(11) Bears a label as shown following this paragraph stating ''Wear Snug-fitting, Not Flame Resistant.'' The text must be printed on the front of the sizing label located on the center back of the garment and must be immediately below the size designation. The text must be a minimum of 5 point sans serif font in all capital letters and must be set apart from other label text by a line border. The text must contrast with the background color of the label. The label must not be covered by any other label or tag.

WEAR SNUG-FITTING
NOT FLAME RESISTANT

Example in 10 pt Arial font

[40 FR 59917, Dec. 30, 1975, as amended at 50 FR 53307, Dec. 31, 1985; 61 FR 47646, Sept. 9, 1996; 64 FR 2841, Jan. 19, 1999; 64 FR 34535, June 28, 1999; 64 FR 48705, Sept. 8, 1999; 64 FR 61021, Nov. 9, 1999]

§ 1616.3 General requirements.

(a) *Summary of test method.* Conditioned specimens are suspended one at a time vertically in holders in a prescribed cabinet and subjected to a standard flame along their bottom edges for a specified time under controlled conditions. The char lengths are recorded.

(b) *Test criteria.* The test criteria when the testing is done in accordance with §1616.4 *Sampling and acceptance procedures* and §1616.5 *Test procedures* are:

(1) *Average char length.* The average char length of five specimens shall not exceed 17.8 cm. (7.0 in.).

(2) *Full-specimen burn.* No individual specimen shall have a char length of 25.4±0.5 cm. (10±0.2 in.).

(c) Details of the number of specimens which must meet the above test criteria for unit acceptance is specified in §1616.4.

§ 1616.4 Sampling and acceptance procedures.

(a) *General.* (1) The test criteria of §1616.3(b) shall be used in conjunction with the following fabric and garment sampling plan. The Consumer Product Safety Commission may consider and approve other sampling plans that provide at least the equivalent level of fire safety to the consumer, provided such alternate sampling plans have operating characteristics such that the probability of unit acceptance at any percentage defective does not exceed the corresponding probability of unit acceptance of the following sampling plan in the region of the latter's operating characteristic curves that lies between 5 and 95 percent acceptance probability. Alternate sampling plans approved for one manufacturer may be used by other manufacturers without prior Consumer Product Safety Commission approval.

(2) Different colors or different print patterns of the same fabric may be included in a single fabric or garment production unit, provided such colors or print patterns demonstrate char lengths that are not significantly different from each other as determined by previous testing of at least three samples from each color or print pattern to be included in the unit.

(3) Garments with different trim and findings may be included in a single garment production unit provided the other garment characteristics are identical except for size, color, and print pattern.

(4) For fabrics whose flammability characteristics are not dependent on chemical additives or chemical reactants to polymer, fiber, yarns, or fabrics, the laundering requirement of §1616.5(c)(4) is met on subsequent fabric production units if results of testing an initial fabric production unit demonstrate acceptability according to the

requirements of paragraph (b) of this section, *Normal sampling*, both before and after the appropriate laundering.

(5) If the fabric has been shown to meet the laundering requirement, §1616.5(c)(4), the garments produced from that fabric are not required to be laundered prior to testing.

(6) Each sample (five specimens), for Fabric Sampling shall be selected so that two specimens are in one fabric direction (machine or cross-machine) and three specimens are in the other fabric direction, except for the additional sample selected after a failure, in which case all five specimens shall be selected in the fabric direction in which the specimen failure occurred.

(7) Fabric samples may be selected from fabric as outlined in paragraph (b) of this section, *Fabric sampling* or, for verification purposes, from randomly selected garments.

(8) Multi-layer fabrics shall be tested with a hem of approximately 2.5 cm. (1 in.) sewn at the bottom edge of the specimen with a suitable thread and stitch. The specimen shall include each of the components over its entire length. Garments manufactured from multi-layer fabrics shall be tested with the edge finish which is used in the garment at the bottom edge of the specimen.

(b) *Fabric sampling.* A fabric production unit (unit) is either accepted or rejected in accordance with the following plan:

(1) *Normal sampling.* Select one sample from the beginning of the first fabric piece (piece) in the unit and one sample from the end of the last piece in the unit, or select a sample from each end of the piece if the unit is made up of only one piece. Test the two selected samples. If both samples meet all the test criteria of §1616.3(b), accept the unit. If either or both of the samples fail the 17.8 cm. (7.0 in.) average char length criterion, §1616.3(b)(1), reject the unit. If two or more of the individual specimens, from the 10 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), reject the unit. If only one individual specimen, from the 10 selected specimens, fails the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), select five additional specimens from the same end of the piece in which the failure occurred, all five to be taken in the fabric direction in which the specimen failure occurred. If this additional sample passes all the test criteria, accept the unit. If this additional sample fails any part of the test criteria, reject the unit.

(2) *Reduced sampling.* (i) The level of sampling required for fabric acceptance may be reduced provided the preceding 15 units of the fabric have all been accepted using the Normal Sampling Plan.

(ii) The reduced Sampling Plan shall be the same as for Normal Sampling except that the quantity of fabric in the unit may be increased to 9,200 linear m. (10,000 linear yds.)

(iii) Select and test two samples in the same manner as in Normal Sampling. Accept or reject the unit on the same basis as with Normal Sampling.

(iv) Reduced Sampling shall be discontinued and Normal Sampling resumed if a unit is rejected.

(3) *Tightened sampling.* Tightened sampling shall be used when a unit is rejected under the Normal Sampling Plan. The Tightened Sampling shall be the same as Normal Sampling except that one additional sample shall be selected and cut from a middle piece in the unit. If the unit is made up of less than two pieces, the unit shall be divided into at least two pieces. The division shall be such that the pieces produced by the division shall not be smaller than 92 linear m. (100 linear yds.) or greater than 2,300 linear m. (2,500 linear yds.). If the unit is made up of two pieces, the additional sample shall be selected from the interior end of one of the pieces. Test the three selected samples. If all three selected samples meet all the test criteria of §1616.3(b), accept the unit. If one or more of the three selected samples fail the 17.8 cm. (7.0 in.) average char length criterion, §1616.3(b)(1), reject the unit. If two or more of the individual specimens, from the 15 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), reject the unit. If only one individual specimen, from the 15 selected specimens, fails the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), select five additional specimens from the same end of

the same piece in which the failure occurred, all five to be taken in the fabric direction in which the specimen failure occurred. If this additional sample passes all the test criteria, accept the unit. If this additional sample fails any part of the test criteria, reject the unit. Tightened Sampling may be discontinued and Normal Sampling resumed after five consecutive units have all been accepted using Tightened Sampling. If Tightened Sampling remains in effect for 15 consecutive units, production of the specific fabric in Tightened Sampling must be discontinued until that part of the process or component which is causing failure has been identified and the quality of the end product has been improved.

(4) *Disposition of rejected units.* (i) The piece or pieces which have failed and resulted in the initial rejection of the unit may not be retested, used, or promoted for use in children's sleepwear as defined in §§1616.2(a) and 1615.1(a) of the (Standard for the Flammability of Children's Sleepwear: Sizes 0 through 6X) (FF 3–71) (subpart A of part 1615 of this chapter) except after reworking to improve the flammability characteristics and subsequent retesting and acceptance in accordance with the procedures in *Tightened Sampling.*

(ii) The remainder of a rejected unit, after removing the piece or pieces, the failure of which resulted in unit rejection, may be accepted if the following test plan is successfully concluded at all required locations. The required locations are those adjacent to each such failed piece. (Required locations exist on both sides of the ''Middle Piece'' tested in Tightened Sampling if failure of that piece resulted in unit rejection). Failure of a piece shall be deemed to have resulted in unit rejection if unit rejection occurred and a sample or specimen from the piece failed any test criterion of §1616.3(b).

(iii) The unit should contain at least 15 pieces for disposition testing after removing the failing pieces. If necessary for this purpose, the unit shall be demarcated into at least 15 approximately equal length pieces unless such division results in pieces shorter than 92 linear m. (100 linear yds.). In this latter case, the unit shall be demarcated into roughly equal length pieces of approximately 92 linear m. (100 linear yds.) each. If such a division results in five pieces or less in the unit for each failing piece after removing the failing pieces, only the individual pieces retest procedure [described in paragraph (b)(4)(vi) of this section] may be used.

(iv) Select and cut a sample from each end of each adjoining piece beginning adjacent to the piece which failed. Test the two samples from the piece. If both samples meet all the test criteria of §1616.3(b), the piece is acceptable. If one or both of the two selected samples fail the 17.8 cm. (7.0 in.) average char length criterion, §1616.3(b)(1), the piece is unacceptable. If two or more of the individual specimens, from the 10 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), the piece is unacceptable. If only one individual specimen, from the 10 selected specimens, fails the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), select five additional specimens from the same end of the piece in which the failure occurred, all five to be taken in the fabric direction in which the specimen failure occurred. If this additional sample passes all the test criteria, the piece is acceptable. If this additional sample fails any part of the test criteria, the piece is unacceptable.

(v) Continue testing adjoining pieces until a piece has been found acceptable. Then continue testing adjoining pieces until three successive adjoining pieces, not including the first acceptable piece, have been found acceptable or until five such pieces, not including the first acceptable piece, have been tested, whichever occurs sooner. Unless three successive adjoining pieces have been found acceptable among five such pieces, testing shall be stopped and the entire unit rejected without further testing. If three successive pieces have been found acceptable among five such pieces, accept the three successive acceptable pieces and the remaining pieces in the unit.

(vi)(A) Alternately, individual pieces from a rejected unit containing three or more pieces may be tested and accepted or rejected on a piece by piece basis according to the following plan, after removing the piece or pieces, the

failure of which resulted in unit rejection.

(B) Select four samples (two from each end) from the piece. Test the four selected samples. If all four samples meet all the test criteria of §1616.3(b), accept the piece. If one or more of the samples fail the 17.8 cm. (7.0 in.) average char length criterion, §1616.3(b)(1), reject the piece. If two or more of the individual specimens, from the 20 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), reject the piece. If only one individual specimen, from the 20 selected specimens, fails the 25.4 cm. (10 in.) char length criterion, §1613.3(b)(2), select two additional samples from the same end of the piece in which the failure occurred. If these additional two samples meet all the test criteria of §1616.3(b), accept the piece. If one or both of the two additional samples fail any part of the test criteria, reject the piece.

(vii) The pieces of a unit rejected after retesting may not be retested, used, or promoted for use in children's sleepwear as defined in §§1616.2(a) and 1615.1(a) of the Standard for the Flammability of Children's Sleepwear: Sizes 0 through 6X (FF 3–71) (subpart A of part 1615 of this chapter) except after reworking to improve the flammability characteristics, and subsequent retesting in accordance with the procedures set forth in *Tightened Sampling*.

(5) *Records.* Written and physical records related to all tests performed under this Standard must be maintained by the manufacturer, importer, or other persons initially introducing items into commerce which are subject to this Standard, beginning on the effective date of the Standard. Such records shall include results of all tests, sizes of all units, and the disposition of all rejected pieces and units. Rules and regulations regarding recordkeeping may be established by the Consumer Product Safety Commission.

(c) *Garment sampling.* (1)(i) The Garment Sampling Plan is made up of two parts: (A) Prototype Testing and (B) Production Testing. Prior to production, prototypes must be tested to assure that the design characteristics of the garment are acceptable. Garment production units (units) are then accepted or rejected on an individual unit basis.

(ii) Edge finishes such as hems, except in multi-layer fabrics, and binding are excluded from testing except that when trim is used on an edge the trim must be subjected to prototype testing. Seams attaching bindings are excluded from testing.

(2) *Prototype testing.* Pre-production prototype testing of each seam and trim specification to be included in each garment in a garment production unit shall be conducted to assure that garment specifications meet the flammability requirements of the Standard prior to production.

(i) *Seams.* Make three samples (15 specimens) using the longest seam type and three samples using each other seam type 10 inches or longer that is to be included in the garment. For purposes of recordkeeping, prior to testing, assign each specimen to one of the three samples. Test each set of three samples and accept or reject each seam design in accordance with the following plan:

(A) If all three samples meet all the test criteria of §1616.3(b), accept the seam design. If one or more of the three samples fail the 17.8 cm. (7.0 in.) average char length criterion, §1616.3(b)(1), reject the seam design. If three or more of the individual specimens from the 15 selected specimens fail the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), reject the seam design. If only one of the individual specimens from the 15 selected specimens fails the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), accept the seam design.

(B) If two of the individual specimens; from the 15 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), select three more samples (15 specimens) and retest. If all three additional samples meet all the test criteria of §1616.3(b), accept the seam design. If one or more of the three additional samples fail the 17.8 cm. (7.0 in.) average char length criterion, §1616.3(b)(1), reject the seam design. If two or more of the individual specimens, from the 15 selected additional specimens, fail the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), reject the seam design. If only one of

the individual specimens, from the 15 selected additional specimens, fails the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), accept the seam design.

(ii) *Trim.* (A) Make three samples (15 specimens) from each type of trim to be included in the garment. For trim used only in a horizontal configuration on the garment, specimens shall be prepared by sewing or attaching the trim horizontally to the bottom edge of an appropriate section of untrimmed fabric. Sleeve and necking trim may not be tested in this manner. Where more than one row of trim is used on the garment, specimens shall be prepared with the same configuration (same number of rows and spacing between rows up to the limit of the specimen size) as the garment. For trim used in other than a horizontal configuration, specimens shall be prepared by sewing or attaching the trim to the center of the vertical axis of an appropriate section of untrimmed fabric, beginning the sewing or attachment at the lower edge of each specimen. For either configuration, the sewing or attachment shall be made in the manner in which the trim is attached in the garment.

(B) Sewing or otherwise attaching the trim shall be done with thread or fastening material of the same composition and size to be used for this purpose in the garment and using the same stitching or seamtype. Trim used in the horizontal configuration shall be sewn or fastened the entire width (smaller dimension) of the specimen. Trim used in other than the horizontal configuration shall be sewn or fastened the entire length (longer dimension) of the specimen. Prior to testing, assign each specimen to one of the three samples. Test the sets of three samples and accept or reject the type of trim and design on the same basis as seam design. A type of trim and design accepted when tested in a vertical configuration, may be used in a horizontal configuration without further testing.

(3) *Production testing.* A unit is either accepted or rejected according to the following plan:

(i) *Normal sampling.* (A) From each unit, select at random sufficient garments and cut three samples (15 specimens) from the longest seam type. No more than five specimens may be cut from a single garment. Prior to testing, assign each specimen to one of the three samples. All specimens cut from a single garment must be included in the same sample. Test the three selected samples. If all three samples meet all the test criteria of §1616.3(b), accept the unit. If one or more of the three samples fail the 17.8 cm. (7.0 in.) average char length criterion, §1616.3(b)(1), reject the unit. If four or more of the individual specimens, from the 15 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), reject the unit. If three or less of the individual specimens, from the 15 selected specimens, fail the 25.4 cm. (10 in.) char length criterion, §1616.3(b)(2), accept the unit.

(B) If the garment under test does not have a seam at least 10 inches long in the largest size in which it is produced, the following selection and testing procedure shall be followed:

(*1*) Select and cut specimens 8.9 cm. (3.5 in.) wide by the maximum available seam length, with the seam in the center of the specimen and extending the entire specimen length. Cut three samples (15 specimens). These specimens shall be placed in specimen holders so that the bottom edge is even with the bottom edge of the specimen holder and the seam begins in the center of the bottom edge. Prior to testing, assign each specimen to one of the three samples. All specimens cut from a single garment must be included in the same sample.

(*2*) Test the three samples. If all three samples pass the 17.8 cm. (7.0 in.) average char length criterion, §1616.3(b)(1), and if three or fewer individual specimens fail by charring the entire specimen length, accept the unit. If the unit is not accepted in the above test, three samples (15 specimens) of the longest seam type shall be made using fabric and thread from production inventory and sewn on production machines by production operators. The individual fabric sections prior to sewing must be no larger than 20.3 × 63.3 cm. (8 × 25 in.) and must be selected from more than one area of the base fabric. Test the three prepared samples. Accept or reject the unit as described previously in this subsection.

(ii) *Reduced sampling.* (A) The level of sampling required for garment acceptance may be reduced provided the previous 15 units of the garments have all been accepted using the Normal Sampling Plan. The Reduced Sampling Plan shall be the same as for Normal Sampling except that the quantity of garments under test may be increased to up to two production units containing garments which have the same specific identity except for size, trim, findings, color, and print patterns as specified in paragraph (a) of this section.

(B) Select and test three samples in the same manner as in Normal Sampling. Accept or reject both units on the same basis as with Normal Sampling. Reduced Sampling shall be discontinued and Normal Sampling resumed if a unit is rejected.

(4) *Disposition of rejected units.* Rejected units shall not be retested, used, or promoted for use in children's sleepwear as defined in §§1616.2(a) and 1615.1(a) of the Standard for the Flammability of Children's Sleepwear: Sizes 0 through 6X (FF 3–71) (subpart A of part 1615 of this chapter) except after reworking to improve the flammability characteristics and subsequent retesting in accordance with the procedures set forth in *Garment production testing* [Paragraph (c)(3) of this section].

(5) *Records.* Written and physical records related to all tests performed under this Standard must be maintained by the manufacturer, importer, or other persons initially introducing items into commerce which are subject to this Standard, beginning on the effective date of this Standard. Such records shall include results of all tests, sizes of all units, and the disposition of all rejected pieces and units. Rules and regulations regarding recordkeeping may be established by the Consumer Product Safety Commission.

(d) *Compliance market sampling plan.* Sampling plans for use in market testing of items covered by this Standard may be issued by the Consumer Product Safety Commission. Such plans shall define noncompliance of a production unit to exist only when it is shown, with a high level of statistical confidence, those production units represented by tested items which fail such plans will, in fact, fail this Standards. Production units found to be noncomplying under the provisions of paragraph (d) of this section, shall be deemed not to conform to this Standard. The Consumer Product Safety Commission may publish such plans in the FEDERAL REGISTER.

(Sec. 30(d), (15 U.S.C. 2079(b)), 86 Stat. 1231)

[40 FR 59917, Dec. 30, 1975, as amended at 43 FR 4855, Feb. 6, 1978]

§ 1616.5 Test procedure.

(a) *Apparatus.* The following test apparatus shall be used for the test. Alternate test apparatus may be used only with prior approval of the Consumer Product Safety Commission.

(1) *Test chamber.* The test chamber shall be a steel cabinet with inside dimensions of 32.9 cm. (12 15/16 in.) wide, 32.9 cm. (12 15/16 in.) deep and 76.2 cm. (30 in.) high. It shall have a frame which permits the suspension of the specimen holder over the center of the base of the cabinet at such a height that the bottom of the specimen is 1.7 cm. (¾ in.) above the highest point of the barrel of the gas burner specified in paragraph (a)(3) of this section, *Burner* and perpendicular to the front of the cabinet. The front of the cabinet shall be a close-fitting door with a transparent insert to permit observation of the entire test. The cabinet floor may be covered with a piece of asbestos paper, whose length and width are approximately 2.5 cm. (1 in.) less than the cabinet floor dimensions. The cabinet to be used in this test method is illustrated in Figure 1 and detailed in Engineering Drawings, Numbers 1 through 7.