11.520 kg Final Mass: 1.500 kg

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	33300.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.022	0.000	0.000
120.0	58.00	0.001700	0.024	0.443	0.043	0.000
240.0	956.00	0.028700	0.062	1.070	0.041	0.000
300.0	857.00	0.025700	0.074	1.340	0.057	0.000
330.0	465.00	0.013900	0.079	1.390	0.065	0.000
400.0	592.00	0.017700	0.081	1.480	0.097	0.000
600.0	127.00	0.003800	0.158	2.730	0.135	0.000
800.0	30.00	0.000900	1.390	8.080	0.000	0.000
1200.0	0.00	0.000000	0.691	1.140	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: CUR001
 Material ID: CURTAIN,COTTON,0.31KG/M2,ITEM 9
 Configuration: CENTER
 Ignition Source: 5ML ISOPROPANOL

Initial Mass: 1.870 kg Final Mass: 0.170 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	14000.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
140.0	0.00	0.000000	0.000	0.000	0.000	0.000
175.0	240.00	0.017100	0.000	0.000	0.000	0.000
290.0	0.00	0.002100	0.000	0.000	0.000	0.000
410.0	0.00	0.000700	0.000	0.000	0.000	0.000
600.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: WPB001

Material ID: WASTEPAPER BASKET, POLYETHYLENE, MILK CARTONS, EXP. 7

Configuration: CENTER

Ignition Source: 10ML ISOPROPANOL

Initial Mass: 0.930 kg Final Mass: 0.000 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	17600.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
240.0	0.00	0.000100	0.000	0.000	0.000	0.000
350.0	15.00	0.000850	0.000	0.000	0.000	0.000
600.0	0.00	0.000650	0.000	0.000	0.000	0.000
750.0	0.00	0.000140	0.000	0.000	0.000	0.000
1020.0	0.00	0.000110	0.000	0.000	0.000	0.000
1025.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: TLV001
 Material ID: TELEVISION SET, B/W, WOOD CABINET, EXP.3
 Configuration: CENTER
 Ignition Source: 100ML ISOPROPANOL

Initial Mass: 39.800 kg Final Mass: 29.600 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	15000.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.0000000	0.000	0.000	0.000	0.000
375.0	0.00	0.000500	0.000	0.000	0.000	0.000
520.0	0.00	0.005300	0.000	0.000	0.000	0.000
670.0	290.00	0.019300	0.000	0.000	0.000	0.000
740.0	0.00	0.012000	0.000	0.000	0.000	0.000
1100.0	0.00	0.006000	0.000	0.000	0.000	0.000
1400.0	0.00	0.005300	0.000	0.000	0.000	0.000
1800.0	0.00	0.002000	0.000	0.000	0.000	0.000
0.0	0.00	0.0000000	0.000	0.000	0.000	0.000
0.0	0.00	0.0000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: CHR001

Material ID: BEAN BAG CHAIR, VINYL/PS FOAM BEADS, C05

NBS TN 1103

Configuration: CENTER OF ROOM

Ignition Source: NEWSPAPER, 396g

Initial Mass: 7.300 kg Final Mass: 0.000 kg

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	32800.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
150.0	0.00	0.002500	0.000	0.000	0.000	0.000
300.0	0.00	0.001800	0.000	0.000	0.000	0.000
375.0	0.00	0.003300	0.000	0.000	0.000	0.000
550.0	0.00	0.015000	0.000	0.000	0.000	0.000
720.0	0.00	0.014400	0.000	0.000	0.000	0.000
800.0	0.00	0.004600	0.000	0.000	0.000	0.000
1200.0	0.00	0.001600	0.000	0.000	0.000	0.000
1350.0	0.00	0.002500	0.000	0.000	0.000	0.000
1500.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: TRB001
 Material ID: TRASH BAGS (3), PAPER
 Configuration: CENTER
 Ignition Source:

Initial Mass: 3.510 kg Final Mass: 0.000 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	16000.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
60.0	350.00	0.021800	0.000	0.000	0.000	0.000
120.0	325.00	0.020300	0.000	0.000	0.000	0.000
180.0	240.00	0.015000	0.000	0.000	0.000	0.000
240.0	110.00	0.006800	0.000	0.000	0.000	0.000
300.0	60.00	0.003700	0.000	0.000	0.000	0.000
360.0	60.00	0.003700	0.000	0.000	0.000	0.000
420.0	20.00	0.001200	0.000	0.000	0.000	0.000
480.0	40.00	0.002500	0.000	0.000	0.000	0.000
600.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: CTR001
 Material ID: CHRISTMAS TREE, SPRUCE, DRY,
 Configuration: CENTER
 Ignition Source: 200 ML ISOPROPANOL

VTT 285, NO.17

Initial Mass: 7.000 kg Final Mass: 0.000 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	16000.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
300.0	0.00	0.000000	0.000	0.000	0.000	0.000
320.0	650.00	0.004070	0.000	0.000	0.000	0.000
350.0	650.00	0.004070	0.000	0.000	0.000	0.000
400.0	150.00	0.000940	0.000	0.000	0.000	0.000
450.0	40.00	0.000250	0.000	0.000	0.000	0.000
600.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: CLT001
 Material ID: WARDROBE CLOSET, PLYWOOD, FR PAINT NBSIR83-2787 TEST42
 Configuration: CENTER
 Ignition Source: CARDBOARD BOX/PAPER 0.9KG

Initial Mass: 37.330 kg Final Mass: 0.000 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	15900.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
30.0	0.00	0.000000	0.000	0.000	0.000	0.000
100.0	500.00	0.031400	0.075	0.320	0.016	0.000
130.0	1300.00	0.081700	0.082	0.610	0.019	0.000
170.0	5300.00	0.333000	0.010	1.130	0.004	0.000
220.0	250.00	0.015700	0.024	1.510	0.000	0.000
230.0	600.00	0.037700	0.029	0.930	0.000	0.000
370.0	250.00	0.015700	0.038	0.600	0.000	0.000
1200.0	50.00	0.003100	0.000	0.790	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: BED001

Material ID: DOUBLE BED,BEDDING,NIGHT TABLE;GYP BD WALLS;TEST R1(85-2998)

Configuration: CENTER

Ignition Source: WASTEBASKET&TRASH,0.75 KG

Initial Mass: 53.700 kg Final Mass: 0.000 kg

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	.kJ/kg	18100.0.
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
200.0	100.00	0.005500	0.000	0.000	0.000	0.000
230.0	2100.00	0.116000	0.040	0.000	0.000	0.000
290.0	200.00	0.011000	0.000	0.000	0.000	0.000
480.0	100.00	0.005500	0.000	0.000	0.000	0.000
650.0	400.00	0.022000	0.000	0.000	0.000	0.000
690.0	1500.00	0.082800	0.000	0.000	0.000	0.000
750.0	800.00	0.044000	0.000	0.000	0.000	0.000
900.0	500.00	0.027600	0.000	0.000	0.000	0.000
1500.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: BED002

Material ID: DOUBLE BED,BEDDING,NIGHT TABLE;PLYWOOD WALLS;TEST R5(85-2998

Configuration: CENTER

Ignition Source: WASTEBASKET&TRASH,0.75 KG

Initial Mass: 53.700 kg Final Mass: 0.000 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	18100.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
260.0	300.00	0.016500	0.000	0.000	0.000	0.000
280.0	3500.00	0.193000	0.000	0.000	0.000	0.000
300.0	3200.00	0.177000	0.000	0.000	0.000	0.000
360.0	6800.00	0.376000	0.000	0.000	0.000	0.000
430.0	6800.00	0.376000	0.000	0.000	0.000	0.000
550.0	2200.00	0.122000	0.098	0.000	0.000	0.000
730.0	750.00	0.041000	0.000	0.000	0.000	0.000
1500.0	300.00	0.016500	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: CHR002

Material ID: CHAIR,MOLDED FLEXIBLE PU FRAME,PU COVER TEST 64 (83-2787)

Configuration: CENTER

Ignition Source: GAS BURNER,50KW,200S

Initial Mass: 15.980 kg Final Mass: 1.800 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	21000.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
780.0	30.00	0.001400	0.028	0.891	0.003	0.000
1200.0	205.00	0.009700	0.016	0.876	0.007	0.000
1330.0	454.00	0.021600	0.001	0.937	0.006	0.000
1650.0	196.00	0.009300	0.013	0.912	0.005	0.000
2300.0	55.00	0.002600	0.034	0.543	0.002	0.000
2610.0	31.00	0.001400	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: UPC002

Material ID: CHAIR, F23, WOOD FRAME, FR COTTON BATTING, OLEFIN TEST24(82-2604

Configuration: CENTER

Ignition Source: GAS BURNER, 50KW, 200S

Initial Mass: 31.200 kg Final Mass: 2.500 kg

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	16100.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
90.0	0.00	0.000000	0.000	2.520	0.015	0.000
200.0	113.00	0.007000	0.000	1.440	0.010	0.000
450.0	700.00	0.043000	0.000	1.570	0.004	0.000
600.0	370.00	0.023000	0.000	1.320	0.002	0.000
1100.0	145.00	0.009000	0.000	1.150	0.000	0.000
1400.0	100.00	0.006000	0.000	1.100	0.000	0.000
1800.0	80.00	0.005000	0.000	1.280	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: MAT002
 Material ID: MATTRESS+BOXSPRING(WESTCHASE HILTON) TEST 67 (83-2787)
 Configuration: CENTER
 Ignition Source: CIGARETTE LIGHTER

Initial Mass: 62.360 kg Final Mass: 0.000 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	18000.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	APPEND Yield (kg/kg)	Yield (kg/kg)
100.0	0.00	0.000000	0.000	0.000	0.000	0.000
540.0	200.00	0.011000	0.067	1.130	0.000	0.000
640.0	530.00	0.029000	0.020	1.180	0.000	0.000
750.0	290.00	0.016000	0.048	1.350	0.000	0.000
835.0	290.00	0.016000	0.097	1.370	0.000	0.000
910.0	660.00	0.037000	0.037	1.230	0.000	0.000
980.0	420.00	0.023000	0.040	1.380	0.000	0.000
1140.0	240.00	0.013000	0.077	1.140	0.000	0.000
1450.0	110.00	0.006000	0.102	1.620	0.000	0.000
1900.0	70.00	0.004000	0.116	1.540	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: UPS002

Material ID: LOVESEAT,F31,WOOD FRAME,PU FOAM(FR),OLEFIN (TEST 37) 82-2604

Configuration: CENTER(LG HOOD

Ignition Source: GAS BURNER,50KW,200S

Initial Mass: 40.400 kg Final Mass: 5.200 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	17500.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
20.0	0.00	0.000000	0.000	0.000	0.000	0.000
100.0	132.00	0.007500	0.011	1.010	0.008	0.000
150.0	451.00	0.025700	0.027	1.280	0.019	0.000
230.0	2886.00	0.165000	0.031	2.100	0.022	0.000
250.0	2848.00	0.163000	0.029	1.750	0.020	0.000
350.0	613.00	0.035000	0.032	1.660	0.021	0.000
450.0	200.00	0.011400	0.016	1.030	0.000	0.000
800.0	200.00	0.011400	0.014	1.040	0.000	0.000
1400.0	100.00	0.005700	0.000	1.500	0.000	0.000
2200.0	28.00	0.001600	0.000	0.860	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: UPC003
 Material ID: UPHOLSTERED CHAIR, F25, WOOD FRAME, PU FOAM, OLEFIN, TEST29
 Configuration: CENTER
 Ignition Source: GAS BURNER, 50KW, 200SEC

Initial Mass: 27.800 kg Final Mass: 3.100 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	17000.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
90.0	0.00	0.000000	0.000	0.000	0.017	0.000
140.0	157.00	0.009200	0.000	1.078	0.012	0.000
180.0	770.00	0.045200	0.013	1.316	0.016	0.000
230.0	770.00	0.045200	0.000	1.403	0.015	0.000
260.0	1992.00	0.117100	0.005	1.596	0.008	0.000
330.0	698.00	0.041000	0.004	1.532	0.013	0.000
370.0	370.00	0.021700	0.021	1.384	0.007	0.000
430.0	260.00	0.015200	0.021	1.053	0.004	0.000
1000.0	126.00	0.007400	0.000	1.128	0.003	0.000
0.0	0.00	0.000000	0.000	0.000	0.000	0.000

Decomposition Data from Furniture Calorimeter

Material Code: UPC004

Material ID: UPHOLS.CHAIR,F28,WOOD FRAME,PU/PE/CTN BEDDING,COTTON TEST28

Configuration: CENTER

Ignition Source: GAS BURNER,50KW,200SEC

Initial Mass: 29.200 kg Final Mass: 4.400 kg
 Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	14900.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	Time Dependent Data			
			CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
40.0	0.00	0.000000	0.000	0.000	0.000	0.000
130.0	50.00	0.003300	0.000	1.882	0.004	0.000
200.0	50.00	0.003300	0.000	1.211	0.002	0.000
330.0	423.00	0.028300	0.000	1.610	0.005	0.000
370.0	423.00	0.028300	0.000	1.429	0.005	0.000
420.0	730.00	0.048900	0.000	1.499	0.005	0.000
500.0	586.00	0.039300	0.002	1.548	0.005	0.000
550.0	395.00	0.026500	0.000	1.556	0.007	0.000
700.0	204.00	0.013600	0.006	1.234	0.002	0.000
1000.0	106.00	0.007100	0.000	1.044	0.002	0.000

Decomposition Data from Furniture Calorimeter

Material Code: UPC005

Material ID: UPHOLS.CHAIR,F30,PU FRAME,PU FOAM,OLEFIN,TEST 30 (82-2604)

Configuration: CENTER

Ignition Source: GAS BURNER,50KW,200SEC

Initial Mass: 25.200 kg Final Mass: 7.800 kg

Ignition Time: 0.0 s

	Units	Average
Heat of Combustion	kJ/kg	20900.0
CO Yield	kg/kg	0.0000
CO2 Yield	kg/kg	0.0000
HC Yield	kg/kg	0.0000
HCl Yield	kg/kg	0.0000
HCN Yield	kg/kg	0.0000
H2O Yield	kg/kg	0.0000
SOOT Yield	kg/kg	0.0000
Extinction Area	m2/kg	0.000

Time Dependent Data

Time (s)	Heat Release (kW)	Mass Loss (kg/s)	CO Yield (kg/kg)	CO2 Yield (kg/kg)	SMOKE Yield (kg/kg)	Yield (kg/kg)
35.0	0.00	0.000000	0.000	0.000	0.000	0.000
90.0	141.00	0.006700	0.026	1.100	0.006	0.000
140.0	975.00	0.046600	0.013	1.578	0.017	0.000
165.0	672.00	0.032100	0.017	1.707	0.021	0.000
215.0	770.00	0.036800	0.012	1.536	0.025	0.000
235.0	1063.00	0.050800	0.015	1.263	0.018	0.000
310.0	398.00	0.019000	0.023	1.660	0.032	0.000
400.0	142.00	0.006700	0.018	1.350	0.016	0.000
800.0	161.00	0.007700	0.000	1.010	0.007	0.000
1800.0	18.00	0.000800	0.000	0.497	0.002	0.000

SECTION 4 - TOXICITY DATA

Toxicity Data

National Bureau of Standards Protocol

Material Code: FPU008

Material ID: FLEXIBLE POLYURETHANE FOAM,GM-21

Form:FOAM

Auto-Ignition Temperature: 370 C

Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	40.000	26.600
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol

Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	12.900	0.000
20.0	8.500	8.500
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: ABS001

Material ID: ACRYLONITRILE BUTADIENE STYRENE

Form: PELLETS

Auto-Ignition Temperature: 575 C

Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	19.300	30.900
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol

Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	6.300	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: ABS002

Material ID: ACRYLONITRILE BUTADIENE STYRENE PIPE, ASTM D-2661

Form: PIPE

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	5.600	5.600
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PSF001

Material ID: POLYSTYRENE EXTRUDED FOAM,GM-51

Form:FOAM

Auto-Ignition Temperature: 490 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	38.900	40.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
0.0	0.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PSF002

Material ID: POLYSTYRENE EXPANDED FOAM,GM-47

Form:FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	5.800	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: VWC001

Material ID: VINYL WALL COVERING

Form: SHEET

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	8.400	8.500
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: VCW001

Material ID: VINYL COATED WIRE

Form: WIRE

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	9.900	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: NYC001

Material ID: NYLON CARPET, JUTE BACKING, 16-18 OZ/YD2

Form: CARPET

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0.	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	14.100	14.100
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PVC001

Material ID: POLYVINYL CHLORIDE

Form: PELLETS

Auto-Ignition Temperature: 600 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	17.300	20.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	7.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: RPU001

Material ID: RIGID POLYURETHANE FOAM,GM-29/GM-30

Form: FOAM

Auto-Ignition Temperature: 550 C

Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	13.300	39.600
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol

Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	10.400	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PVCW001

Material ID: POLYVINYL COATED WIRE

Form: WIRE

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	14.900	9.900
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: WO001

Material ID: WOOL, UNBLEACHED, UNWOVEN

Form: FIBERS

Auto-Ignition Temperature: 650 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	28.200	25.100
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	3.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: MOD001

Material ID: MODACRYLIC,KNIT,FABRIC

Form:FABRIC

Auto-Ignition Temperature: - 725 C

Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	4.400	5.300
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol

Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	4.900	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: DFR004

Material ID: DOUGLAS FIR, 1IN. THICK

Form: BOARD

Auto-Ignition Temperature: 465 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	39.800	22.800
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	63.800	0.000
20.0	31.300	31.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: RDO003

Material ID: RED OAK FLOORING

Form: BOARD

Auto-Ignition Temperature: 480 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	56.800	30.300
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
0.0	0.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PTF001

Material ID: POLYTETRAFLUORETHYLENE

Form: RESIN

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	0.045	0.045
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	0.640	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PTF002

Material ID: POLYTETRAFLUORETHYLENE COATED WIRE

Form: WIRE

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	3.000	3.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: GBD003

Material ID: GYPSUM WALLBOARD, 1/2IN. THICK

Form: BOARD

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	126.000	126.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: FPU001

Material ID: FLEXIBLE POLYURETHANE FOAM,GM-21, (NBS), (ALARIE), (ADL)

Form:FOAM

Auto-Ignition Temperature: 370 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	40.000	26.600
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	12.900	0.000
20.0	8.500	8.500
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: FPU002

Material ID: FLEXIBLE POLYURETHANE FOAM A,FR,NBSIR83-2791 MAT'L 11

Form:FOAM

Auto-Ignition Temperature: 400 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	40.000	17.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
0.0	0.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: FPU003

Material ID: FLEXIBLE POLYURETHANE FOAM A,NBSIR83-2791 MAT'L 12

Form:FOAM

Auto-Ignition Temperature: 400 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	40.000	38.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
0.0	0.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: FPU004

Material ID: FLEXIBLE POLYURETHANE FOAM B,NBSIR83-2791 MAT'L 13

Form:FOAM

Auto-Ignition Temperature: 400 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	40.000	37.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
0.0	0.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: FPU005

Material ID: FLEXIBLE POLYURETHANE FOAM B,FR,NBSIR83-2791 MAT'L 14

Form:FOAM

Auto-Ignition Temperature: 375 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	40.000	28.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
0.0	0.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: FPU006

Material ID: FLEXIBLE POLYURETHANE FOAM, FR, GM-23, (ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	10.400	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PLE001

Material ID: POLYESTER BATTING, FIBERFILL, NBSIR83-2791 MAT'L 15

Form: FOAM

Auto-Ignition Temperature: 525 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	31.000	28.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
0.0	0.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PLE002

Material ID: POLYESTER UPHOLSTERY FABRIC, NBSIR83-2791 APPENDIX

Form: FABRIC

Auto-Ignition Temperature: 400 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
30	37.500	39.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
0.0	0.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PLE003

Material ID: POLYESTER RESIN, ACRYLIC MODIFIED, UNSATD, PEI, (ALARIE)

Form: SHEET

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	34.800	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PLE004

Material ID: POLYESTER RESIN, STYRENE/HALOGEN MODIFIED, HPE (ALARIE)

Form: SHEET

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	14.400	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PWC001

Material ID: PAPER WALL COVERING, (ADL)

Form: SHEET

Auto-Ignition Temperature: 0 C .

Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol

Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	6.600	6.600
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PVCC001

Material ID: PVC RIGID CONDUIT, SCHEDULE 40, (ADL)

Form: CONDUIT

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	5.900	5.900
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: CTN001

Material ID: COTTON FABRIC,FR

(ADL)

Form: FABRIC

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	13.500	13.500
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: CGT001

Material ID: CEILING TILE, MINERAL-BASE

(ADL)

Form: BOARD

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	29.500	29.500
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: CGT002

Material ID: CEILING TILE, WOOD FIBER

(ADL)

Form: BOARD

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	11.300	11.300
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: RPU002

Material ID: RIGID POLYURETHANE FOAM, FR, GM-31

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	8.200	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: RPU003

Material ID: RIGID POLYURETHANE FOAM, FLUOROCARBON, GM-35 (ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	7.500	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: RPI001

Material ID: RIGID POLYISOCYANURATE FOAM,GM-41

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	6.400	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PSF003

Material ID: POLYSTYRENE EXPANDED FOAM,FR,GM-49

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	.14days-post (g)
20.0	10.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PFF001

Material ID: PHENOL FORMALDEHYDE FOAM,GM-57

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	6.300	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: UFF001

Material ID: UREA FORMALDEHYDE FOAM

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	2.500	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: CFI001

Material ID: CELLULOSE FIBER INSULATION, BLOWING TYPE

(ALARIE)

Form: FIBER

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	11.900	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: GFI002

Material ID: GLASS FIBER INSULATION BATT, PAPER-FACED

(ALARIE)

Form: BLANKET

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	35.700	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: CGT001

Material ID: CEILING TILE, MINERAL-BASE

(ADL)

Form: BOARD

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	29.500	29.500
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: CGT002

Material ID: CEILING TILE, WOOD FIBER

(ADL)

Form: BOARD

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	11.300	11.300
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: RPU002

Material ID: RIGID POLYURETHANE FOAM,FR,GM-31

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	8.200	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: RPU003

Material ID: RIGID POLYURETHANE FOAM, FLUOROCARBON, GM-35

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	7.500	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: RPI001

Material ID: RIGID POLYISOCYANURATE FOAM,GM-41

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	6.400	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PSF003

Material ID: POLYSTYRENE EXPANDED FOAM,FR,GM-49

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	10.000	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: PFF001

Material ID: PHENOL FORMALDEHYDE FOAM,GM-57

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	6.300	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: UFF001

Material ID: UREA FORMALDEHYDE FOAM

(ALARIE)

Form: FOAM

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	2.500	0.000
0.0	0.000	0.000
0.0	0.000	0.000

Toxicity Data

National Bureau of Standards Protocol

Material Code: CFI001

Material ID: CELLULOSE FIBER INSULATION, BLOWING TYPE (ALARIE)

Form: FIBER

Auto-Ignition Temperature: 0 C
Material at LC50

Time (m)	Flaming (mg/l)	Non-Flaming (mg/l)
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000
0	0.000	0.000

University of Pittsburgh Protocol
Material Loading at LC50

Heating Rate (C/min)	10min-post (g)	14days-post (g)
20.0	11.900	0.000
0.0	0.000	0.000
0.0	0.000	0.000

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4. TITLE AND SUBTITLE

HAZARD I -
 Volume 3: Data Base Listing

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R.W. Bukowski and E. Braun

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10. SUPPLEMENTARY NOTES

Document describes a computer program; SF-185, FIPS Software Summary, is attached.

11. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here)

This report describes the first version of a method for predicting the hazards to the occupants of a building involved in a fire. To implement this method, a software package called HAZARD I is provided. It includes a scenario development utility (PRODUCT.ONE); an interactive program for inputting data to the fire model (FINPUT); a data base program (FIREDATA) with files of thermophysical, thermochemical, and reference toxicity data; the FAST model for multi-compartment energy and mass transport; a graphics utility for plotting data (FASTPLOT); a detector/sprinkler activation model (DETECT); an evacuation model which includes human behavior (EXITT); and a tenability model (TENAB) which evaluates the impact of the predicted exposure of the occupants in terms of incapacitation or lethality from temperature or toxicity, or incapacitation by burns. All of the software operates on a personal computer. Volume 2 contains complete documentation of a set of worked example cases and Volume 3 contains a complete copy of the data in the data base.

12. KEY WORDS (Six to twelve entries; alphabetical order; capitalize only proper names; and separate key words by semicolons)

computer models; evacuation; fire models; hazard assessment; human behavior; toxicity

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