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FEDERAL TRADE COMMISSION
16 CFR Part 303

Rules and Regulations
Under the Textile Fiber Products Identification Act

AGENCY: Federal Trade Commission.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Federal Trade Commission ("Commission") solicits comments on whether to amend Rule 7(m) of the Rules and Regulations Under the Textile Fiber Products Identification Act ("Textile Rules"), 16 CFR 303.7(m), to establish a new generic fiber subclass name and definition as an alternative to the generic name "olefin" for a specifically proposed subclass of olefin fibers manufactured by the Dow Chemical Company ("Dow"), of Midland, Michigan. Dow suggested the name "lastol" for the fiber, which it described as an elastic, cross-linked olefin fiber capable of retaining its shape at high temperatures and referred to as "CEF."

DATE: Comments will be accepted through August 12, 2002.

ADDRESS: Comments should be submitted to: Office of the Secretary, Federal Trade Commission, Room 159, 600 Pennsylvania Ave., N.W., Washington D.C., 20580. Comments should be identified as "16 CFR Part 303 -- Textile Rule 8 Dow Comment – P948404."

FOR FURTHER INFORMATION CONTACT: Neil Blickman, Attorney, Division of Enforcement, Bureau of Consumer Protection, Federal Trade Commission, Washington, D.C., 20580; (202) 326-3038.

SUPPLEMENTARY INFORMATION:

I. Background

Rule 6 of the Textile Rules (16 CFR 303.6) requires manufacturers to use the generic names of the fibers contained in their textile products in making fiber content disclosures on labels, as required by the Textile Fiber Products Identification Act ("Textile Act"), 15 U.S.C. 70b(b)(1). Rule 7 of the Textile Rules (16 CFR 303.7) sets forth the generic names and definitions that the Commission has established for synthetic fibers. Rule 8 (16 CFR 303.8) describes the procedures for establishing new generic names.

Dow applied to the Commission on October 18, 2001, for a new olefin fiber subclass name and definition, and supplemented its application with additional information and test data on December 12, 2001, January 16, 2002, and March 19, 2002.[1] Dow stated that its new cross-linked elastic fiber, CEF, is a manufactured olefin textile fiber with a cross-linked polymer network structure. Dow stated that CEF meets the broad definition of olefin fiber in the Textile Rules, 16 CFR 303.7(m). According to Dow, however, CEF differs from commercially available olefin fibers because of its elasticity and wide temperature tolerance, which make it a good choice for easy-care stretch apparel applications.

As a result of CEF's fiber structure, Dow maintained that CEF has the following distinctive properties: (1) stretch and recovery power that is far superior to that of any olefin fiber; (2) shape

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[1] Dow's petition and supplements thereto are on the rulemaking record of this proceeding. This material, as well as any comments filed in this proceeding, will be available for public inspection in accordance with the Freedom of Information Act, 5 U.S.C. 552, and the Commission's Rules of Practice, 16 CFR 4.11, at the Consumer Response Center, Public Reference Section, Room 130, Federal Trade Commission, 600 Pennsylvania Avenue, N.W., Washington, D.C. Any comments that are filed will be found under the Rules and Regulations Under the Textile Fiber Products Identification Act, 16 CFR Part 303, Matter No. P948404, "Dow Generic Fiber Petition Rulemaking." The comments and petition also may be viewed on the Commission's website at www.ftc.gov.

retention at temperatures in excess of 170°C, which enables CEF to survive rigorous manufacturing and consumer care processes; and (3) chemical resistance to solvents that typically dissolve conventional olefins. Dow asserted that olefin, widely recognized as a dependable carpet fiber that has no stretch or elastic recovery and poor high temperature stability, is an inappropriate categorization for the elastic olefin fiber, CEF, which is targeted for apparel applications. According to Dow, CEF will offer consumers a wider choice in garments containing stretch fabric. Dow contends, in essence, that it would be confusing to consumers if CEF is called simply "olefin."

Dow, therefore, petitioned the Commission to establish the generic name "lastol" as an alternative to, and a subclass of, "olefin." In addition, Dow proposed that the Commission add the following sentence to the current definition of olefin in Rule 7(m) to define CEF and similar fibers as a subclass of olefin:

> Where the fiber is a manufactured cross-linked elastic fiber in which a) the fiber-forming substance is a synthetic polymer, with low but significant crystallinity, composed of at least 99 percent by weight of ethylene and at least one other olefin unit, and b) the fiber exhibits substantial elasticity and heat resistance properties not present in traditional olefin fibers, the term *lastol* may be used as a generic description of the fiber.

The effect of Dow's proposed amendment would be to allow use of the name "lastol" as an alternative to the generic name "olefin" for the subcategory of olefin fibers meeting the further criteria contained in the sentence added by the proposed amendment.

After an initial analysis with the assistance of a textile expert, the Commission has determined that Dow's proposed new fiber technically falls within Rule 7(m)'s definition of "olefin."[2] The

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[2] Rule 7(m) defines "olefin" as "[a] manufactured fiber in which the fiber-forming substance is any long chain synthetic polymer composed of at least 85 percent by weight of ethylene, propylene, or other olefin units, except amorphous (noncrystalline) polyolefins qualifying under paragraph (j) (1) of this section." 16 CFR 303.7(m). Rule 7(j)(1) defines "rubber," in part, as "[a] manufactured fiber in (continued...)

Commission has further determined that Dow's application for a new subclass name and definition merits further consideration. Accordingly, the Commission has issued Dow the designation "DCC 0001" for temporary use in identifying CEF fiber pending a final determination on the merits of the application for a new generic fiber subclass name and definition. A final determination will be based on whether the record in this proceeding indicates that Dow meets the Commission's criteria for issuing new fiber subclass names and definitions, as described in Part II, below.

II. Invitation to Comment

The Commission is soliciting comment on Dow's application generally, and on whether the application meets the Commission's criteria for granting applications for new generic fiber subclass names.

The Commission first articulated standards for establishing a new generic fiber "subclass" in the proceeding to allow use of the name "lyocell" as an alternative generic description for a specifically defined subcategory of "rayon" fiber, pursuant to 16 CFR 303.7(d).[3]

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[2](...continued)
which the fiber-forming substance is comprised of natural or synthetic rubber, including the following categories: (1) [a] manufactured fiber in which the fiber-forming substance is a hydrocarbon such as natural rubber, polyisoprene, polybutadiene, copolymers of dienes and hydrocarbons, or amorphous (noncrystalline) polyolefins. 16 CFR 303.7(j)(1). In its petition, Dow stated that CEF is not a rubber because CEF fibers have a low but significant level of crystallinity, whereas rubber fibers are not crystalline. In addition, CEF exhibits much higher tensile set (lower elastic recovery) than rubber when extended to greater than 100% elongation.

[3] There, the Commission noted that:

> where appropriate, in considering applications for new generic names for fibers that are of the same general chemical composition as those for which a generic name already has been established, rather than of a chemical composition that is radically different, but that have distinctive properties of importance to the general public as a result of a new method of manufacture or their substantially differentiated physical characteristics, such as their fiber structure, the Commission may allow such fiber to be designated in required information disclosures by either its generic name or, alternatively, by its

(continued...)

In its recent notice of proposed rulemaking regarding DuPont's proposal to establish a generic fiber subclass of "polyester," 67 FR 7104 (Feb. 15, 2002), the Commission further articulated that a new generic fiber subclass may be appropriate in cases where the proposed subclass fiber: (1) has the same general chemical composition as an established generic fiber category; (2) has distinctive properties of importance to the general public as a result of a new method of manufacture or substantially differentiated physical characteristics, such as fiber structure; and (3) the distinctive feature(s) make the fiber suitable for uses for which other fibers under the established generic name would not be suited, or would be significantly less well suited.[4]

Within the established 24 generic names for manufactured fibers, there are three cases where such generic name alternatives may be used: (1) pursuant to Rule 7(d), 16 CFR 303.7(d), within the generic category "rayon," the term "lyocell" may be used as an alternative generic description for a

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[3](...continued)
"subclass" name. The Commission will consider this disposition when the distinctive feature or features of the subclass fiber make it suitable for uses for which other fibers under the established generic name would not be suited, or would be significantly less well suited.

60 FR 62352, 62353 (Dec. 6, 1995).

[4] The criteria for establishing a new generic *subcategory* are different from the criteria to establish a new generic category. The Commission's criteria for granting applications for new generic names are as follows: (1) the fiber for which a generic name is requested must have a chemical composition radically different from other fibers, and that distinctive chemical composition must result in distinctive physical properties of significance to the general public; (2) the fiber must be in active commercial use or such use must be immediately foreseen; and (3) the granting of the generic name must be of importance to the consuming public at large, rather than to a small group of knowledgeable professionals such as purchasing officers for large Government agencies. The Commission believes it is in the public interest to prevent the proliferation of generic names, and will adhere to a stringent application of these criteria in consideration of any future applications for generic names, and in a systematic review of any generic names previously granted that no longer meet these criteria. The Commission announced these criteria on Dec. 11, 1973, 38 FR 34112, and later clarified and reaffirmed them on Dec. 6, 1995, 60 FR 62353, on May 23, 1997, 62 FR 28343, on Jan. 6, 1998, 63 FR 447 and 63 FR 449, on Nov. 17, 2000, 65 FR 69486, and on Feb. 15, 2002, 67 FR 7104.

specifically defined subcategory of rayon fiber; (2) pursuant to Rule 7(e), 16 CFR 303.7(e), within the generic category "acetate," the term "triacetate" may be used as an alternative generic description for a specifically defined subcategory of acetate fiber; and (3) pursuant to Rule 7(j), 16 CFR 303.7(j), within the generic category "rubber," the term "lastrile" may be used as an alternative generic description for a specifically defined subcategory of rubber fiber.[5]

Dow's application may describe a subclass of generic olefin fibers with distinctive features resulting from physical characteristics of the fiber and its method of manufacture, which meets the above standard for allowing designation by the subclass name "lastol." Alternatively, CEF may fit within the current definition of olefin in Rule 7(m), with or without need for clarification. This notice, therefore, suggests three approaches to resolve the situation, and requests comment from the public on the relative merits of each:

1. Amend Rule 7(m) to broaden its definition for olefin to better describe the allegedly unique molecular structure and physical characteristics of CEF and any similar fibers (without creating a new subclass for CEF);

2. Amend Rule 7(m)'s definition for olefin by creating a separate subclass name and definition for CEF and other similar qualifying fibers within the olefin category; or

3. Deny Dow's application because CEF fiber fits within Rule 7(m)'s definition of olefin without need for any change.

In today's notice, the Commission is soliciting comments on all aspects of the appropriateness of Dow's proposed amendment to Rule 7(m)'s definition of olefin. Although the Commission initially has determined that Dow's new fiber technically falls within the existing Rule 7(m), 16 CFR 303.7(m), definition of "olefin," the Commission believes it is in the public interest to solicit comments on whether it should amend Rule 7(m) by creating a subclass to recognize CEF's characteristics, or otherwise address

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[5] In a fourth case under consideration, DuPont has proposed that pursuant to Rule 7(c), 16 CFR 303.7(c), within the generic category "polyester," the term "elasterell-p" be used as an alternative generic description for a specifically defined subcategory of polyester fiber.

the petition. Before deciding whether to amend Rule 7, the Commission will consider any comments submitted to the Secretary of the Commission within the above-mentioned comment period.

III. Dow's Petition

Dow's petition and supplemental filings described in detail the CEF fiber. The following subsections are excerpted substantially verbatim.

A. CEF's Chemistry, Structure, and Manufacturing Process

According to Dow, CEF is the first manufactured olefin fiber founded on metallocene-based polyolefin elastomer chemistry. Dow's CEF fiber is manufactured using a melt spinning process. After spinning, the fiber is crosslinked in order to prevent dissolution and impart high-temperature dimensional stability. After the crosslinking process, the polymer chains in the fiber are linked to one another via covalent bonds.

The interpolymer[6] in CEF has been made from ethylene and, typically, octene in excess of 30 weight percent using a constrained geometry catalyst, a member of the metallocene family. The catalyst allows precise control of the molecular architecture of the polymer, which prior to crosslinking has a narrow molecular weight distribution. As a result, the molecules in CEF are very similar in size and composition to each other. In contrast, Dow states that typical olefin fiber manufactured today results from conventional multi-site catalyst technology (such as Ziegler-Natta catalysts). Consequently, typical olefin fiber has a broad compositional molecular weight distribution, and low or no comonomer content.

As a result of CEF's unique chemical structure, its high comonomer content, CEF has lower crystallinity and density than conventional olefin fibers. Unlike conventional olefin fiber where the

[6] Interpolymer refers to polymers prepared by the polymerization of at least two different types of monomers, typically ethylene and octene.

polymer crystals are in lamellae form,[7] the crystals in the CEF fiber-forming substance are in fringe micelle form.[8] According to Dow, the fringed micellar crystalline morphology and the low, but significant, level of crystallinity in CEF impart elastic properties not seen in typical olefin fibers. The unique morphology of the CEF polymer results in high stretch and elasticity. In contrast, Dow asserts that conventional olefin fiber, such as drawn polypropylene fiber, is highly crystalline and dense. Additionally, conventional olefin fiber has low stretch and no significant elasticity.

B. CEF's Distinctive Properties as a Result of a New Method of Manufacture or Substantially Differentiated Physical Characteristics, Such as Fiber Structure

1. *Elasticity*

According to Dow, the most notable characteristic (and of greatest importance to consumers) of CEF is its elasticity, which is far superior to that of any conventional olefin fiber. This property is a direct result of CEF's fiber structure. Dow states that CEF's favorable stretch (at least five times its original length before breaking) and elasticity (stretching to twice its length and, when released, recovering to within 25 percent of its original length) are a consequence of its low but significant level of crystallinity. As a result, CEF can be successfully used in clothing applications where stretch is desirable.

In contrast, Dow states that conventional olefin fiber is highly crystalline, with a degree of crystallinity greater than 50 percent. The crystals of conventional olefin fiber are in lamellae form, unlike crystals in the CEF fiber-forming substance, which are in a fringe micelle form. As a result, conventional olefin fiber manufactured today is stiff and inelastic. According to Dow, typical olefin fibers (in their manufactured, "drawn," form) exhibit very low elongation before breaking (typically less than 50%) and, therefore, cannot be used successfully in today's apparel markets for stretch clothing.

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[7] In lamellae form, the polymer chains are folded in the crystalline or ordered regions.

[8] In fringe micelle form, the polymer chains are parallel to each other in the crystalline regions.

2. *High Temperature Stability*

Dow states that CEF's covalent crosslinks connect adjacent polymer chains into a contiguous three-dimensional polymer network. This crosslinked polymer network structure allows CEF to maintain its shape and mechanical integrity above its crystalline melting temperature. In fact, Dow asserts that CEF retains its shape at temperatures up to 220°C, well in excess of conventional olefin's melting point, which occurs at or below 170°C.

According to Dow, CEF's ability to withstand high temperatures has compelling advantages for textile manufacturers who can use more efficient dye and process methods requiring temperatures in excess of 170°C. Dow states that CEF also has advantages for consumers who can repeatedly wash, dry, and iron fabrics containing CEF at typical temperatures (up to 210°C) without destroying CEF's stretch properties. In contrast, Dow asserts that since conventional olefin fiber manufactured today loses its shape and mechanical integrity at temperatures ranging from 105 – 170°C, it cannot withstand the rigors of high heat and repeated launderings. Consequently, conventional olefin fiber is not widely used in apparel applications today where the consumer seeks easy wash and wear care.

3. *Chemical Resistance*

Dow states that CEF's crosslinked polymer network structure also allows CEF to maintain its integrity in solvents that typically dissolve the starting polymer. In contrast, according to Dow, conventional olefin fiber is not crosslinked and, therefore, loses shape and mechanical integrity and/or dissolves above its crystalline melting temperatures which range up to about 170°C.

4. *Summary of CEF's Physical Properties*

The physical properties of CEF and conventional olefin fiber are summarized in the table below.

Property	CEF	Conventional Olefin
Crystallinity, wt%	12-16	> 50
Elongation, %	> 400	< 15 - 200
Breaking Strength (gm/den)	> 0.9	1.7 - 6.8
Initial Modulus	0.3	34 - 56
Density (gm/cc)	0.87 - 0.875	0.90 - 0.91
Dissolution Characteristics	Does not dissolve	Dissolves
Temperature Stability	Up to > 220°C	Up to 170°C
Manufacturing Method	Melt spinning followed by crosslinking	Melt spinning

C. CEF's Distinctive Feature(s) Allegedly Make the Fiber Suitable for Uses for Which Other Olefin Fibers Would Not Be Suited, or Would Be Significantly Less Well Suited

Dow asserted that CEF is suitable for uses for which olefin fibers are not suited, or not as well suited. Dow's petition stated:

> Today's olefin – largely seen in carpet, thermal underwear, and socks – does not offer the consumer stretch or the easy-care characteristics gained through high temperature tolerance. To textile mill producers, CEF enables process economies and the production of new products with atypical stretch and performance properties. To the consumer, CEF offers a wider choice in garments containing stretch fabric plus the benefit of easy-care laundering at higher temperatures without degradation of the stretch fiber.[9]

With respect to its commercialization plans, Dow stated that beginning in 1999, it identified and began working with developmental partners who are leaders in the fiber manufacturing and apparel industry around the world. Since the second quarter of 2001, CEF has been successfully made on commercial-scale spinning equipment, with resulting quantities subsequently produced and used in a wide range of fabrics, including both knits and wovens. These fabrics have been used to make a variety

[9] *See* Dow's petition dated March 19, 2002, at page 16.

of goods, most notably for the apparel market. The market testing process of garments with leading retailers is presently underway, with completion expected within the near future. Dow expects commercialization of CEF to begin at the end of the second quarter of 2002. In effect, therefore, Dow has argued that granting the petition would facilitate the use of CEF fiber in consumer applications, and using a new generic term (like lastol) would help consumers identify products made from CEF. Thus, Dow has maintained that a new generic fiber subclass name would be important to the public at large, not just knowledgeable professionals.

IV. Regulatory Flexibility Act

The provisions of the Regulatory Flexibility Act relating to an initial regulatory analysis (5 U.S.C. 603-604) are not applicable to this proposal, because the Commission believes that the amendment, if promulgated, will not have a significant economic impact on a substantial number of small entities. The Commission has tentatively reached this conclusion with respect to the proposed amendment, because the amendment would impose no additional obligations, penalties or costs. The amendment simply would allow covered companies to use a new generic name for a new fiber that may not appropriately fit within current generic names and definitions. The amendment would impose no additional labeling requirements.

To ensure that no substantial economic impact is being overlooked, however, the Commission requests public comment on the effect of the proposed amendment on costs, profits, and competitiveness of, and employment in, small entities. After receiving public comment, the Commission will decide whether preparation of a final regulatory flexibility analysis is warranted. Accordingly, based on available information, the Commission certifies, pursuant to the Regulatory Flexibility Act (5 U.S.C. 605(b)), that the proposed amendment, if promulgated, would not have a significant economic impact on a substantial number of small entities.

V. Paperwork Reduction Act

This proposed amendment does not constitute a "collection of information" under the Paperwork Reduction Act of 1995 (PL 104-13, 109 Stat. 163) and its implementing regulations. (5 CFR 1320 *et seq*.) The collection of information imposed by the procedures for establishing generic names (16 CFR 303.8) has been submitted to OMB and has been assigned control number 3084-0101.

List of Subjects in 16 CFR Part 303

Labeling, Textile, Trade Practices.

Authority: Sec. 7(c) of the Textile Fiber Products Identification Act (15 U.S.C. 70e(c)).

By direction of the Commission.

Donald S. Clark
Secretary