PG 5 7/91

FLAMMABILITY TEST # 53 A
CHAR LENGTH DATA

DATE _____
SIGNATURE _____
TEST ID _____

Wash Interval 50

FABRIC CODE	FR–P10 CHAR LENGTH	FR–P11 CHAR LENGTH	FR–P12 CHAR LENGTH	FR–P13 CHAR LENGTH	FR–P14 CHAR LENGTH	FR–CW22 CHAR LENGTH
CRITICAL BURN DIRECTION	L C	L C	L C	L C	L C	L C
PRODUCT E	AATCC Std. Det					
Condition _____						
Specimen #1	2.4	2.0	1.4	3.3	1.9	5.6
Specimen #2	2.3	3.0	1.5	2.5	1.5	6.3
Specimen #3	2.7	2.2	1.7	3.6	2.4	7.0
Specimen #4	2.8	2.3	1.5	1.3	1.7	6.8
Specimen #5	3.1	2.6	1.7	3.8	2.1	10.0
AVERAGE CHAR LENGTH:	2.7	2.4	1.6	2.9	1.9	7.1

PRODUCT F	AATCC Std. Det. & Activated Bleach/Preformed Peracid Bleach Additive					
Condition _____						
Specimen #1	3.0	1.8	1.4	3.9	1.7	7.0
Specimen #2	1.9	2.4	1.5	2.8	1.8	10.0
Specimen #3	3.2	2.4	1.6	1.7	1.9	6.9
Specimen #4	1.7	1.2	1.4	1.8	1.3	6.2
Specimen #5	2.9	2.8	1.5	2.4	1.5	10.0
AVERAGE CHAR LENGTH:	2.5	2.1	1.5	2.5	1.6	8.0

(1)

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

FLAMMABILITY TEST # 53 A
CHAR LENGTH DATA

DATE _____
SIGNATURE _____
TEST ID _____

Wash Interval 30

FABRIC CODE	FR–P10 CHAR LENGTH	FR–P11 CHAR LENGTH	FR–P12 CHAR LENGTH	FR–P13 CHAR LENGTH	FR–P14 CHAR LENGTH	FR–CW22 CHAR LENGTH
CRITICAL BURN DIRECTION	L C	(L) C	(L) C	(L C)	L (C)	L (C)
PRODUCT A Zero P detergent (powder)						
Condition _____						
Specimen #1						5.0
Specimen #2						7.4
Specimen #3						4.8
Specimen #4						7.0
Specimen #5						10.0
AVERAGE CHAR LENGTH:						6.8
PRODUCT B Zero P detergent (powder)						
Condition _____						
Specimen #1						6.5
Specimen #2						9.0
Specimen #3						8.4
Specimen #4						6.8
Specimen #5						9.5
AVERAGE CHAR LENGTH:						8.0

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

FLAMMABILITY TEST # 53 A

CHAR LENGTH DATA

DATE _____

SIGNATURE _____

TEST ID _____

Wash Interval 30

FABRIC CODE	FR–P10	FR–P11	FR–P12	FR–P13	FR–P14	FR–CW22
	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH
CRITICAL BURN DIRECTION	L (C)	(L) C	(L) C	(L) C	L (C)	L (C)
PRODUCT (A) Zero P detergent (powder)						
Condition _____						
Specimen #1						10.0
Specimen #2						10.0
Specimen #3						10.0
Specimen #4						10.0
Specimen #5						10.0
AVERAGE CHAR LENGTH:						10.0

PRODUCT (B) Zero P detergent (powder)						
Condition _____						
Specimen #1						9.0
Specimen #2						10.0
Specimen #3						8.5
Specimen #4						6.5
Specimen #5						6.5
AVERAGE CHAR LENGTH:						8.1

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

FLAMMABILITY TEST # 53 A
CHAR LENGTH DATA

DATE _____
SIGNATURE _____
TEST ID _____

Wash Interval 30

FABRIC CODE	FR–P10 CHAR LENGTH	FR–P11 CHAR LENGTH	FR–P12 CHAR LENGTH	FR–P13 CHAR LENGTH	FR–P14 CHAR LENGTH	FR–CW22 CHAR LENGTH
CRITICAL BURN DIRECTION	L (C)	(L) C	(L) C	(L) C	L (C)	L (C)
PRODUCT E	AATCC Std. Det.					
Condition						
Specimen #1						6.0
Specimen #2						8.5
Specimen #3						6.0
Specimen #4						10.0
Specimen #5						6.5
AVERAGE CHAR LENGTH:						7.4

PRODUCT F	AATCC Std Det. & Activated bleach/Preformed Peracid Bleach Additive					
Condition						
Specimen #1						9.3
Specimen #2						9.3
Specimen #3						9.1
Specimen #4						6.4
Specimen #5						9.0
AVERAGE CHAR LENGTH:						8.7

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

FLAMMABILITY TEST # 53
CHAR LENGTH DATA

DATE _____
SIGNATURE _____
TEST ID _____

Wash Interval 10

FABRIC CODE	FR–P10 CHAR LENGTH	FR–P11 CHAR LENGTH	FR–P12 CHAR LENGTH	FR–P13 CHAR LENGTH	FR–P14 CHAR LENGTH	FR–CW22 CHAR LENGTH
CRITICAL BURN DIRECTION	L (C)	(L) C	(L) C	(L) C	L (C)	L (C)
PRODUCT D	zero P detergent (powder)					
Condition						
Specimen #1						9.4
Specimen #2						9.5
Specimen #3						6.1
Specimen #4						9.8
Specimen #5						8.0
AVERAGE CHAR LENGTH:						8.2

PRODUCT E	AATCC Std. Det					
Condition						
Specimen #1						5.5
Specimen #2						9.8
Specimen #3						4.2
Specimen #4						6.2
Specimen #5						6.4
AVERAGE CHAR LENGTH:						6.4

. = Lengthwise or warp direction

: = Crosswise or filling direction

SD #1

MERCHANDISE

TESTING

LABORATORIES

REPORT

MTL LAB NO.: MC 54705 ADDENDUM
TEST NO. 53 B
DATE: NOVEMBER 16, 1992

PROCTER & GAMBLE
IVORYDALE TECHNICAL CENTER
5299 SPRING GROVE AVENUE
CINCINNATI, OH 45217

ATTN: GAIL DeWEESE

Sample Description: Four (4) fabrics.

Purpose of Test: Evaluation of fabrics for sleepwear flammability.

Executive Summary: The following Test Result sheets include all data recorded.

Supervisor - Glenn Sylvia

Executive Director
Dr. B. J. Park

BJP/sh

U.S.A. : 244 LIBERTY STREET, BROCKTON, MA 02401 TEL: 508 580-8353 FAX: 508 580-2669
HONG KONG : UNIT 19, 13/F, VANTA INDUSTRIAL CENTRE, 21-33 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG. TEL: 852-418-1222 FAX: 852-480-6666
TAIWAN : 2F, 226 KUANG MING ROAD, PEITOU, TAIPEI, TAIWAN TEL: 886-02-894-9722 FAX: 886-02-895-9209
SINGAPORE : 161 KAMPONG AMPAT, 05-02, GOLDLION BLDG. SINGAPORE, 1336 TEL: 65-283-8366 FAX: 65-283-8966
KOREA : C/O KOTITI, 819-5, YEOK-SAM DONG, KANG-NAM-KU, SEOUL, KOREA TEL: 822-02-567-7591 FAX: 822-02-557-3739

PG 5 7/9

FR CW22
B

FLAMMABILITY TEST # 53 B
CHAR LENGTH DATA

Wash Interval 10

DATE _____
SIGNATURE _____
TEST ID _____

FABRIC CODE	FR–P10 CHAR LENGTH	FR–P11 CHAR LENGTH	FR–P12 CHAR LENGTH	FR–P13 CHAR LENGTH	FR–P14 CHAR LENGTH	FR–CW22 CHAR LENGTH
CRITICAL BURN DIRECTION	L C	(L) C	(L) C	(L) C	L (C)	L (C)
PRODUCT B	zero P detergent (powder)					
Condition _____						
Specimen #1						4.9
Specimen #2						10.0 *
Specimen #3						6.7
Specimen #4						5.0
Specimen #5						8.5
AVERAGE CHAR LENGTH:						7.0

PRODUCT						
Condition _____						
Specimen #1						
Specimen #2						
Specimen #3						
Specimen #4						
Specimen #5						
AVERAGE CHAR LENGTH:						

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

PG 5 7/91

FCW22
10 F

FLAMMABILITY TEST # 53 B
CHAR LENGTH DATA

Wash Interval 10

DATE _____
SIGNATURE _____
TEST ID _____

FABRIC CODE	FR–P10 CHAR LENGTH		FR–P11 CHAR LENGTH		FR–P12 CHAR LENGTH		FR–P13 CHAR LENGTH		FR–P14 CHAR LENGTH		FR–CW22 CHAR LENGTH	
CRITICAL BURN DIRECTION	L	C	L	C	L	C	L	C	L	C	L	C
PRODUCT F AATCC Std detergent + activated bleach/ preformed peracid bleach additive												
Condition _____												
Specimen #1												5.0
Specimen #2												10.0 *
Specimen #3												4.8
Specimen #4												5.9
Specimen #5												5.6
AVERAGE CHAR LENGTH:												6.3

PRODUCT												
Condition _____												
Specimen #1												
Specimen #2												
Specimen #3												
Specimen #4												
Specimen #5												
AVERAGE CHAR LENGTH:												

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

#1 CW22
Product 0

FLAMMABILITY TEST # 53 B
CHAR LENGTH DATA

Wash Interval Ø

DATE
SIGNATURE
TEST ID

FABRIC CODE	FR–P10	FR–P11	FR–P12	FR–P13	FR–P14	FR–CW22
Unwashed	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH
CRITICAL BURN DIRECTION	L C	(L) C	(L) C	(L) C	L (C)	L (C)
PRODUCT Unwashed						
Condition						
Specimen #1						2.5
Specimen #2						6.1
Specimen #3						4.0
Specimen #4						4.9
Specimen #5						6.9
AVERAGE CHAR LENGTH:						4.9

PRODUCT						
Condition						
Specimen #1						
Specimen #2						
Specimen #3						
Specimen #4						
Specimen #5						
AVERAGE CHAR LENGTH:						

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

PG 5 7/91

#. CW22 product 0

FLAMMABILITY TEST # 53 B
CHAR LENGTH DATA

Wash Interval Ø

DATE _____
SIGNATURE _____
TEST ID _____

FABRIC CODE	FR–P10	FR–P11	FR–P12	FR–P13	FR–P14	FR–CW22
Unwashed	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH	CHAR LENGTH
CRITICAL BURN DIRECTION	L C	(L) C	(L) C	(L) C	L (C)	L (C)
PRODUCT Unwashed						
Condition _____						
Specimen #1						3.0
Specimen #2						3.2
Specimen #3						2.8
Specimen #4						3.2
Specimen #5						3.5
AVERAGE CHAR LENGTH:						3.3

PRODUCT						
Condition _____						
Specimen #1						
Specimen #2						
Specimen #3						
Specimen #4						
Specimen #5						
AVERAGE CHAR LENGTH:						

. = Lengthwise or warp direction

: = Crosswise or filling direction

SD #1

MERCHANDISE

TESTING

LABORATORIES

REPORT

MTL LAB. NO.: MC 53269
DATE: SEPTEMBER 21, 1992
TEST NO. 54

PROCTER & GAMBLE
IVORYDALE TECHNICAL CENTER
5299 SPRING GROVE AVENUE
CINCINNATI, OH 45217

ATTN: GAIL DEWEESE

Sample Description: One (1) Fabric Product B from Test No. 49, 10 cycles.

Purpose of Test: Evaluation of the sleepwear for flammability.

Executive Summary: The following Test Result sheets include all data recorded.

Glenn Sylvia
Supervisor - Glenn Sylvia

B.J. Park
Executive Director
Dr. B. J. Park

BJP/kr

U.S.A. : 244 LIBERTY STREET, BROCKTON, MA 02401 TEL: 508 580-8353 FAX: 508 580-2669
HONG KONG : UNIT 19, 13/F, VANTA INDUSTRIAL CENTRE, 21-33 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG TEL: 852-418-1222 FAX 852-480-6666
TAIWAN 2F, 226 KUANG MING ROAD, PEITOU TAIPEI TAIWAN TEL 886-02 894-9722 FAX 886-02-895-9209
SINGAPORE 161 KAMPONG AMPAT, 05-02, GOLDLION BLDG SINGAPORE, 1336 TEL 65-283-8366 FAX 65-283-8966
KOREA C/O KOTITI, 819-5, YEOK-SAM DONG KANG-NAM KU, SEOUL, KOREA TEL 822-02-567-7591 FAX: 822-02-557-3739

PG 5 7/91

FLAMMA ITY TEST # 49
CHAR LENGTH DATA

DATE _____
SIGNATURE _____
TEST ID _____

Wash Interval 10 cycle
140 / 105 6 gpg

FABRIC CODE	FR–P10 CHAR LENGTH		FR–P11 CHAR LENGTH		FR–P12 CHAR LENGTH		FR–P13 CHAR LENGTH		FR–P14 CHAR LENGTH		FR–CW22 CHAR LENGTH	
CRITICAL BURN DIRECTION	L	C	L	C	L	C	L	C	L	C	L	C
PRODUCT From Test 49 zero P detergent (powder)												
Condition B												
Specimen #1											5.5	
Specimen #2											4.6	
Specimen #3											6.5	
Specimen #4											7.0	
Specimen #5											4.9	
AVERAGE CHAR LENGTH:											5.7	

PRODUCT												
Condition _____												
Specimen #1												
Specimen #2												
Specimen #3												
Specimen #4												
Specimen #5												
AVERAGE CHAR LENGTH:												

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

MERCHANDISE

TESTING

LABORATORIES

REPORT

MTL LAB NO.: MC 56713
TEST NO.: 55
DATE: DECEMBER 22, 1992

PROCTER & GAMBLE
IVORYDALE TECHNICAL CENTER
5299 SPRING GROVE AVE.
CINCINNATI, OH 45217

ATTN: GAIL DeWEESE

Sample Description: Six (6) Fabrics washed in four (4) different detergents.

Purpose of Test: Evaluation of the fabrics for sleepwear flammability.

Executive Summary: The following Test Result sheets include all data recorded.

Supervisor - Glenn Sylvia

Executive Director
Dr. B. J. Park

BJP/sh

U.S.A.	:	244 LIBERTY STREET, BROCKTON, MA 02401 TEL: 508 580-8353 FAX: 508 580-2669
HONG KONG	:	UNIT 19, 13/F, VANTA INDUSTRIAL CENTRE, 21-33 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG. TEL: 852-418-1222 FAX: 852-480-6666
TAIWAN	:	2F, 226 KUANG MING ROAD, PEITOU, TAIPEI, TAIWAN TEL: 886-02-894-9722 FAX: 886-02-895-9209
SINGAPORE	:	161 KAMPONG AMPAT, 05-02, GOLDLION BLDG. SINGAPORE, 1336 TEL: 65-283-8366 FAX: 65-283-8966
KOREA	:	C/O KOTITI, 819-5, YEOK-SAM DONG, KANG-NAM-KU, SEOUL, KOREA TEL: 822-02-567-7591 FAX: 822-02-557-3739

FLAMMABILITY TEST # 55
CHAR LENGTH DATA

Wash Interval 6gPS 50

DATE _____
SIGNATURE _____
TEST ID _____

FABRIC CODE	FR–P10 CHAR LENGTH	FR–P11 CHAR LENGTH	FR–P12 CHAR LENGTH	FR–P13 CHAR LENGTH	FR–P14 CHAR LENGTH	FR–CW22 CHAR LENGTH
CRITICAL BURN DIRECTION	L C	L C	L C	L C	L C	L C
PRODUCT A - zero-P detergent (powder)						
Condition 140/105						
Specimen #1	2.8	2.9	3.4	3.5	1.8	10.0 *
Specimen #2	2.8	2.7	5.6	8.7	2.3	10.0 *
Specimen #3	3.6	1.9	1.6	3.6	1.2	10.0 *
Specimen #4	3.4	1.3	1.0	5.1	3.1	10.0 *
Specimen #5	2.5	3.3	1.8	3.2	2.1	10.0 *
AVERAGE CHAR LENGTH:	3.0	2.4	2.7	4.8	2.1	10.0 *

PRODUCT B - zero-P detergent w/ activated bleach (powder)						
Condition 140/105						
Specimen #1	2.1	2.1	1.7	5.0	1.5	10.0 *
Specimen #2	1.7	2.5	5.5	3.8	1.9	10.0 *
Specimen #3	3.0	2.2	0.8	3.6	2.0	10.0 *
Specimen #4	2.2	2.0	6.5	4.5	3.2	10.0 *
Specimen #5	2.7	2.4	1.0	1.9	2.5	10.0 *
AVERAGE CHAR LENGTH:	2.3	2.2	3.1	3.8	2.2	10.0 *

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

PG 5 7/91

FLAMMABILITY TEST # 55
CHAR LENGTH DATA

DATE _____
SIGNATURE _____
TEST ID _____

Wash Interval 6gPS 50

FABRIC CODE	FR–P10 CHAR LENGTH	FR–P11 CHAR LENGTH	FR–P12 CHAR LENGTH	FR–P13 CHAR LENGTH	FR–P14 CHAR LENGTH	FR–CW22 CHAR LENGTH
CRITICAL BURN DIRECTION	L C	L C	L C	L C	L C	L C
PRODUCT C	Zero P detergent plus fabric softener (powder)					
Condition 140/105						
Specimen #1	2.3	3.0	0.6	5.7	1.2	10.0 *
Specimen #2	2.7	3.2	2.1	* 10.0	2.5	9.0
Specimen #3	2.8	2.8	1.0	6.8	2.6	10.0 *
Specimen #4	3.0	2.2	1.8	4.0	1.0	10.0 *
Specimen #5	3.4	2.6	1.2	6.7	2.2	10.0 *
AVERAGE CHAR LENGTH:	2.8	2.8	1.3	5.4 *	2.0	9.8 *

PRODUCT D	AATCC Std. Det.					
Condition 140/105						
Specimen #1	2.5	2.2	1.5	2.7	1.5	9.8
Specimen #2	2.5	2.8	1.5	3.0	2.0	3.5
Specimen #3	2.4	2.8	1.4	2.5	1.0	8.0
Specimen #4	4.0	2.1	1.4	4.0	1.4	5.6
Specimen #5	2.8	2.5	1.3	1.8	1.7	10.0 *
AVERAGE CHAR LENGTH:	2.8	2.5	1.4	2.8	1.5	7.8 *

10

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

G 5 7/91

FLAMMABILITY TEST # 55
CHAR LENGTH DATA

DATE _____
SIGNATURE _____
TEST ID _____

Wash Interval 6 gpg 30

FABRIC CODE	FR–P10 CHAR LENGTH		FR–P11 CHAR LENGTH		FR–P12 CHAR LENGTH		FR–P13 CHAR LENGTH		FR–P14 CHAR LENGTH		FR–CW22 CHAR LENGTH	
CRITICAL BURN DIRECTION	L	C	L	C	L	C	L	C	L	C	L	C
PRODUCT A - zero-P detergent (powder)												
Condition 140/105												
Specimen #1											8.0	
Specimen #2											5.9	
Specimen #3											5.3	
Specimen #4											7.5	
Specimen #5											8.5	
AVERAGE CHAR LENGTH:											7.0 *	
PRODUCT B - zero P detergent w/ activated bleach (powder)												
Condition 140/105												
Specimen #1											10.0*	
Specimen #2											10	
Specimen #3											10.0 *	
Specimen #4											10.0 *	
Specimen #5											10.0 *	
AVERAGE CHAR LENGTH:											9.8 *	

L = Lengthwise or warp direction
C = Crosswise or filling direction

GD #1

PG 5 7/91

FLAMMABILITY TEST # 55

CHAR LENGTH DATA

Wash Interval 69P9 30

DATE _____

SIGNATURE _____

TEST ID _____

FABRIC CODE	FR–P10 CHAR LENGTH	FR–P11 CHAR LENGTH	FR–P12 CHAR LENGTH	FR–P13 CHAR LENGTH	FR–P14 CHAR LENGTH	FR–CW22 CHAR LENGTH
CRITICAL BURN DIRECTION	L C	L C	L C	L C	L C	L C
PRODUCT C	zero D detergent plus fabric softeners (powder)					
Condition 140/105						
Specimen #1				0.8		10.0 *
Specimen #2				0.5		7.0
Specimen #3				4.3		7.0
Specimen #4				4.1		4.5
Specimen #5				4.6		10.0 *
AVERAGE CHAR LENGTH:				2.9		7.7 *

PRODUCT D	A ATCC Std. Det.					
Condition 140/105						
Specimen #1						8.8
Specimen #2						7.0
Specimen #3						8.0
Specimen #4						10.0 *
Specimen #5						10.0 *
AVERAGE CHAR LENGTH:						8.8 *

3

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

FLAMMABILITY TEST # 55
CHAR LENGTH DATA

Wash Interval 6gpg 10

DATE _____
SIGNATURE _____
TEST ID _____

FABRIC CODE	FR–P10 CHAR LENGTH		FR–P11 CHAR LENGTH		FR–P12 CHAR LENGTH		FR–P13 CHAR LENGTH		FR–P14 CHAR LENGTH		FR–CW22 CHAR LENGTH	
CRITICAL BURN DIRECTION	L	C	L	C	L	C	L	C	L	C	L	C
PRODUCT C	zero P detergent plus fabric softener (powder)											
Condition 140/105												
Specimen #1											6.6	
Specimen #2											7.6	
Specimen #3											10.0 *	
Specimen #4											6.2	
Specimen #5											10.0 *	
AVERAGE CHAR LENGTH:											8.1	

PRODUCT D	AATCC Std. Det.											
Condition 140/105												
Specimen #1											6.2	
Specimen #2											8.0	
Specimen #3											10.0 *	
Specimen #4											7.5	
Specimen #5											10.0 *	
AVERAGE CHAR LENGTH:											8.3	

L = Lengthwise or warp direction

C = Crosswise or filling direction

GD #1

FLAMMABILITY TEST # 55
CHAR LENGTH DATA

Wash Interval 6gpg 10

DATE _____
SIGNATURE _____
TEST ID _____

FABRIC CODE	FR–P10 CHAR LENGTH	FR–P11 CHAR LENGTH	FR–P12 CHAR LENGTH	FR–P13 CHAR LENGTH	FR–P14 CHAR LENGTH	FR–CW22 CHAR LENGTH
CRITICAL BURN DIRECTION	L C	L C	L C	L C	L C	L C
PRODUCT A Zero P detergent (powder)						
Condition 140/105						
Specimen #1						10.0 *
Specimen #2						6.7
Specimen #3						10.0 *
Specimen #4						10.0 *
Specimen #5						10.0 *
AVERAGE CHAR LENGTH:						9.3 *

PRODUCT B						
Condition 140/105 Zero P detergent with activated bleach (powder)						
Specimen #1						6.0
Specimen #2						10.0 *
Specimen #3						10.0 *
Specimen #4						10.0 *
Specimen #5						10.0 *
AVERAGE CHAR LENGTH:						9.2

~~L = Lengthwise or warp direction~~

C = Crosswise or filling direction

GD #1