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WRITER'S DIRECT ACCESS

January 29, 2001

Hand Delivery

Donald S. Clark Office of the Secretary Federal Trade Commission 600 Pennsylvania Avenue, N.W. Room 159 Washington, D.C. 20580

Re:

16 CFR Part 303 - Textile Rule 8 Comment - P948404

Dear Sir:

Cargill Dow LLC is pleased to submit these comments in support of establishing a new generic fiber name and definition, "synterra," for polylactic acid (PLA) fibers in response to the Federal Trade Commission's Notice. See 65 Fed. Reg 69486 (November 17, 2000). We believe Cargill Dow's petition establishes that designation of a new generic fiber name meets the Commission's three criteria for granting such applications. They are:

- 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.
- 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.



(202) 434-4143 millar@khlaw.com We provide below some additional comments on the first and third criteria to further demonstrate that a new generic name is needed. Cargill Dow has amply demonstrated that commercial use exists and will expand considerably in the near future in its petition.

Chemical Composition and Physical Properties

The Notice correctly states that PLA "does not fit into the current definition for polyester in Rule 7." The Commission invited comments on whether it should consider modifying the polyester definition, or amending the polyester definition to create a separate subcategory and definition for PLA fiber within the polyester category, since PLA does contain ester groups in the polymer repeat structure. We believe any action other than establishing a new generic fiber name and definition will confuse consumers and fail to recognize the unique chemical and physical properties of PLA that are important to consumers.

In its petition, Cargill Dow described the unique origin and property spectrum of PLA. Its properties encompass, and in some areas, exceed, those properties found in both synthetic and natural fibers, including polyester. Its chemistry differs from polyester. For example, the conventional polyester classification defines fibers which all contain a dominant proportion of aromatic repeat units. In contrast, PLA does not contain any such units. The originating materials for polyester and PLA are vastly different. All present polyesters are produced primarily from hydrocarbon feedstocks, *i.e.*, petroleum. In contrast, PLA is derived **completely** from annually renewable feedstocks, such as corn, sugar beets, cassava, etc.

In fact, one of the unique features of PLA is that any natural fermentable sugar can be used as the primary feedstock. This latter feature is presently truly unique in the melt spinnable synthetic fiber category, and is of enormous importance to consumers who are vitally interested in the development of environmentally sustainable products and technologies. This innovative PLA technology represents a material with the performance attributes of synthetics, but derived completely from an annually renewable resource. This is significant since environmentally aware consumers view synthetic materials as less environmentally desirable because they are derived from oil, a finite natural resource, which takes centuries to renew.

Another important attribute of PLA responsible for the chemical structure and physical properties of PLA fibers is that the lactic acid monomer produced by fermentation of a natural sugar is optically active and can exist in two forms. These are referred to as the "D" or "L" forms. The stereochemical structure will determine if polarized light is rotated in a clockwise or counterclockwise direction when passed through a solution of the lactic acid monomer.

Production of the D or L form depends on the bacteria used in the fermentation. This additional unique feature, which is presently only achievable economically through fermentation, allows a whole family of polymers to be produced by variations in the ratio of the D and L forms of a single monomer. These variations in optical composition means that PLA fibers may be produced with different degrees of crystallinity and melting points, as mentioned in Cargill

Dow's original petition. For example, a high L polymer, which comprises, for example, approximately 99% of the optically pure L form of lactic acid (or lactide), will produce highly crystalline fibers with a melting point of approximately 170 degrees Centigrade. Moreover, a high D polymer with approximately 99% of the D form of lactic acid (or lactide) will also produce highly crystalline fibers with the same melting point. The only measurable difference will be the direction in which the polymer will rotate polarized light. Yet another significant unique feature of PLA polymers is that if one combines the high L and high D polymers by melt blending or other means, a "stereo complex" is formed which produces fibers with a melting point of approximately 220 degrees Centigrade - well above that of the individual polymers. Early work has demonstrated that synterra (PLA) still maintains other property benefits which differentiate these fibers from conventional synthetics. This type of polymer chemistry is unknown in either natural or synthetic fibers presently available in the marketplace. Cargill Dow has recently received public acknowledgement of the significance of this major step forward in harnessing natural resources and fermentation chemistry to achieve improved performance in the form of awards from Popular Mechanics - "Design and Innovation award 2000" and Industry Week Magazine "Technology of the Year award 2000." Both magazines enjoy widespread circulations across all sections of the general public, furthering public awareness of and interest in the new fiber, its advantages and capabilities.

As already stated, this unique combination of derivation from renewable resource feedstocks, optical isomerism leading to stereo complex formation, and a performance spectrum that overlaps fibers that are both natural and synthetic, places these PLA fibers in a class of biobased materials which previously has not existed. This has enormous significance to the public.

Prior FTC decisions in granting new generic names demonstrates that the FTC has classified and defined fibers that share some common chemistry elements in separate categories where their properties and origin suggest that attempting to create a single definition would potentially mislead or confuse consumers. For example, nylon fibers contain amide repeat units, as do the aramid fibers. Nylons, however, are aliphatic, while aramids are aromatic based. Their properties are significantly different, and they are classified and defined in two separate categories. Similarly, from a purely scientific point of view, wool contains the same amide repeat unit found in nylon and polyaramids. Naturally, the consumer does not see that nylon and wool are the same, and they are defined differently in separate classes. Yet another example is rayon and cotton. Both are cellulose-based and contain the same glucoside repeat unit, but again are defined differently to avoid consumer confusion.

It is clear that commonality in the chemical repeat unit has not been viewed by the FTC to be a determinative basis for classifying a new fiber. The starting monomer or base resource and the differentiated properties which different fibers exhibit have historically been much more important, as they should be, since the typical consumer, unsophisticated in matters like repeat ester units, will find these other factors of much greater significance. Creating a new generic fiber definition for PLA using the name synterra, as proposed by Cargill Dow, is therefore

scientifically and perceptually in the best interests of the consumer. The chemical composition of PLA is radically different from other fibers, and that composition results in distinctive physical properties of significance to consumers.

Importance to the Public of a New Generic Fiber Name

In assessing the importance to the public of a new generic fiber name, Cargill Dow noted in its petition that consumers would find the range of properties exhibited by PLA fibers, and its derivation from a renewable resource like corn, of significance. To further assess how consumers might react should PLA fibers be defined as "polyester" or a subclass of "polyester" fibers, Cargill Dow sponsored some consumer focus group research. The focus group research was conducted by the firm of Loeffler Ketchum Mountjoy in Charlotte, N.C. using two groups of 15 consumers each. Their report demonstrates that the focus group participants believe it is most appropriate to place PLA in a separate fiber class, as none of the existing fiber classifications explored, including polyester, reflect the scope and unique spectrum of PLA's attributes (copy enclosed as Attachment I). PLA's natural origin from products such as corn, and its flame resistance, were among the most important advantages mentioned by these consumers. They were also impressed by the range of properties PLA will exhibit, properties that are often associated with synthetic fibers. Cargill Dow has proposed adoption of the new generic name "synterra" as it neatly captures the seminal advantages of their new fiber (a synthetic but biobased material) for consumers in an easy-to-remember fashion that the chemical name or initials cannot convey.

Conclusion

Cargill Dow greatly appreciates the thoughtful attention the FTC staff has given to its petition, and its prompt action in issuing the Notice. We believe that Cargill Dow's original petition and supporting documentation, along with these additional comments, demonstrate that establishment of a new generic class using the name synterra meets all of the FTC's criteria and is in the best interest of consumers.

Respectfully submitted,

Sheila A Millar

Enclosure: Fiber Classification Focus Groups Summary Report (Attachment I)

cc: Neil Blickman, Esq.