

UNITED STATES INTERNATIONAL TRADE COMMISSION

**APPAREL INPUTS IN "SHORT SUPPLY": APPAREL OF
CUPRAMMONIUM RAYON FILAMENT YARN**

Investigation No. 332-428-010

January 2002



Apparel Inputs in “Short Supply”: Effect of Providing Preferential Treatment to Apparel Imported from Sub-Saharan African and Caribbean Basin Countries

U.S. International Trade Commission Investigation No. 332-428-010

Products	Apparel of cuprammonium rayon filament yarn
Requesting Party	Itochu International Inc., New York, NY ¹
Date of Commission Report: USTR Public	January 7, 2002 January 2002
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NOTICE

THIS REPORT IS A PUBLIC VERSION OF THE REPORT SUBMITTED TO USTR ON JANUARY 7, 2002. ALL CONFIDENTIAL INFORMATION HAS BEEN REMOVED AND REPLACED WITH ASTERISKS (***)

Summary of Findings

The Commission’s analysis shows that granting duty-free and quota-free treatment to apparel made in eligible Caribbean Basin or sub-Saharan African countries from fabrics produced in the United States of cuprammonium rayon filament yarn (which is not made domestically), regardless of the source of the yarn, would likely have a negligible adverse effect on U.S. producers of yarns that are made from other artificial fibers (e.g., acetate) and that may compete with the subject yarn. It also would likely have a negligible adverse effect on U.S. producers of apparel fabrics made from these other yarns, but would benefit U.S. firms producing apparel fabrics made from the subject yarn. The proposed preferential treatment would likely benefit U.S. apparel firms assembling the apparel in eligible beneficiary countries, and their U.S.-based workers, but could have a slight adverse effect on U.S. firms making the apparel domestically, and their workers. U.S. consumers would likely benefit from some duty savings.

Background

On March 14, 2001, following receipt of a request from the United States Trade Representative (USTR), the Commission instituted investigation No. 332-428, *Apparel Inputs in “Short Supply”: Effect of Providing Preferential Treatment to Apparel Imported from Sub-Saharan African and Caribbean Basin Countries*, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) to provide advice during 2001 in connection with petitions filed by interested parties under the “short supply” provisions of the African Growth and Opportunity Act (AGOA) and the United States-Caribbean Basin Trade Partnership Act (CBTPA).²

¹ Itochu International, an importer of the subject yarn, filed the petition on behalf of Unifi, Inc., a yarn producer based in Greensboro, NC, and Symphony Fabrics, a fabric designer and converter in New York, NY. The reasons why Unifi and Symphony are requesting the preferential treatment are discussed in the “fiber and yarn producers” section of this report.

² For more information on the investigation, see the Commission’s notice of investigation published in the *Federal Register* of March 21, 2001 (66 F.R. 15886) and its website at <www.usitc.gov/332s/shortsup/shortsupintro.htm>.

The Commission's advice in this report concerns a petition received by the Committee for the Implementation of Textile Agreements (CITA) on November 20, 2001, alleging that cuprammonium rayon filament yarn cannot be supplied by the domestic industry in commercial quantities in a timely manner and requesting that the President proclaim preferential treatment for apparel made in eligible CBTPA or AGOA beneficiary countries from fabrics made in the United States of such yarn, regardless of the source of such yarn. The President is required to submit a report to the House Committee on Ways and Means and the Senate Committee on Finance that sets forth the action proposed to be proclaimed, the reasons for such action, and the advice obtained from the Commission and the appropriate advisory committee within 60 days after a request is received from an interested party.³

Brief discussion of the product

The cuprammonium rayon filament yarn named in the petition is classified in subheading 5403.39.00 of the Harmonized Tariff Schedule of the United States (HTS), a residual or "basket" provision covering miscellaneous single filament yarn, (other than sewing thread), not put up for retail sale, of artificial fibers other than viscose rayon or cellulose acetate. This tariff provision covers both monofilament yarn, including monofilament of less than 67 decitex,⁴ and multifilament yarn, with or without twist. The general rate of duty on this yarn is 8.4 percent ad valorem in 2002. The subject rayon yarn is processed into fabrics for use as a lining material, such as in high-quality clothing, and for making apparel classified in HTS chapters 61 (apparel, knitted or crocheted) and 62 (apparel, not knitted or crocheted). U.S. general rates of duty on imports of knitted and woven apparel made of the subject yarn range from 1.8 percent to 28.6 percent ad valorem in 2002.

The subject yarn is made of cuprammonium rayon, which is manufactured by chemical transformation of natural organic polymers in the form of cellulose derived exclusively from cotton linters (the short cotton fibers growing near the seeds of the cotton boll).⁵ In general, in the cuprammonium process, the cellulosic raw materials are first brought to a liquid state by dissolving them in an alkaline solution of ammonia and copper hydroxide. The solution is then extruded through the holes of a spinneret (a "showerhead-like" metal disc having many tiny holes) into newly formed filaments. As the filaments are "pulled" or drawn off the spinneret, they undergo a "stretch spinning process" to make them both narrower (or finer) and longer. The filaments are drawn into an acid bath, which causes the material to solidify ("regenerate") into continuous filament. After extrusion, washing, and finishing, filaments are generally wound onto spools and may later be put up on warp beams to be used in weaving.⁶

The United States does not produce cuprammonium rayon, but imports the subject yarn mostly from Japan.⁷ The petitioner stated that the imported subject yarn is a multifilament yarn made of many fine filaments. For example, the subject yarn having a yarn denier of 75 consists of 54 filaments and one having a yarn denier of 100 consists of 70 filaments. The yarn has zero twist; a special finish or spinning oil is applied to each filament so that the filaments are held together and the yarn is lubricated for further

³ In Executive Order No. 13191, the President delegated to CITA the authority to determine whether particular fabrics or yarns cannot be supplied by the domestic industry in commercial quantities in a timely manner. He authorized CITA and USTR to submit the required report to the Congress.

⁴ Decitex is the linear density, or weight per unit length, of filament yarn (it indicates the weight in grams of 10,000 meters of yarn). The higher the decitex, the heavier is the yarn.

⁵ Treated wood pulp may also be used to make cuprammonium rayon filament yarn; however, according to the petitioner, cotton linters are the only cellulosic raw materials now used in world production of such yarn. Reportedly, the use of cotton linters instead of wood pulp allows for the extrusion of a finer filament and the production of a yarn having much higher strength. Ryoma Omuro, Assistant Manager, Fiber and Yarn Department, and Jeff Vercellone, Itochu International Inc., New York, NY, telephone interviews by Commission staff, Nov. 30 and Dec. 18, 2001, respectively.

⁶ U.S. Customs Service, "Fibers and Yarns: Construction and Classification Under the HTSUS," *Customs Bulletin and Decisions*, vol. 34, No. 52, Dec. 27, 2000, pp. 142 and 143.

⁷ U.S. production of cuprammonium rayon reportedly ceased in 1975 due to the significant cost of meeting clean-water standards (i.e., the cost of removing chemical pollutants from waste water of the manufacturing process). See Phyllis G. Tortora and Billie J. Collier, *Understanding Textiles*, 5th ed. (Upper Saddle River, NJ: Simon & Schuster, 1997), p. 143.

processing. The imported yarn is in an unfinished state (i.e., in its natural color). The dyeing and finishing operations occur only after the yarn is processed into fabrics (known as piece dyeing).

The subject yarn is manufactured only in Japan and Italy and is often referred to in the trade as “cupro” or as Bemberg yarn after the European firm (J.P. Bemberg Co.) that first made the yarn for commercial use in the early 1900s. According to the petitioner, the Asahi Kasei Corp., of Osaka, Japan, accounts for approximately 90 percent of world production of the yarn (marketed under the AsahiBemberg label), while Bemberg S.p.a. of Italy accounts for the remainder.⁸ The cross section of most AsahiBemberg yarn is almost circular, which allows for the bright colors and silky luster of the yarn; the brightness of the yarn may be altered by adding delustering agents to the solution before extrusion.⁹ The filament fiber is highly porous, which results in easy dyeability, high moisture and water absorption, and compatibility with finishing resins.

Brief discussion of affected U.S. industries, workers, and consumers

The segments of the U.S. textile and apparel industries that might be affected by the proposed preferential treatment include producers of certain fibers, yarns, and fabrics for which the subject rayon filament yarn, or fabrics made from such yarn, may be substitutable, as well as dyers and finishers of these fabrics. The following section examines these industry segments and certain fabric purchasers.

Fiber and yarn producers

The United States does not produce cuprammonium rayon filament yarn, but does make other yarn from artificial or cellulosic fibers, specifically rayon and lyocell staple fibers and acetate filament.¹⁰ The production of acetate filament fiber, which is made from wood pulp, also involves extruding a cellulose-based solvent through a spinneret. However, the chemical solvents and some of the manufacturing processes used in acetate production differ from those used to make the subject rayon filament yarn. Rayon and lyocell staple fibers are spun into yarns much like cotton and wool fibers are spun into yarns. Filament fibers are produced as one continuous strand and, as part of the fiber manufacturing process, are often wound onto spools, cones, or beams as yarns or are combined with other filament fibers into yarns. Yarns and fabrics produced from staple fibers differ from those made from filament fibers in terms of physical qualities such as sheen, silkiness, texture, and durability. For example, cuprammonium rayon filament yarns are used to produce a shiny satin or velvet, while rayon or lyocell staple fiber yarns are used to make lightweight shirting or challis fabric.

The sole U.S. producer of rayon staple fiber is Lenzing Fibers, Lowland, TN, which stated that the equipment currently used to produce such fiber cannot be converted to produce a rayon filament yarn and that a plant conversion to produce such filament yarn would require a high level of capital investment.¹¹ The only U.S. producer of lyocell is Acordis Cellulosic Fibers Inc., New York, NY, which markets the product under the Tencel label. The firm currently makes Tencel in the United States only in staple form; ***¹²

⁸ Ryoma Omuro, Itochu International Inc., New York, NY, telephone interview by Commission staff, Dec. 6, 2001.

⁹ Asahi Kasei Corp., “AsahiBemberg,” pamphlet provided by Itochu International Inc.

¹⁰ Yarns are generally made of staple fibers or filaments. A filament is a very long (e.g., as much as miles in length), thin strand of extruded material, and consists mostly of manmade fibers (artificial and synthetic). Staple fibers usually measure 1 inch to 4 inches in length and include natural fibers (e.g., cotton and wool) and cut lengths of filament. In general, to form yarn from staple fibers (a term used to distinguish natural or cut-length manufactured fibers from filament), the fibers are first aligned in a parallel manner, and then wound together (spun) so that the fibers adhere to each other.

¹¹ Doug Noble, Lenzing Fibers, Lowland, TN, telephone interview by Commission staff, June 5 and 6, 2001.

¹² Donald Vidler, Commercial Director, Acordis Cellulosic Fibers Inc., New York, NY, telephone interview by Commission staff, Dec. 4, 2001.

Acetate filament fiber and yarn are made in the United States by Eastman Chemical Co., Kingsport, TN, and Celanese, Ltd., Greensboro, NC. Both firms stated that they consider the subject rayon filament yarn and acetate filament yarn to be interchangeable in the production of fabrics for use as linings in tailored clothing and to make certain women's apparel (for further information on these firms' views, see the "Views of Interested Parties" section of this report).

According to the petition filed by Itochu International, the subject rayon filament yarn and the acetate filament yarn are different in several respects. The subject yarn is much stronger because of the use of cotton linters as its cellulose base and, unlike the acetate yarn, has a smooth circular cross-section that provides a silky luster, softness, and more comfortable touch to the fabrics.¹³ The subject yarn also costs much more than the acetate yarn. According to the petition, the average cost per pound is \$4.50 for the subject yarn and about \$2.00 for the acetate yarn. According to industry and academic sources, although the subject yarn and the acetate filament yarn are made by similar extrusion processes and can be processed into fabrics having a similar appearance, there are some significant differences in the physical characteristics of the resulting fabrics.¹⁴ In particular, the moisture absorption rate of the subject yarn is 12.5 percent, compared with 6.5 percent for the acetate filament yarn.¹⁵ The higher the moisture absorption rate, the more comfortable is the garment. The subject yarn also is stronger than the acetate yarn. The tenacity rate for the subject yarn is 1.7 to 2.3 grams per denier (at standard conditions), compared with 1.2 to 1.4 grams for the acetate yarn.¹⁶

An official of Unifi, Inc.,¹⁷ one of the petitioners and a U.S. producer of polyester fiber, stated that ***18***

Fabric producers

An official of Symphony Fabrics, a petitioner and a designer and converter of fabrics, stated that the firm uses the subject yarn in the production of unique and highly specialized fabrics for high-end women's apparel.¹⁹ ***

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An official of Hathaway Textiles, which designs and sells fabrics, ***.²¹ The official stated that, in general, both yarns have superior qualities. ***

Dyeing and finishing

An official of Fitness Fabrics Ltd., a fabric converter, ***22***

¹³ Itochu International, Inc., New York, NY, petition for short supply designation for cuprammonium rayon filament yarn addressed to the Chairman of CITA, submitted on behalf of Unifi, Inc., Greensboro, NC, and Symphony Fabrics, New York, NY, Nov. 19, 2001, p. 3.

¹⁴ Lee Gordon, Senior Vice-President for Product Development, Unifi Inc., Greensboro, NC; Dr. David Buchanan, Professor and Assistant Dean, College of Textiles, North Carolina State University; and Dr. Marjorie Norton, Professor of Clothing and Textiles, Virginia Tech University, telephone interviews by Commission staff, Dec. 6, 7, and 18, 2001, respectively.

¹⁵ These absorption rates are at standard conditions of approximately 70 degrees Fahrenheit and 65-percent relative humidity. See Marjory L. Joseph, *Essentials of Textiles*, 4th ed. (Holt, Rinehart and Winston, Inc., 1988), pp. 86 and 92.

¹⁶ Tenacity is the amount of force (e.g., in grams) needed to break a yarn, divided by the (unstrained) denier per unit length. See U.S. Customs Service, "Fibers and Yarns," *Customs Bulletin and Decisions*, Dec. 27, 2000, p. 115.

¹⁷ Lee Gordon, Senior Vice-President for Product Development, Unifi Inc., telephone interviews by Commission staff, Dec. 6 and 20, 2001.

¹⁸ *** Telephone interview by Commission staff, Dec. 20, 2001.

¹⁹ Howard Ellis, Converter, Symphony Fabrics, telephone interview by Commission staff, Nov. 30, 2001.

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²¹ Elizabeth Amoroso, President, Hathaway Textiles, telephone interview by Commission staff, Dec. 10, 2001.

²² Amy Caplin, Principal, Fitness Fabrics Ltd., New York, NY, telephone interview by Commission staff, Dec. 7, 2001.

An official of Duro Industries, Inc., Fall River, MA, a large fabric dyeing and finishing firm employing approximately 650 people, stated that dyeing and finishing fabric made of cuprammonium rayon filament yarn is a major part of its business and crucial to its survival in the United States.²³ The official stated that the proposed preferential treatment would enable the firm to sell its fabric to companies that produce apparel in the CBTPA and AGOA countries. This official stated that the subject yarn and viscose rayon filament yarn, as well as the fabrics (particularly linings) made from these yarns, are very similar.²⁴ ***

Balson Hercules, New York, NY, a group of several fabric converters, and a division of Duro Industries, stated that it is the largest supplier of U.S.-made woven linings for menswear and that it supports the proposed preferential treatment.²⁵ The firm stated that because the CBTPA and the AGOA currently do not grant preferential treatment to apparel made of linings containing foreign yarn, the firm has significantly reduced sales of these linings to producers that have moved their apparel production to the beneficiary countries.

Purchasers

The Marine Corps and the Air Force have used linings made of cuprammonium rayon filament yarn in their dress uniforms for many years.²⁶ ***²⁷*** Officials of the Defense Supply Center of Philadelphia (DSCP), the agency which procures fabrics for the military, stated that the lining fabric for the military must be durable as military personnel take their jackets on and off often and keep their uniforms for a long period of time.²⁸ ***

Capacity comparisons

World production capacity for cuprammonium rayon filament yarn currently is approximately 49 million pounds, of which 44 million pounds is in Japan and the remainder in Italy.²⁹ The current world capacity utilization rate is approximately 75 percent, or almost 37 million pounds. Japan's total production is estimated to be 33 million pounds in 2001. Approximately 60 percent of this amount (almost 20 million pounds in 2001) is for domestic use and the remaining 40 percent is exported to Asia, the European Union (EU), and the United States. According to Itochu International, Japan's exports of the subject yarn to the United States declined from about 3 million pounds in 1999 to 1 million pounds in 2000 and are expected to decline to 500,000 pounds for the full year 2001.

²³ William J. Milowitz, Vice President, Duro Industries, Inc., Fall River, MA, written submission to CITA, Dec. 6, 2001.

²⁴ William J. Milowitz, Vice President, Duro Industries, Inc., telephone interview by Commission staff, Dec. 10, 2001.

²⁵ John Iason, Vice President, Balson Hercules, New York, NY, written submission to CITA, Dec. 6, 2001.

²⁶ The "Berry Amendment," enacted as Title IX of Public Law 102-396, as amended, requires U.S. military procurement of uniforms, among other products, to be manufactured in the United States from U.S.-produced components. A "domestic unavailability determination" was made for the rayon linings because the subject yarn is not produced in the United States. According to an official of the Defense Supply Center of Philadelphia (DSCP), the Berry Amendment also requires the DSCP to evaluate U.S.-made substitutes. John McAndrews, Product Manager, Dress Clothing, DSCP, telephone interview by Commission staff, Sept. 17, 2001. ***

²⁷ *** telephone interviews by Commission staff, Dec. 10, 2001.

²⁸ Gail Vander Voort, Quality Assurance Specialist, and John McAndrews, Product Manager, Dress Clothing, DSCP, telephone interview by Commission staff, Dec. 7, 2001.

²⁹ Information in this paragraph is from Ryoma Omuro, Itochu International Inc., New York, NY, telephone interview by Commission staff, Dec. 6, 2001.

Total U.S. capacity to produce cellulose acetate filament yarn reportedly is expected to be 108 million pounds by the end of 2001.³⁰ Eastman Chemical Co. and Celanese Ltd. are expected to supply approximately 70 million pounds to the U.S. textile industry in 2001, representing a capacity utilization rate of almost 65 percent.

Views of interested parties

The Commission received written statements from Eastman Chemical Co. and Celanese Ltd., U.S. producers of acetate, and Markbilt, Inc., a U.S. producer of knit fabrics of the subject rayon filament yarn. The two acetate producers indicated their opposition to the proposed preferential treatment, while Markbilt stated its support.³¹ The Eastman Chemical submission stated that the U.S. cellulose acetate yarn industry has been declining since the early 1970s due to substitution of other fibers, such as nylon and polyester. U.S. production capacity for acetate yarn declined from 500 million pounds in 1970 to approximately 108 million pounds by the end of 2001. The submission noted that, during this period, DuPont and Avtex closed their cellulose acetate yarn plants and no longer produce the yarn; Celanese closed a plant in Cumberland, MD; and Eastman Chemical reduced its capacity. The submission stated that Celanese and Eastman Chemical will ship only 70 million pounds of acetate yarn to the U.S. textile industry in 2001. The Eastman Chemical submission stated that cuprammonium rayon filament yarns and acetate filament yarns are interchangeable, and that the acetate yarns compete well with the cuprammonium rayon yarns, especially in lining fabrics for men's tailored clothing. The submission indicated that acetate filament yarn is readily available in commercial quantities from two domestic producers and that granting the proposed preferential treatment for the subject rayon yarn would cause harm to the domestic acetate filament yarn industry by reducing demand for acetate yarn.

The Celanese submission stated that the subject rayon filament yarn is a direct substitute in major end uses for acetate filament yarn, and that granting the proposed preferential treatment could directly jeopardize the jobs of 350 of their employees. The submission stated that the company's most recent reduction in employees was due to the shutdown of acetate filament yarn production in its Rock Hill, SC plant. The submission indicated that end users' preference to use the subject rayon yarn and/or fabric instead of acetate filament yarn and/or fabric does not mean that the subject rayon and acetate filament yarns are not substitutable. The submission also stated that many fiber and yarn customers may not be commenting on the petition because of "economic and marketing considerations" and suggested that the Commission and CITA contact neutral parties (e.g., members of academia) for information.

The Markbilt submission stated that it is critical that the fabrics made from the subject yarn be allowed to compete fairly in the market. According to the submission, "recognizing that this yarn product is unavailable from a domestic U.S. producer, it seems appropriate that the customers of such a yarn and resulting fabrics be able to enjoy the benefits of the AGOA and CBTPA programs."

Probable economic effect advice³²

The Commission's analysis shows that granting duty-free and quota-free treatment to apparel made in eligible AGOA or CBTPA beneficiary countries from fabrics made in the United States of the subject yarn, regardless of the source of the yarn, would likely have a negligible adverse effect on U.S. producers of yarns that are made from other artificial fibers (e.g., acetate) and that may compete with the subject yarn. The proposed preferential treatment also would likely have a negligible adverse effect on U.S. firms that make apparel fabrics from these other yarns, but would benefit U.S. firms that make

³⁰ V.A. Robbins, Jr., Acetate Yarn Business Unit Manager, Fibers Business Organization, Eastman Chemical Co., Kingsport, TN, written submission to the Commission, Dec. 4, 2001.

³¹ Written submissions received by the Commission from V.A. Robbins, Jr., Acetate Yarn Business Unit Manager, Fibers Business Organization, Eastman Chemical Co., Dec. 4, 2001; H. Newton Williams, Vice President, Government Relations, Celanese Ltd., Dec. 7, 2001; and Mark L. Woltin, President, Markbilt, Inc., Dec. 18, 2001.

³² The Commission's advice is based on information currently available to the Commission.

apparel fabrics from the subject yarns. With the enactment of the AGOA and CBTPA in May 2000, imports of apparel made in eligible beneficiary countries from fabrics made in the United States from U.S. acetate filament yarns became eligible to enter free of duty and quota. However, imports of apparel made from the subject rayon filament yarns, which are made only in Japan and Italy, are ineligible for such preferential treatment because the yarns do not meet the requirement that they be made in the United States. The petition, if granted, would re-establish the conditions of parity for the different types of filament yarn prior to enactment of the CBTPA and AGOA in 2000. Imports of apparel made in the beneficiary countries from U.S. fabrics of the subject yarn likely would not capture any market share from acetate apparel, because the two types of apparel, for the most part, do not compete in the same quality or price segments of the apparel market. The price of the subject yarn is more than twice that of the acetate filament yarn. If the proposed preferential treatment were granted, the expected increase in demand for the subject yarn would help maintain this price difference.

The proposed preferential treatment would benefit U.S. producers of fabrics made from the subject rayon filament yarns, and their workers, by spurring demand for U.S. fabrics for use in the production of apparel in eligible AGOA and CBTPA beneficiary countries. The proposed preferential treatment would also benefit U.S. and other apparel firms making apparel in these beneficiary countries from fabrics made of the subject yarns. The expected increase in imports of such apparel from these countries, although likely to be small, would likely displace some imports of similar apparel from other countries. Although imports are believed to account for the majority of the U.S. market for apparel made from the subject rayon filament yarns, there could be a slight adverse effect on any U.S. firms producing similar apparel domestically.

U.S. consumers of apparel articles made from the subject yarn would likely benefit from the proposed preferential treatment because importers and retailers are likely to pass through some of the duty savings to consumers in today's highly competitive retail apparel market.