

The Organic Trade Association's

**American Organic Standards
Fiber: Post Harvest Handling,
Processing, Record Keeping, & Labeling**

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The American Organic Standards for Fiber Processing, Version 6, is a project of the Organic Trade Association (OTA) initiated by the OTA's Organic Fiber Council (OFC) and conducted in cooperation with the OTA's Quality Assurance Committee (QAC).

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Section 1: Introduction

1. Introduction

The *American Organic Standards for Fiber Post Harvest Handling, Processing, Record Keeping, & Labeling* represent the Organic Trade Association's (OTA) efforts to codify organic fiber handling and processing standards and practices in the organic fiber industry. They cover all natural fibers including cotton, wool (and other exotic animal fibers such as cashmere, musk ox, et al.), hemp, flax, silk, and other potential sources of agricultural fibers.

The standards are based on the work of the Texas Department of Agriculture Organic Standards, KRAV, SKAL, the International Federation of Organic Agriculture Movements (IFOAM), The National Association for Sustainable Agriculture, Australia, International Natural Textiles Association (IVN) and generally accepted principles of organic production where applicable to fiber.

It is important that all readers and commentators with experience in the organic foods industry but who are not familiar with the textile industry understand that there are some inherent differences between the fiber and food sectors.

For example, the organic foods industry has minimized the use of synthetic chemicals, allowing such inputs only if carefully evaluated, found compatible for the production of food with desired functional and market traits, and are found on the National List implemented by the USDA's National Organic Program. The organic fiber industry, in attempting to honor accepted organic principles and practices, faces difficult challenges in creating a list of materials acceptable for organic fiber processing because conventional techniques for textile finishing rely on the use of many chemical inputs.

Ecologically based textile production is the foundation of the OTA's fiber processing standards. While, at the present time, the use of chemical compounds in organic fiber processing cannot be completely eliminated, the types of materials used for organic fiber processing can be greatly restricted and the use and disposal of the materials that are used can be regulated to minimize harm to humans and the environment. An historical outcome of the organic industry's restriction of the types and amounts of inputs allowed has been the incentive to develop new systems and products that are more sustainable and do not negatively impact environmental resources or human health. This trend has already begun in the organic fiber industry and will be advanced through implementation of OTA standards which, for example, encourage the use of dyes from organic and natural standards while limiting the dyes from synthetic sources.

These standards represent efforts by OTA and its Fiber Processing Subcommittee to harmonize current fiber production practices with organic principles. OTA hopes that the *American Organic Fiber Standards* will continue to serve as a resource to further the development of standards and practices within the organic fiber community and to stimulate the conventional textile industry to consider more sustainable methods of production.

Section 2: Aims of the Organic Fiber Processing Standards

2. Aims of the Organic Fiber Processing Standards

The aims of the Organic Fiber Processing Standards are to:

- 2.1. Enumerate principles of organic handling, processing and labeling for fibers produced under a certified organic system;
- 2.2. Harmonize standards for the handling, processing and labeling of certified organic fiber products among the American organic industry and community, including existing public and private certification agencies;
- 2.3. Provide a set of standards in operating manual format that can be used by certification agencies to protect consumers and producers against deception, fraud, and unsubstantiated product claims in the market place;
- 2.4. Enable producers, processors, handlers, inspectors, and certification agencies to assess an operation's compliance to a uniform organic standard;
- 2.5. Provide a baseline standard for certification of handlers and processors;
- 2.6. Provide a baseline standard that will result in reciprocity between accredited certification agencies according to a set of recognized standards and provide the basis for the negotiation of additional standards recognition agreements between accredited certification agencies; and
- 2.7. Facilitate equivalence with international guidelines for organic certification and labeling of fiber in order to encourage local, regional, and international trade in these products.

Section 3: Principles of Organic Fiber Handling, Processing and Labeling

3. Principles of Organic Fiber Production

- 3.1. To provide the consumer with natural fiber products that maintain the integrity of the organic fiber as defined by these standards;
- 3.2. To further the development of practices, technology, and market potential for products produced from certified organic fiber. To insure that organic fiber products are handled and processed in a manner that sustains and enhances the biological, mechanical, and chemical systems associated with their production;
- 3.3. To further develop organic fiber production techniques, especially the innovation of organic dyestuffs, less harmful dyestuffs, and wet processing chemicals which provide most of the fashion, functionality, and economy of conventional fiber production;
- 3.4. To help ensure that all certified organic fiber production is done in an environmentally sustainable system;
- 3.5. To help ensure that marketing and advertising claims are truthful and accurate,
- 3.6. To reduce or eliminate the conventional additives and auxiliary chemicals when processing certified organically-grown fiber; and
- 3.7. To ensure all certified organic fiber handling and processing, regardless of location and condition of local economy, conforms to the practices and tenets contained in the language of these standards as well as all applicable portions of the *Organic Trade Association's American Organic Standards for Organic Production and Handling* such as the requirement to use organic ingredients when they are commercially available.

Section 4: Definitions

4. Definitions

For the purpose of the Organic Fiber Processing Standards, the following abbreviations are defined as:

- 4.1. **AOX** - Absorbable halogenated hydrocarbon. Toxic forms of AOX, such as dioxins and furans, are created when elemental chlorine is used for bleaching fiber.
- 4.2. **BOD** – Biochemical oxygen demand. A standardized means of estimating the degree of contamination of water supplies, especially those which receive contamination from sewage and industrial waste. BOD is expressed as the quantity of dissolved oxygen required during stabilization of the decomposable organic matter by aerobic biochemical action.
- 4.3. **EC₅₀** - Effect concentration to 50% concentration
- 4.4. **ETAD** - Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers – composed of companies from around the world. Their aim is to minimize any adverse impact of organic colorants on health and environment.
- 4.5. **IC₅₀** - Inhibition concentration to 50% inhibition
- 4.6. **LC₅₀** - Lethal concentration to 50% mortality
- 4.7. **LD₅₀** - Lethal dose to 50% mortality
- 4.8. **NOP** – National Organic Program
- 4.9. **NOSB** – National Organic Standards Board
- 4.10. **OECD** - Organization of Economic Cooperation and Development – a 30 country member organization whose only membership requirement is a market economy based on a pluralistic democracy. OECD provides a setting for governments to discuss, develop and perfect economic and social policy.
- 4.11. **PCB** - Polychlorinated Biphenyl
- 4.12. **PCP** - Pentachlorophenol
- 4.13. **TCP** - Tetrachlorophenol
- 4.14. **TOC** - Total Organic Carbon

For the purpose of the Organic Fiber Processing Standards, the following terms are defined as:

- 4.15. **Acetic Acid** – A volatile, colorless, weak organic (carbon-based) acid made by oxidation of acetaldehyde or ethyl alcohol, or distillation of wood. Vinegar is a naturally occurring acetic acid.
- 4.16. **Acute Toxicity** – The ability of a substance to cause poisonous effects resulting in severe biological harm or death soon after a single exposure or dose.
- 4.17. **Alkylphenol Ethoxylate** – Non-ionic surfactant made up of a branched chain alkylphenol that has been reacted with ethylene oxide to produce an ethoxylate chain.

- 4.18. **Animal-based Dyes** – Dyes formulated from the secretions or byproducts of animals. If used on products labeled as “organic,” must only be formulated from approved materials as defined in §9 of these standards.
- 4.19. **Aromatic Amines** – Compounds containing one or more benzene rings coupled with organic derivatives of ammonia where hydrocarbon groups have replaced one, two or three of the ammonia group’s hydrogen atoms.
- 4.20. **Azo Dyes** – Any of a broad series of synthetic dyes produced from amino compounds by diazotization and coupling.
- 4.21. **Bale** – Unit of measure for harvested fiber products.
- 4.22. **Bast Fiber** – A type of fiber that grows in the stalks of plants with the usable fibers in the outer layer of the stem surrounding a woody interior, e.g., hemp, flax, sisal, ramie, jute.
- 4.23. **Batting** – A stuffing material, usually made from non-woven fabric used to stuff pillows, toys, and quilts.
- 4.24. **Bio-Accumulate** - To concentrate in a portion of the ecosystem or in the tissues of an organism.
- 4.25. **Bio-Polishing** – The use of enzymes to whiten or brighten fabric during the finishing process.
- 4.26. **Bleaching** – A finishing process that brightens and removes natural and artificial impurities from yarn and fabric using either chlorine, hydrogen peroxide or other substances.
- 4.27. **Bluing** – A liquid, bead, or flake-type mild, blue dye added to the final rinse water after washing white clothes in order to make the fabric look whiter.
- 4.28. **Braking** – Passing bast fiber, after being drafted, through a series of wide toothed, fluted rollers to crush the woody portion of the stem.
- 4.29. **Calendering** – Passing cloth through hollow heated cylinder rolls by running it through a friction or glazing calender in order to produce a smooth, shiny surface.
- 4.30. **Canadian Environmental Protection Act** – 1999 Canadian regulations governing pollution control and discharge of contaminants into the environment.
- 4.31. **Carbonaceous** – Rich in carbon, such as the material from plants like hemp and flax.
- 4.32. **Carbonizing** – Treating raw animal fibers, usually with strong acids, to remove vegetable matter.
- 4.33. **Carding** – An industrial yarn process in which raw cotton or washed wool and other animal fibers are separated, opened, cleaned, and made into sliver.
- 4.34. **Chelated Metals** – Molecules containing a central metal ion which is attached by coordinate links to two or more nonmetal atoms.
- 4.35. **Chelating Agent** – A substance used to bond metals to two or more nonmetal atoms.
- 4.36. **Citric Acid** – An organic (carbon-based) acid made from fermentation of sugar, usually from citrus fruits, pineapple, or molasses.
- 4.37. **Clean Water Act** – 1977 amendment to the U.S. Federal Pollution Control Act of 1972 mandating quality standards for drinking water, industrial discharge pollutants in water, and other aspects of water quality necessary to insure a potable water supply.

- 4.38. **Combing** – An industrial yarn process in which fibers are combed to make them parallel in the sliver and to remove short fibers.
- 4.39. **Commercially Available** - The ability to obtain an input in an appropriate form, quality, or quantity to fulfill an essential function in a system of organic production or handling, as determined by the certifying agent in the course of reviewing the organic plan.
- 4.40. **Compaction** – A mechanical finishing process designed to help eliminate shrinkage in fabric. Compaction is accomplished by applying heat and pressure on fabric stretched over a roller or drum. The fibers are compacted or squeezed to prevent distortion (shrinkage) when washed.
- 4.41. **Conventional Dyes** – Organic (carbon based) and mineral dyes used by the textile finishing industry, including any additives. See Dyes and Dyestuffs.
- 4.42. **Creeling** – Loading and unloading sliver, roving, yarn or yarn packages on a creel.
- 4.43. **Direct Dyes** – Dyes that do not react with the cellulose in fiber products, but rather bond on the surface of the substrate.
- 4.44. **Drafting/Drawing** - Synonymous terms, the process by which slivers of natural fibers are pulled out or extended after carding or combing to create an increasingly thin bundle.
- 4.45. **Dye** – A formulation containing a dyestuff, usually with other auxiliary components, used to color fiber products. See azo dyes, conventional dyes, direct dyes, reactive dyes. Other forms of dyes include acid dyes, pigments, solvent dyes, naphthols, disperse dyes, and mordant dyes.
- 4.46. **Dyestuff** – A pigment derived from plant, animal, organic or mineral substances used to provide the colorant in a dye formulation.
- 4.47. **Endocrine Disrupter** – An exogenous substance that causes adverse health effects in an intact organism, or its progeny, secondary to change in endocrine function.
- 4.48. **Enzymes** – Proteins which speed up chemical processes that would run very slowly or not at all without their presence.
- 4.49. **Fatty Acids** – Saturated or unsaturated monocarboxylic acids, occurring in solid, semisolid and liquid forms.
- 4.50. **Felt** – A non-woven fabric or interlocked fiber made from wool, fur, and hair fibers that mesh together when heat, moisture, and mechanical action are applied.
- 4.51. **Fiber, Agricultural (or Natural)** – fiber sourced from plant or animal matter. Examples include: cotton, hemp, jute, flax, kapok, wool, cashmere, alpaca, musk ox fiber, and silk.
- 4.52. **Fiber, Organic** – agricultural fiber sourced from plants or animals that have been produced or raised in accordance with the *American Organic Standards* and the USDA's National Organic Program. Organically-processed fiber has been processed in accordance with the *American Organic Standards for Fiber: Post Harvest Handling, Processing, Record Keeping, & Labeling*.
- 4.53. **Fiber, Synthetic** – fiber that has been formulated or manufactured by a chemical process or by a process that chemically changes a substance extracted from naturally occurring plant or animal sources, except that this term shall not apply to substances created by naturally occurring biological processes.

- 4.54. **Fiber Opening & Separation** – A mechanical process for loosening and untangling raw fibers in order to blend and spin yarn.
- 4.55. **Filament** – A continuous strand or rope of fiber, manufactured typically from non-noil silk or man-made sources.
- 4.56. **Finishing (wet)** – An industrial textile process using a solution of water and additives that is designed to clean, brighten, add color and functionality to fabric.
- 4.57. **Functional Finishes** - Textile coatings designed to add functionality to fiber products such as anti-crease, anti-fungal, anti-microbial, anti-pilling, anti-slip, anti-statics, fire retardance, hydrophobic or hydrophilic coatings, lustering agents, mothproofing, soil resistance, and stain resistance. This term does not include fixatives used in the actual dyeing process.
- 4.58. **Flow Agent** – An additive used in finishing to prevent agglomeration or clumping of added chemicals or material during processing of fabric.
- 4.59. **Garnetting** – Recovery of fiber from textile waste by separating the fibers from fabric through a machine process similar to carding, except the raw material is usually discarded fabric.
- 4.60. **Genetically Modified Organisms (GMO)** – Made with techniques that alter the molecular or cell biology of an organism by means that are not possible under natural conditions or processes. Genetic engineering includes recombinant DNA, cell fusion, micro- and macro-encapsulation, gene deletion and doubling, introducing a foreign gene, and changing the positions of genes. It shall not include breeding, conjugation, fermentation, hybridization, in-vitro fertilization, or tissue culture.
- 4.61. **Ginning** – Post harvest removal of seeds, leaves, twigs and other field trash from cotton. First invented by Eli Whitney in 1794, this is accomplished by a machine in which saw-like teeth are attached to a cylinder. The cotton is fed into the machine where the cylinder passes between the tightly spaced ribs of a fixed comb. The cotton is caught by the teeth and pulled through the comb while the seeds, leaves and twigs, being too large to fit between the ribs, fall out of the gin into a waste area.
- 4.62. **Gin Trash** – Waste products from the ginning process which are typically used for animal bedding and feedstuffs.
- 4.63. **Greige** – Fabric just off the loom or knitting machine, prior to any finishing.
- 4.64. **Hacking** – A process used to ready bast fibers for spinning by combing the fibers to make them parallel to each other.
- 4.65. **Heavy Metals** – Metallic elements with high molecular weight, e.g. lead, chromium, arsenic, mercury, cadmium.
- 4.66. **Hurd** – The inner, woody part of the hemp or flax plant that is discarded during the post-harvest process.
- 4.67. **Hydroentanglement** – The application of high-pressure micro-jets of water to the surface of fabrics in order to improve the appearance and hand of the fabric by homogenizing the woven yarn and opening the individual threads.

- 4.68.**Interfacing** – A stiffening fabric made of horsehair, goat hair, wool, man-made fibers, or combinations of these fibers. Used to give additional body and strength to certain parts of garments or products.
- 4.69.**Laydown** – The first step in the spinning process in which bales of fiber are laid end to end to allow vacuum rakers to pick up and transport the fibers to the cleaning and carding machines.
- 4.70.**Low Impact Dyes** – Dyes whose manufacture, use, and disposal have less impact on the environment than conventional dyes. As used in these standards, this term includes dyes that: contain no heavy metals in their dyestuff, are formulated using components that contain minimal contaminants (See Appendix 1, §2.1), and are readily treated for safe and proper disposal (See Appendix, §1.1).
- 4.71.**Lubricants** – Materials added to increase viscosity and reduce friction, usually hydrocarbons or animal fats.
- 4.72.**Mercerizing** – Finishing process used on cotton yarn and fabric in which a cold, strong sodium hydroxide solution is impregnated into a material to increase the yarn's strength, its affinity for dyes and its luster.
- 4.73.**Modules** – Harvested units of cotton or other natural fibers.
- 4.74.**Module Feeding** – The process of moving modules of raw fiber into the cleaning process.
- 4.75.**Mordant** – a substance capable of fixing a dye in or on a textile fiber by combining with the dye to form an insoluble compound. Mordants are used with acid dyes, basic dyes, direct dyes and sulfur dyes. A mordant dye is a dye that requires the use of a mordant to be effective.
- 4.76.**Mote(s)** – A portion of the cotton trash produced during ginning, composed of woody material from the boll.
- 4.77.**Natural Dyes** – Dyes made using dyestuffs from naturally occurring substances, either plant or animal. Natural dyes generally have no affinity for cellulose without the addition of aluminum, iron, or tin or other materials (mordants.)
- 4.78.**Noil(s)** – Short fibers, used as a description of silk where the filament is broken or from cotton, which are removed during the combing process.
- 4.79.**Optical Brighteners** – Chemicals that make fabrics appear to reflect more light than they really do in order to make them seem brighter by converting ultraviolet light to visible light in the blue region.
- 4.80.**Ozone** – An unstable bleaching and oxidizing agent that is poisonous and has a pungent, irritating odor.
- 4.81.**Non-wovens** – Fabric that is neither knit nor woven such as those that are felted as well as those in which fibers are joined by glue or heat.
- 4.82.**Perborate** (sodium perborate) – A borate compound used as an oxygen-type bleach due to its property of easy dissolution in water to release hydrogen peroxide.
- 4.83.**Plant Dyes** – Dyes containing dyestuffs produced from vegetable based sources. See Natural Dyes.
- 4.84.**Plying** – The twisting together of two or more single strands of yarn to form one yarn.

- 4.85. **Reactive Dyes** – Coloring agents that chemically bond with the cellulose in plant fibers.
- 4.86. **Retting** – Hydrolytic process which relies on the enzymatic action of fungi/molds to liberate bast fibers from their fiber bundles by stripping the pectins which hold them in place. Common retting processes include laying the plant stems in a field and using dew or irrigation water to encourage mold growth, placing the stems in a pond or other suitable body of water, or using steam as a water source.
- 4.87. **Roving** – A spinning process used to condense yarn sliver into a form suitable for delivery onto a spinning bobbin prior to the final stage of spinning.
- 4.88. **Sanforizing** – A patented process used to reduce residual shrinkage in machine processed fabrics.
- 4.89. **Scouring** – Cleansing fabrics by washing or abrasion, with the use of detergents, soaps, caustic agents or other cleaners to remove dirt, grime, soil, oil, sizing, and tint. Scouring methods for wool (fiber from sheep, goats and other similar animals) include washing, treating with solvents and chemicals, or by naphthalating at below-freezing temperatures to remove yolk, suint, dirt and other foreign matter.
- 4.90. **Scutching** – The mechanical separation of long bast fibers suitable for spinning and the tow (short) fibers. Processed on a long, 30-40 yard table where the stalks are beaten with mechanical arms. The stalks are fed in parallel onto the conveyor and the beating maintains these parallel fibers.
- 4.91. **Section Beams** – Rollers used to wind woven fabric after weaving for storage and transport.
- 4.92. **Sizing** – The application of a material to warp yarns to strengthen and smooth the yarn in order to increase its resistance to the strains placed on it during weaving. Sizing is also added to fabric to increase the hand.
- 4.93. **Slashing** – The process of sending yarns through a sizing compound to add strength and allow it to withstand the rigors of weaving, to provide an acceptable hand in woven greige goods, and to increase fabric weight.
- 4.94. **Sliver** – A loose, soft, untwisted strand or rope of fibers resulting from carding or drawing.
- 4.95. **Softener** – Any of a large number of chemical compounds used in fabric finishing to give cloth a mellow, soft, appealing hand.
- 4.96. **Spinning** – The final operation in yarn manufacturing consisting of drawing, twisting, and winding newly spun yarn onto a device such as a bobbin, spindle, cop, cone, etc.
- 4.97. **Staple** – A term used to describe the average length of fiber.
- 4.98. **Suction Feeding** – The use of a vacuum to loosen and pick up raw fiber at the start of the cleaning and spinning process.
- 4.99. **Suint** – natural grease formed from dried perspiration found in the fleece of sheep.
- 4.100. **Surfactants** – Compounds that reduce the surface tension of a fabric to lift off soil, dirt, grime, grease and other foreign matter.
- 4.101. **Tow Fiber** – Short bast fiber produced during the combing and scutching processes.
- 4.102. **Warp** – Lengthwise, vertical yarns carried over and under the weft.

- 4.103. **Webbing** – A strong, narrow woven fabric made from natural or synthetic fibers used for belts and straps that must resist tension from carrying weight.
- 4.104. **Weft** – The crosswise or filling pick yarns in a woven cloth.
- 4.105. **Wet Processing** – A myriad of processing steps to prepare cloth for final assembly or use. Typically involves the use of water, heat, added chemicals and specific machines to produce desired traits and functionality.

Section 5: Post Harvest Handling

5. Post Harvest Handling

5.1. For all types of organic agricultural fiber:

5.1.1. Post Harvest Handling

5.1.1.1. Modules or containers of organic agricultural fibers shall be segregated from conventional fiber to prevent any potential for commingling or contamination by prohibited substances during all stages of post harvest handling.

5.1.1.2. A specific area for storage of modules or containers of organic fiber must be designated.

5.1.2. Handling

5.1.2.1. Handling may include but is not limited to: module feeding, suction feeding, conveying, drying, pre-cleaning, degreasing, ginning, baling and bagging, bale conveying, mote conveying, pressing and bagging gin trash, conveying and storage, and seed conveying and storage.

5.1.2.2. Module feeding, suction feeding systems and initial conveyors, wool and other livestock scouring trains and basins must be cleaned physically or mechanically to remove any residue or trash prior to loading or feeding modules or container units of organic fiber into cleaning or processing system.

5.1.2.3. At each stage of cleaning and handling, the handler shall ensure that organic and conventional fibers are not commingled and that organic fibers are not contaminated by prohibited substances. To accomplish this, at least one bale of fiber (or any additional volume or units determined by an organic certifying agent) shall be segregated from the rest of the processing lot and used as follows:

5.1.2.3.A) The first segregated bale or volume of organic fiber as determined by certifying agent processed after conventional fiber shall not be certified as organic unless all equipment can be shown to be clean of any residue from prior conventional processing. Processors must maintain processing logs indicating clean out procedures.

5.1.2.3.B) Gin trash, burrs, motes, hurds, noils and seeds and other byproducts from the segregated bale or unit may be certified as organic consistent with the certification of the raw fiber from which they were derived.

5.2. Specific post harvest handling for organic bast fibers (such as hemp and flax):

5.2.1. Retting – either field (dew), steam, or water retting is allowed for the stripping of bast fibers. Chemical retting of bast fiber is prohibited.

5.2.1.1. If water retting is used:

- 5.2.1.1.A) All water released into water supply must meet pollution prevention levels for Total Organic Carbon (TOC), Biochemical Oxygen Demand (BOD), dissolved solids, nitrates, and phosphorus as defined in U.S. and/or Canadian pollution control regulations (Clean Water Act or the Canadian Environmental Act, as applicable.)
- 5.2.1.1.B) Waste water from the retting process that is used for irrigation is exempt from the provisions in the previous section, but must be applied in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients or pathogenic organisms.
- 5.2.1.2. Carbonaceous materials left after retting must be composted, applied to fields, or otherwise disposed in a manner compatible with organic practices. Such materials must not be disposed of by burning.
- 5.3. Specific post harvest handling procedures for organic wool and other animal fibers: Wastewater from scouring operations must either be treated on-site to conform to all United States or Canadian (as applicable) federal, local and state environmental regulations for disposal of effluent or be disposed in a municipal wastewater treatment facility.
- 5.4. Specific post harvest handling procedures for organic silk: Boiling and washing wastewater must be treated in appropriate wastewater treatment facilities.

Section 6: Textile Processing

(Non-Woven Manufacture, Spinning, Weaving, Knitting, Finishing, Storage and Transport)

6. Textile Processing

6.1. Protecting Organic Integrity

6.1.1. During all stages of processing, assembly, storage, and transport, organic fiber products shall:

6.1.1.1. Be segregated and protected from commingling with conventional fiber products.¹

6.1.1.2. Not come into contact with prohibited materials or other contaminants (e.g. bird and animal droppings, hydrocarbon lubricants, greases, paints and oils).

6.1.2. All organic fiber processing facilities shall maintain master sanitation schedules for all production.

6.1.3. Facilities that process both conventional and organic fiber products must document methods and practices used to protect organic integrity. This includes, but is not limited to:

6.1.3.1. Instituting management protocols for employee education;

6.1.3.2. Cleaning equipment:

6.1.3.2.A) Equipment used to process both conventional and organic fiber must be adequately cleaned prior to processing organic fiber;

6.1.3.2.B) “Bleed runs” must be done prior to organic processing if residues from previous conventional processing are not able to be thoroughly removed using other cleaning methods; and

6.1.3.3. Tracking all organic fiber processing, from receipt of raw materials to shipment of goods.

6.2. Fabrication

6.2.1. Fabrication of non-woven materials:

6.2.1.1. Processing of organic fiber into non-wovens includes but is not limited to: filling, stuffing, batting, felting, health and beauty aid materials and interfacing.

6.2.1.2. Processing methods for fabricating non-woven materials may include, but are not limited to:

6.2.1.2.A) Fiber opening;

6.2.1.2.B) Conveying;

¹ This requirement is not meant to apply to retail display.

- 6.2.1.2.C)Feeding;
 - 6.2.1.2.D)Blending;
 - 6.2.1.2.E)Cleaning;
 - 6.2.1.2.F)Combing;
 - 6.2.1.2.G)Braking;
 - 6.2.1.2.H)Scutching;
 - 6.2.1.2.I)Hacking;
 - 6.2.1.2.J)Garnetting;
 - 6.2.1.2.K)Compacting;
 - 6.2.1.2.L)Drying;
 - 6.2.1.2.M)Bonding (only mechanical or physical bonding processes are allowed);
 - 6.2.1.2.N)Baling; and
 - 6.2.1.2.O)Wrapping.
- 6.2.1.3.Cleaning equipment used for fabricating non-woven materials:
- 6.2.1.3.A)All equipment shall be physically or mechanically cleaned to remove lint from non-organic fiber before use in organic fiber processing.
 - 6.2.1.3.B)Handling wastes produced from equipment cleaning:
 - 6.2.1.3.B)1)Cleaning waste may not be labeled as organic,
 - 6.2.1.3.B)2)Additional waste, if segregated and prevented from contamination from other fiber and audited via lot, bin or weight, may be recycled or certified consistent with the certification of the raw fiber from which it was derived.
- 6.2.2.Fabrication of woven and knit materials: Fabrication may include, but is not limited to, the following operations:
- 6.2.2.1.Opening, laydown, cleaning, and blending to feed bale units into the processing system;
 - 6.2.2.2.Carding, drawing, and combing for the production of sliver, long fiber or tow fiber from certified bale units;
 - 6.2.2.3.Roving;
 - 6.2.2.4.Winding;
 - 6.2.2.5.Spinning;
 - 6.2.2.6.Plying;
 - 6.2.2.7.Wrapping for production of yarn from sliver;
 - 6.2.2.8.Creeling;
 - 6.2.2.9.Warping;

6.2.2.10. Slashing of yarn packages onto beams for woven fabrics; and

6.2.2.11. Weaving or knitting of fabrics.

6.3. Wet Processing

6.3.1. Environmental criteria for wet processing:

6.3.1.1. All wet processing facilities must have water conservation and resource management plans in place.

6.3.1.2. All wet processing of organic fibers, regardless of facility location, shall conform to waste water disposal standards as set forth in the US Clean Water Act or the Canadian Environmental Protection Act, as applicable. This may include:

6.3.1.2.A) Disposal directly into an approved municipal wastewater treatment facility; or

6.3.1.2.B) Disposal to an on-site water treatment facility that meets the environmental standards above.

6.3.1.3. Operators must provide information to their certifying agent about all dyes and other processing inputs employed in their organic fiber processing operation. Information sources must be sufficient to allow verification of conformance of the materials with these standards.

6.3.1.3.A) Operators must provide information about materials' conformance with the standards through:

6.3.1.3.A)1) Results of analytical tests conducted on their products; or

6.3.1.3.A)2) Summaries of environmental and health effects of the materials such as:

6.3.1.3.A)2) a) Materials Safety Data Sheet (MSDS), and/or

6.3.1.3.A)2) b) American Textile Manufacturers Institute's Voluntary Product Safety & Environmental Profile.

6.3.1.3.B) If the certification agency deems the following information necessary for the verification process, the agency may also require Operators to provide:

6.3.1.3.B)1) The Chemical Abstract Number (CAS #); and

6.3.1.3.B)2) The Chemical structure of the material.

6.3.2. Scouring, softening, and bleaching: When performing these processes on woven, non-woven and knit fabrics, processors must use only materials that are recyclable or readily biodegradable (as determined through the testing protocols of OECD 301D and quantification levels shown in Appendix 1, §1.1.)

6.3.3. Dyeing:

6.3.3.1. All dyes must conform to ETAD Guidance Documents regarding residuals of heavy metals and aromatic amines found in finished products (See Appendix 1, §2).

6.3.3.2. Choices for dyes:

6.3.3.2.A) First choice of dye, when applicable, shall be natural dyes (from organic sources, when commercially available).

6.3.3.2.B) Given the extremely limited set of commercially available sources of this option, the next choice shall be low impact dyes, as defined in §4 of these standards.

6.3.3.2.C) Azo dyes may be used only if they comply with the ETAD Guidance Documents as detailed in Appendix 1, §2. Azo dyes which, by reductive cleavage upon decomposition, may release one or more of 22 aromatic amines identified by ETAD, are prohibited for use in organic fiber processing.

6.3.3.2.D) Pigment dyes, except for non-toxic, naturally occurring pigments such as natural indigo and clays, are prohibited.

6.3.4. Compaction: Only mechanical forms of compaction (such as Sanforizing) are allowed.

6.3.5. Finishing processes: Stone washing, and other environmentally harsh textile finishing processes that use auxiliary additives and large amounts of water, are prohibited.

6.4. Printing

6.4.1. An Environmental Management System (EMS) must be in place covering all of printing processes.

6.4.2. Only printing methods based on water or natural oils are allowed.

6.4.3. Discharge printing using heavy metal compounds as discharging agents is prohibited.

6.5. Product Assembly

6.5.1. Natural fibers such as cotton (organic when available) are preferred for use as sewing thread. Synthetic sewing thread may be used.

6.5.2. Labels may be made from any material that is appropriate for the final color or processing of the finished product. Labels made of natural fibers (organic when available) are preferred.

6.5.3. Organic fiber products labeled as “organic” must comply with the requirements for Accessories (Appendix 2).

6.6. Storage and Transportation

6.6.1. Storage

6.6.1.1. Organic fiber and fiber products must be stored in a manner that protects them from contamination from environmental sources and/or contact with prohibited substances.

6.6.1.2. Organic fiber and fiber products must not be stored with conventional products unless they are packaged and labeled to prevent commingling and to facilitate ready identification.

6.6.2. Transport

6.6.2.1. Organic fiber and fiber products must be transported using methods that do not compromise organic integrity.

6.6.2.2. Records of transport of organic fiber and fiber products must facilitate verification of organic integrity.

6.7. Pest Management

6.7.1. Administration of Pest Management

6.7.1.1. Responsible handling of pest control materials:

6.7.1.1.A) All pest control materials must be properly labeled; and

6.7.1.1.B) Kept segregated from areas used to process or store organic fiber and fiber products.

6.7.1.2. Record keeping

6.7.1.2.A) Processors shall maintain records detailing:

6.7.1.2.A)1) Pest activity;

6.7.1.2.A)2) Pest control practices;

6.7.1.2.A)3) Pest control materials used; and

6.7.1.2.A)4) Actions to prevent contamination by prohibited substances.

6.7.1.2.B) Pest management records must be available for inspection.

6.7.1.2.C) If outside pest control vendors are employed to manage pests, records must demonstrate compliance with the pest control practices and materials presented in these standards.

6.7.2. Pest Control Practices

6.7.2.1. Preventive Measures. All facilities that process organic fiber products shall practice structural pest management techniques based on:

6.7.2.1.A) Sanitation which includes at least:

6.7.2.1.A)1) A list of all sanitizers and cleansers used in the facility,

6.7.2.1.A)2) Procedures for use of sanitizers, and

6.7.2.1.A)3) Identification of all prohibited materials and practices used in any non-organic production/handling areas;

6.7.2.1.B); Exclusion and prevention of pests; and

6.7.2.1.C) Mechanical and non-toxic forms of remediation whenever possible, such as:

6.7.2.1.C)1) Internal climate control (heat & cold);

6.7.2.1.C)2) Vacuum treatments; and

6.7.2.1.C)3) Use of pest control materials as specified in the Materials List.

6.7.2.2. Should preventive methods and allowed materials fail to control infestation:

6.7.2.2.A) Any pest control product labeled for the specific intended use may be used, provided organic fiber and fiber product are protected from contact with prohibited substances.

6.7.2.2.B) If pest activity is such that materials other than those approved for organic pest control are introduced into the storage or processing environment:

6.7.2.2.B)1) Processors must demonstrate that use of these products do not pose a risk of contamination by prohibited substances to organic fiber products at any time.

6.7.2.2.B)2) In the case of fumigation and fogging:

6.7.2.2.B)2) a) Organic fiber and fiber products must be protected from contamination from prohibited substances by removing them from affected areas until the threat of contamination is over.

6.7.2.2.B)2) b) Processors demonstrate compliance with this standard through written documentation.

Section 7: Product Composition and Labeling

7. Product Composition and Labeling

7.1. Product Composition

7.1.1. **General requirements for product composition**, applicable to all categories of products:

7.1.1.1. Calculation of percentage of organically produced constituents:

7.1.1.1.A) The total percentage of organically produced constituents in the fiber product shall be calculated from the actual amounts of the listed constituents, excluding the weight of the non-textile accessories (buttons, zippers, etc.).

7.1.1.1.B) The total percentage of organically produced constituents in a fiber product shall be rounded down to the nearest whole number.

7.1.1.2. Constituents represented on the care and content label as being organically produced and/or handled must be certified by a certification agent that is accredited by the USDA National Organic Program (or other accreditation body accepted by the OTA).

7.1.2. Raw or processed agricultural fiber products sold, labeled, or represented as **“100% organic”**² shall consist of:

7.1.2.1. Organically-grown and processed constituents (100% by weight—for a finished, assembled product, sewing thread is included in the percentage calculation) that are:

7.1.2.1.A) Produced and handled using only methods listed in these standards.

7.1.2.1.B) Produced and handled using only processing materials that are:

7.1.2.1.B)1) Approved for use by these standards, and also,

7.1.2.1.B)2) Organically produced.

7.1.3. Raw or processed agricultural fiber products sold, labeled, or represented as **“organic”** shall consist of:

7.1.3.1. At least 95% (by weight) agricultural fibers that have been;

7.1.3.1.A) Organically grown; and

7.1.3.1.B) Processed using only methods and materials allowed by these standards.

7.1.3.2. Any remaining constituents (e.g. such as buttons, elastic yarns or fabrics) must be organically produced and certified unless they are:

7.1.3.2.A) Not commercially available from organic sources; or

² This label category is prohibited until the National Organic Program accepts organic fiber processing standards and incorporates them into their accreditation program.

- 7.1.3.2.B) Not able to be made from organic sources.
 - 7.1.3.3. For constituents represented as organic on the care and content label of a product sold, labeled, or represented as “organic”, organic and non-organic forms of the same fiber shall not be combined.
 - 7.1.3.4. Non-organic constituents must not be produced using materials and processes specifically prohibited in these standards.
 - 7.1.4. Raw or processed agricultural fiber products sold, labeled, or represented as **“made with organic (specified fiber products)”** shall consist of:
 - 7.1.4.1. At least 70% (by weight) constituents that have been:
 - 7.1.4.1.A) Organically grown; and
 - 7.1.4.1.B) Processed using only methods and materials allowed by these standards—including allowance for use of the materials specifically listed for “made with organic” in the Materials List (§9) and Accessories List (Appendix 2).
 - 7.1.4.2. For constituents represented as organic on the care and content label of a product sold, labeled, or represented as “made with organic (specified fiber products)”, organic and non-organic forms of the same fiber shall not be combined.
 - 7.1.4.3. Non-organic constituents must not be produced using materials and processes specifically prohibited in these standards.
 - 7.1.5. Raw or processed agricultural fiber products with **less than 70 % organically produced constituents** shall consist of:
 - 7.1.5.1. Any amount of agricultural fibers that are:
 - 7.1.5.1.A) Organically grown, and
 - 7.1.5.1.B) Processed using only methods and materials allowed by these standards—including allowance for use of the materials; specifically listed for “made with organic” in the Materials List (§9) and Accessories List (Appendix 2).
 - 7.1.5.2. For constituents represented as organic in the care and content label of a product sold, labeled, or represented as “less than 70 % organically produced constituents”, organic and non-organic forms of the same fiber may be combined.
 - 7.1.5.3. Non-organic constituents of products in this category may be processed and handled without regard to these standards.
- 7.2. Product Labeling
- 7.2.1. **General requirements** for labeling:
 - 7.2.1.1. Organically-produced and processed agricultural fiber products must be appropriately and fully labeled according to appropriate national textile identification laws.
 - 7.2.1.2. Use of a certification agent’s seal or logo use must comply with the requirements of the certification agency.
 - 7.2.1.3. The term “organic” may not be used in a product name to modify a non-organic fiber in the product.

7.2.1.4. The terms “organic”, “biologic” and “ecologic”, their abbreviated forms, and phrases containing these terms, are used synonymously in international trade, and must be used in compliance with all applicable requirements of these organic standards.

7.2.1.5. Any label, labeling, or market information that implies directly or indirectly that an agricultural fiber product is organically produced and/or handled shall be used only for a product that has been produced and/or handled in accordance with these organic standards and certified by a certification agent that is accredited by the USDA National Organic Program (or other accreditation body accepted by the OTA).

7.2.1.5.A) The only exception to the requirement for certification is granted for an agricultural fiber product produced or processed on a farm or wild crop harvesting operation that is exempt from certification requirements because it has gross agricultural income from organic sales totaling \$5,000 or less annually.

7.2.1.5.B) In the case of product produced under this exception, the product shall not:

7.2.1.5.B)1) Display any certification agent’s name, seal, emblem, or logo or other identification on its label that represents that the farm or wild crop harvesting operation that produced the fiber product is certified.

7.2.1.5.B)2) Be used or identified as an organic constituent in a fiber product produced or processed by a farm or processing operation that is certified organic.

7.2.1.6. Non-retail packaging:

7.2.1.6.A) Information on non-retail packaging of organic fiber products must be provided either on the packaging or in accompanying documentation linked to the packaging. Required information must include:

7.2.1.6.A)1) Description of product with declaration of amount and type of organic content;

7.2.1.6.A)2) Lot identification;

7.2.1.6.A)3) Name of certifying agent; and

7.2.1.6.A)4) Name and address of the certified handler.

7.2.2. Labeling **certified organically grown and processed** fiber and fiber products:

7.2.2.1. Products sold, labeled, or represented as “**100% organic**” or “**organic**” shall be labeled as follows:

7.2.2.1.A) Required label statements for “100% organic” or “organic” products:

7.2.2.1.A)1) Each organic constituent shall be identified as organic on the care and content label; and

7.2.2.1.A)2) The name of the certification agent which certified the handler responsible for final product shall be identified on the same label that identifies the manufacturer. Co-packers commissioned by certified handlers

need not be identified on the label as long as the primary handler's certification is identified. The name of the certifier must be preceded by the statement, "Certified organic by..." or similar phrase.

7.2.2.1.B) Optional label statements for "100% organic" or "organic" products:

7.2.2.1.B)1) The certification agent's seal, emblem or logo on any part of the label or hang tag, including any USDA organic seal;

7.2.2.1.B)2) A declaration of total percentage of organic ingredients may be listed on the label or hang tag, and

7.2.2.1.B)3) A declaration of "100% organic" or "organic", as applicable, on the label or hang tag.

7.2.2.1.C) Prohibited label statements for "100% organic" or "organic" products:

7.2.2.1.C)1) The term "organic when available;" and

7.2.2.1.C)2) The listing of the same constituent as organic and non-organic.

7.2.2.2. Products sold, labeled, or represented as "**made with organic (specified fiber products)**" shall be labeled as follows:

7.2.2.2.A) Required label statements for "made with organic ingredients":

7.2.2.2.A)1) Identification of each organic constituent in the product with the word "organic", or "organically grown" on the care and content label;

7.2.2.2.A)2) Identification of the certification agent which certified the final handler of the product or the handler that commissioned production of the final product, on the same panel that identifies the manufacturer or handler. The name of the certifier must be preceded by the statement, "Certified organic by..." or similar phrase; and

7.2.2.2.B) Optional label statements for "made with organic ingredients" claims:

7.2.2.2.B)1) The term "made with organic fiber" may appear on the care and content label and/or hang tags provided that the letters used for this claim do not exceed one-half the size of the largest type size on the care and content label or hang tag, respectively, and which appears in its entirety in the same type size, style, and color without highlighting.

7.2.2.2.B)2) On the content and care label, the term "organic" shall be used only to identify clearly and unambiguously the organically produced ingredients. The type size shall be restricted, such that any "made with organic fiber" claims cannot be larger than one half of the size of the name of the product;

7.2.2.2.B)3) On the content and care label or hang tags, a declaration of total percentage of organic ingredients if the size of the percentage statement is not more than one-half the size of the largest type size on the panel on which the statement is displayed and the declaration appears in its entirety in the same type size, style and color without highlighting; and

7.2.2.2.B)4) The certification agent's seal, logo, or emblem.

7.2.2.2.C) Prohibited label statements for "made with organic ingredients" claims:

- 7.2.2.2.C)1) Use of the USDA organic seal;
 - 7.2.2.2.C)2) The term “organic when available;” and
 - 7.2.2.2.C)3) The listing of the same constituent as organic and non-organic.
- 7.2.2.3. Products with **less than 70% organically produced constituents** shall be labeled as follows:
- 7.2.2.3.A) Required label statements for products with less than 70% organic ingredients: None.
 - 7.2.2.3.B) Optional label statements for products with less than 70% organic ingredients:
 - 7.2.2.3.B)1) The label may only use the term “organic” to modify the name of constituents as listed on the care and content label and/or hang tag that are produced in accordance with organic standards.
 - 7.2.2.3.B)2) A percentage statement and identification of all organic ingredients may be listed on care and content label and/or hang tag.
 - 7.2.2.3.C) Prohibited label statements for products with less than 70% organic ingredients:
 - 7.2.2.3.C)1) The use of the term “organic” on the care and content label other than in the constituent listing;
 - 7.2.2.3.C)2) The use of the term “organic when available;”
 - 7.2.2.3.C)3) A certification agent’s seal, logo or emblem; and
 - 7.2.2.3.C)4) Any USDA organic seal.
- 7.2.3. Labeling certified organically grown fiber and fiber products that are **not organically processed**:
- 7.2.3.1. Effective 18 months after the implementation of the AOS Fiber Processing Standards, facilities processing fiber labeled as “100% organic”, “organic” or “made with organic (specified fiber products)” must be certified by a certification agent that is accredited by the USDA National Organic Program (or other accreditation body accepted by the OTA).
 - 7.2.3.2. Until that time, agricultural fiber products that originate from certified farm production but are handled or processed in facilities which have not been certified shall be labeled as follows:
 - 7.2.3.2.A) Allowed label statements for products not processed organically:
 - 7.2.3.2.A)1) The term “organic” may only be used to modify the agricultural fiber on the care and content label.
 - 7.2.3.2.A)2) The term “made with organic (specified fiber)” is allowed on labels and market information.
 - 7.2.3.2.A)3) Calculation of percentage of organic fiber shall be by weight of ingredient(s) and must be declared on the appropriate label.

7.2.3.2.B) Prohibited label statements for products not processed organically:

7.2.3.2.B)1) The use of the terms “100% organic” or “organic” to describe the product,

7.2.3.2.B)2) Any reference to being handled or processed in a certified facility.

Section 8: Certification and Record Keeping

8. Certification and Record Keeping

8.1. Certification requirements

8.1.1. Effective 18 months after the implementation of the AOS Fiber Processing Standards, facilities processing fiber to be labeled as “100% organic”, “organic” or “made with organic (specified fiber products)” must be certified by a certification agent that is accredited by the USDA National Organic Program (or other accreditation body accepted by the OTA).

8.1.2. Facilities that produce products labeled as “made with organic (specified fiber)” are not required to be certified but the organic fiber used in their product must originate from certified-organic fiber production and comply with other applicable sections of these standards.

8.2. Record keeping requirements

8.2.1. Records required of different types of operations:

8.2.1.1. Operations producing organic fiber products labeled as “100% organic,” “organic,” and “made with organic (specified fibers)” or “grown in accordance with (specified standard)” must maintain records of all certified production for at least 5 years.

8.2.1.2. Operations labeling finished goods with less than 70% organic fiber shall be required to maintain records of the certified source of the organic fiber for at least three years. Label claims related to organic content may be verified at any time through the inspection process performed at the discretion of the appropriate certifying agent.

8.2.1.3. Operations not certified through final assembly stage are subject to inspection of all records of organic fiber at the discretion of the USDA or certifier certifying the raw material labeled as organic in the final product.

8.2.1.4. Owners of a label, trademark and/or brand and who contract for the final product shall be responsible for maintaining certification records for all organic fiber used in their products.

8.2.2. General record keeping requirements

8.2.2.1. All activities of and transactions of the certified operation shall be disclosed in a manner sufficient to be readily understood and audited.

8.2.2.2. Results of water tests shall be maintained for inspection.

8.2.2.3. Valid organic certificates from a certification agent that is accredited by the USDA National Organic Program (or other accreditation body accepted by the OTA) must be maintained for all purchased organic fiber or fiber product.

8.2.2.4. Individual lots of “100% organic,” “organic,” or “made with organic” fiber products shall be traceable from initial processing (post harvest handling) through final assembly stage.

8.2.2.4.A) All non-retail boxes or containers of fiber products labeled “100% organic,” and “organic,” shall be labeled with lot numbers; the lot number is not required on the label of retail product.

8.2.2.4.B) At final assembly and shipping, all “100% organic”, “organic” or “made with organic (specified fibers)” fiber products shall be linked to date of production by lot number, date code or other tracking system which covers all facets of production.

8.2.2.4.C) The final handling operation shall be certified and the certifying agent identified.

Section 9: Evaluation Criteria for Materials and Materials List for Substances Used in Fiber Processing

9. Evaluation Criteria for Materials and Materials List

9.1. Introduction

Under the Organic Foods Production Act of 1990 (7 U.S.C. 6501 et seq.), the National Organic Standards Board was designated to propose a National List of approved and prohibited substances to be included in the standards for organic production and handling. As established in the OFPA, the National List consists of allowed synthetic materials and prohibited non-synthetic materials, and is not an all-inclusive listing of materials suitable for organic production and handling.

Because the NOSB has not developed recommendations on materials used for organic fiber processing, the *Draft American Organic Standards for Fiber Processing* includes a compilation of materials developed by the OTA's Fiber Council and approved by the OTA's Quality Assurance Council. Although some of the materials listed for fiber processing have been approved by the NOSB for use in food production or processing, other materials on the AOS list of fiber processing materials have not yet been considered by the NOSB and are therefore not included on the NOP's National List as of this writing.

To assist with further exploration of the materials used for organic fiber processing, the list below encompasses not only the materials included in the regulatory categories listed by the National Organic Program (allowed synthetic materials and prohibited non-synthetic materials), it also includes the OTA's decisions on nonsynthetic allowed materials and prohibited synthetic materials. However, for these later two categories, the materials list does not contain a complete catalog of all materials of this type—an asterisk (*) in these headings provides a reminder that these sections are not all-inclusive.

AOS lists fiber processing materials in categories defined by the materials' use in organic fiber processing systems and further subdivides each use category into the four regulatory categories described in the preceding paragraph. Substance names are listed in bold and annotations are listed in plain text.

9.2. Evaluation Criteria for materials used in organic fiber processing.

9.2.1. Evaluation criteria specific to fiber processing materials. A material may be used in organic fiber processing if it meets all of the following criteria:

9.2.1.1. It sustains and enhances the biological, mechanical, and chemical systems associated with production of organic fiber products;

- 9.2.1.2. Its manufacture, use, and disposal (including the impacts of the metabolic products of the material) does not have significant adverse effects on the environment;
- 9.2.1.3. There is no alternative method or substance approved for organic fiber processing systems that produces a similar product and use of the substance is limited to the minimum quantity required to achieve the process.
- 9.2.1.4. It reduces or eliminates the use of other additives and auxiliary chemicals;
- 9.2.1.5. It is *not*:
- 9.2.1.5.A) Carcinogenic³;
 - 9.2.1.5.B) Mutagenic⁴;
 - 9.2.1.5.C) Teratogenic⁵;
 - 9.2.1.5.D) Toxic to mammals (i.e. LD₅₀ for oral toxicity in rats must be >2000 mg/kg in order for the material to be used); and/or
 - 9.2.1.5.E) An Endocrine Disrupter⁶.
- 9.2.1.6. It meets requirements for biodegradability:
- 9.2.1.6.A) It is within the limits set for biodegradability and toxicity (See Appendix 1, §1.1 for details).
 - 9.2.1.6.B) Materials used for scouring, softening, and bleaching must be recyclable or readily biodegradable (as determined through the testing protocols of OECD 301D and quantification levels shown in Appendix 1, §1.1.)
- 9.2.1.7. It meets specific requirements if used as a dye or dyestuff:
- 9.2.1.7.A) Dyes may be used for organic fiber processing if they are *not*:
 - 9.2.1.7.A)1) Dyes formulated with dyestuffs that contain heavy metals. (NOTE: Levels of heavy metal impurities in other components of a dye's formulation are restricted--see Appendix 1, §2.1);
 - 9.2.1.7.A)2) Dyes containing chelated metals whose use results in residues of metal greater than 1g metal/kg textile;

³ National Toxicology Program Report on Carcinogens, Appendix H: CAS Registry Number Index, NIEHS PR #02-11, Dec. 11, 2002 .

⁴ European Union Consolidated List of C/M/R-Substances: *Classified as category 1 or 2 carcinogens, mutagens or toxic to reproduction. Point 30.* <http://europa.eu.int/comm/enterprise/chemicals/markrestr/markrestr.htm>

⁵ European Union Consolidated List of C/M/R-Substances: *Classified as category 1 or 2 carcinogens, mutagens or toxic to reproduction. Point 31.* <http://europa.eu.int/comm/enterprise/chemicals/markrestr/markrestr.htm>

⁶ The U.S. Environmental Protection Agency has not yet compiled a list of endocrine disrupters. Testing to identify endocrine-disrupting pesticides was mandated by the federal Food Quality Protection Act of 1996; however, delays and lack of funding have set back the schedule for implementation. In the meantime, this standard relies on information made available to the public by Pesticide Action Network in the PAN Database of Chemicals which may be accessed and searched through the internet at http://www.pesticideinfo.org/Search_Chemicals.jsp

9.2.1.7.A)3)Dyes capable of releasing aromatic amines that are known or suspected carcinogens (See Appendix 1, §2.2 and 2.3);

9.2.1.7.A)4)Dyes that are known to be carcinogenic, and/or

9.2.1.7.A)5)Dyes that are known to be allergenic. (See Appendix 1, §2.4.)

9.2.1.7.B)All other requirements detailed in Appendices 1 & 2.

9.2.2.General rules for substances used in organic fiber production.

9.2.2.1.The following substances may be used:

9.2.2.1.A)Any non-synthetic substances not specifically prohibited by these standards;

9.2.2.1.B)Any non-synthetic material whose use is subject to the annotations contained in applicable provisions of these standards, provided that the use of such material complies with those annotations and is documented in the Organic Handling Plan; and

9.2.2.1.C)Any material approved for use in organic food processing and not explicitly prohibited by the fiber processing standards.

9.2.2.2.The following synthetic and nonsynthetic substances are prohibited:

9.2.2.2.A)A synthetic substance that is not included on the Materials List as an allowed synthetic substance.

9.2.2.2.B)A non-synthetic substance that is included on the Materials List as a prohibited non synthetic substance,

9.2.2.2.C)Genetically Modified Organisms and their derivatives and products;

9.2.2.2.D)Ionizing radiation;

9.2.2.2.E)Sewage sludge.

9.3. Materials List for Organic Fiber Processing

9.3.1.Post Harvest Processing

9.3.1.1.Synthetic materials allowed for post harvest processing:

9.3.1.1.A)**Degreasers.** For scouring wool and animal fibers: Biodegradable sources only;

9.3.1.1.B)**Detergents.** For scouring wool and animal fibers: Biodegradable sources only;

9.3.1.1.C)**Potassium hydroxide.** For use in the polishing process for silk;

9.3.1.1.D)**Soaps.** For scouring wool and animal fibers: Biodegradable sources only.
Note: Ammonium soaps are prohibited;

9.3.1.1.E)**Sodium hydroxide.** For use in the polishing process for silk;

9.3.1.1.F)**Surface activators.** For boiling and washing silkworm cocoons:
Biodegradable sources only;

- 9.3.1.1.G)**Surfactants.** For scouring: Forms of surfactants that are both emulsifiable and biodegradable may be used in order to remove traces of soil, textile lubricants, oil and grease. Surfactants may not be silicone-based or contain petroleum solvents or alkylphenol ethoxylates; and
- 9.3.1.1.H)**Waxes.** As a topical treatment to manage excessive sugar or honeydew.
- 9.3.1.2.Nonsynthetic materials prohibited for post harvest processing:
- 9.3.1.2.A)None listed.
- 9.3.1.3.Nonsynthetic materials allowed* for post harvest processing:
- 9.3.1.3.A)**Degreasers.** For scouring wool and animal fibers: Biodegradable sources only;
- 9.3.1.3.B)**Enzymes.** Only for topical treatment. Cannot be derived from GMOs;
- 9.3.1.3.C)**Oils.** Plant oils only. As a topical treatment to manage excessive sugar or honeydew;
- 9.3.1.3.D)**Water.** To increase humidity;
- 9.3.1.3.E)**Waxes.** As a topical treatment to manage excessive sugar or honeydew.
- 9.3.1.4.Synthetic materials prohibited* for post harvest processing:
- 9.3.1.4.A)**Acid baths.** For cleaning wool and other animal fibers by carbonizing fibers;
- 9.3.1.4.B)**Ammonium soaps.**
- 9.3.1.4.C)**Naptha.** Napthalating at below-freezing temperatures to remove yolk, suint, dirt and other foreign matter;
- 9.3.1.4.D)**Oils.** Synthetic textile oils are prohibited;
- 9.3.1.4.E)**Surfactants.** Containing alkylphenol ethoxylates;
- 9.3.1.4.F)**Surfactants.** Derived from petroleum by-products;
- 9.3.1.4.G)**Surfactants.** Silicone-based;
- 9.3.1.4.H)**Surfactants.** Solvent-based;
- 9.3.1.4.I)**Waxes.** Synthetic textile waxes are prohibited.

9.3.2.Yarn Production

- 9.3.2.1.Synthetic materials allowed for yarn production:
- 9.3.2.1.A)**Yarn Waxes.** Must be water soluble and free of alkyl phenol ethoxylates;
- 9.3.2.2.Nonsynthetic materials prohibited for yarn production:
- 9.3.2.2.A)None listed.
- 9.3.2.3.Nonsynthetic materials allowed* for yarn production:
- 9.3.2.3.A)**Yarn Waxes.** All animal- or plant-based forms may be used. Must be free of alkyl phenol ethoxylates.

9.3.2.4.Synthetic materials prohibited* for yarn production:

9.3.2.4.A)None listed

9.3.3.Fabricating Non-Woven Material

9.3.3.1.Synthetic materials allowed for fabricating non-woven fabrics:

9.3.3.1.A)**Adhesive agents.** For bonding: Only those that meet composition requirements of the Indirect Food Additives Regulation, 21 CFR 175.105 Adhesives and 176.170(b). Must be approved for the specific application;

9.3.3.2.Nonsynthetic materials prohibited for fabricating non-woven fabrics:

9.3.3.2.A)None listed.

9.3.3.3.Nonsynthetic materials allowed* for fabricating non-woven fabrics:

9.3.3.3.A)None listed.

9.3.3.4.Synthetic materials prohibited* for fabricating non-woven fabrics:

9.3.3.4.A)**Solvents.** For bonding; and

9.3.3.4.B)**Synthetic polymers.** For bonding.

9.3.4.Fabricating Woven and Knit Materials

9.3.4.1.Synthetic materials allowed for fabricating woven and knit materials:

9.3.4.1.A)**Carboxymethylcellulose (CMC)** Can be used only on products labeled “made with organic” constituents;

9.3.4.1.B)**Knitting oils.** Must be water soluble;

9.3.4.1.C)**Printing materials.** Water-based or natural oils only;

9.3.4.1.D)**Starch.** Derived from plant starches only. Cannot be produced from GMOs; and

9.3.4.1.E)**Weaving oils.** Must be water soluble;

9.3.4.2.Nonsynthetic materials prohibited for fabricating woven and knit materials:

9.3.4.2.A)None listed.

9.3.4.3.Nonsynthetic materials allowed* for fabricating woven and knit materials:

9.3.4.3.A)**Cellulose.** May be used for sizing;

9.3.4.3.B)**Starch.** Plant starches only. Cannot be produced from GMOs;

9.3.4.4.Synthetic materials prohibited* for fabricating woven and knit materials:

9.3.4.4.A)**Aromatic solvents.** Prohibited for printing: Includes plastisols, and other forms;

9.3.4.4.B)**Polyvinyl alcohol (PVA)** For sizing;

9.3.5. Wet Processing and Dyeing⁷

9.3.5.1. Synthetic materials allowed for wet processing and dyeing:

9.3.5.1.A) **Aluminum silicate.** As an auxiliary in scouring, i.e., as a deflocculant, anticoagulant, or dispersant;

9.3.5.1.B) **Aluminum sulfate (alum).** As an auxiliary in scouring: For such applications as a deflocculant, anticoagulant, or dispersant. For dyeing: As a mordant;

9.3.5.1.C) **Dyes, synthetic.** May be used only on products labeled “made with organic” constituents. Dyes must meet all of the evaluation criteria in §9.2. and Appendices 1 & 2;

9.3.5.1.D) **Fatty acids and their esters.** As softening agents;

9.3.5.1.E) **Hydrogen peroxide.** As a bleaching agent;

9.3.5.1.F) **Oxalic Acid;**

9.3.5.1.G) **Ozone.** As a bleaching agent: Cannot be produced by passing ionizing radiation through water;

9.3.5.1.H) **Polyethylene.** As a softener: Only for products labeled as “made with organic (specified constituents)”;

9.3.5.1.I) **Potassium hydroxide (KOH)** For hydrogen peroxide or ozone bleaching, mercerizing, or scouring only;

9.3.5.1.J) **Soaps.** Biodegradable sources only. Note: Ammonium soaps are prohibited;

9.3.5.1.K) **Sodium hydroxide (NaOH)** For hydrogen peroxide or ozone bleaching, mercerizing, or scouring only;

9.3.5.1.L) **Sodium silicate.** As an auxiliary in a bleach or color brightening agent;

9.3.5.1.M) **Sodium sulfate.** As an auxiliary in a bleach or color brightening agent; and

9.3.5.1.N) **Surfactants.** For scouring during wet processing: Forms of surfactants that are both emulsifiable and biodegradable may be used in order to remove traces of soil, textile lubricants, oil and grease. Surfactants may not be silicone-based or contain petroleum solvents or alkylphenol ethoxylates;

9.3.5.1.N)1) **Detergents;**

9.3.5.1.N)2) **Emulsifiers;**

9.3.5.1.N)3) **Wetting agents;**

9.3.5.2. Nonsynthetic materials prohibited for wet processing and dyeing:

⁷ In future versions, OTA plans to split the category of “Wet Processing” into the following 5 subcategories—materials that may be used in: 1) all phases of wet processing, 2) pretreatment or preparation (includes desizing, scouring, bleaching, mercerizing), 3) dyeing (including washing off), 4) printing (including washing off), and 5) finishing (includes resin finishing and application of functional finishes e.g. softeners, fixatives). OTA welcomes comments on this proposal.

- 9.3.5.2.A)**Heavy metals.** Prohibited for bleaching and color brightening;
- 9.3.5.3.Nonsynthetic materials allowed* for wet processing and dyeing:
- 9.3.5.3.A)**Acetic acid.** Synthetic forms may be used only if non-synthetic sources are not commercially available;
- 9.3.5.3.B)**Aluminum silicate;**
- 9.3.5.3.C)**Chelating agents.** Non-synthetic forms only. Chelating agents (stabilizers) only when shown to be necessary for functionality;
- 9.3.5.3.D)**Citric acid;**
- 9.3.5.3.E)**Clay-based scours.** Must not be formulated with petroleum solvents or other prohibited materials;
- 9.3.5.3.F)**Copper.** For dyeing: But only when the metal is used in the form of a sheet in order to prevent discharge of metals into the environment. (e.g.: sheets of metal used as a mordant for natural dyes);
- 9.3.5.3.G)**Dyes, plant- or animal- based.** Natural dyes: 1) Must be from organic sources, when commercially available; 2) May contain ingredients on the GRAS list; 3) May not contain substances prohibited for use in wet processing by these organic fiber processing standards ;
- 9.3.5.3.H)**Enzymes.** Allowed for scouring: Cannot be derived from GMOs;
- 9.3.5.3.I)**Fatty acids and their esters.** Allowed for use as softeners
- 9.3.5.3.J)**Flow agents.** For all phases of wet processing: Non-synthetic forms only;
- 9.3.5.3.K)**Iron.** For dyeing: But only when the metal is used in the form of a sheet in order to prevent discharge of metals into the environment. (e.g.: sheets of metal used as a mordant for natural dyes);
- 9.3.5.3.L)**Mined minerals.** Cannot be subjected to further processing that would render them as synthetic materials;
- 9.3.5.3.M)**Oxalic Acid;**
- 9.3.5.3.N)**Pigment dyes.** Only those that are non-toxic, naturally occurring pigments such as natural indigo and clays;
- 9.3.5.3.O)**Potassium acid tartrate.** NOTE: Also known as “cream of tartar” and “potassium bitartrate”;
- 9.3.5.3.P)**Sodium carbonate.** NOTE: Also known as Soda ash. For use as a pH adjuster;
- 9.3.5.3.Q)**Sodium chloride (salt).**For use as an auxiliary: Minimum amounts of salt as required for functionality;
- 9.3.5.3.R)**Tannic Acid.**
- 9.3.5.3.S)**Tartaric Acid.**

- 9.3.5.3.T)**Tin.** For dyeing: But only when the metal is used in the form of a sheet in order to prevent discharge of metals into the environment. (e.g.: sheets of metal used as a mordant for natural dyes) ; and
- 9.3.5.3.U)**Water.** May be used: 1) as a scouring agent, 2) for bleaching and color brightening, minimum amounts of water as required for functionality.
- 9.3.5.4.Synthetic materials prohibited* for wet processing and dyeing:
- 9.3.5.4.A)**Ammonium soaps;**
- 9.3.5.4.B) **α -methyl ester sulphonate (α -MES);**
- 9.3.5.4.C)**Absorbable halogenated hydrocarbon (AOX)** Absorbable halogenated hydrocarbons, and substances that can cause their formation, are prohibited unless the material's molecular structure results in elimination of the halogen atoms so that the material does not contribute halogenated organic compounds to wastewater generated during fiber processing (e.g. halogenated heterocyclic reactive anchor systems in which the chlorine atom is eliminated as chloride ion during fixation).
- 9.3.5.4.D)**Acetic acid;**
- 9.3.5.4.E)**Bluing.** Prohibited for bleaching and color brightening;
- 9.3.5.4.F)**Chelating agents;**
- 9.3.5.4.G)**Chlorine.** Prohibited for bleaching and color brightening;
- 9.3.5.4.H)**Dyes.** Dyes that do not meet all of the evaluation criteria in §9.2. and Appendices 1 & 2;
- 9.3.5.4.I)**Flow agents.** Synthetic forms are prohibited for all phases of wet processing;
- 9.3.5.4.J)**Formaldehyde;**
- 9.3.5.4.K)**Functional finishes.** Prohibited as functional finishes: Textile coatings designed to add functionality to fiber products. Including but not limited to: finishes for anti-crease, anti-fungal, anti-microbial, anti-pilling, anti-slip, anti-statics, fire retardance, hydrophobic or hydrophilic coatings, lustering agents, mothproofing, soil resistance, stain resistance;
- 9.3.5.4.L)**Halogenated compounds.** Prohibited unless the material's molecular structure results in elimination of the halogen atoms so that the material does not contribute halogenated organic compounds to wastewater generated during fiber processing (e.g. halogenated heterocyclic reactive anchor systems in which the chlorine atom is eliminated as chloride ion during fixation).
- 9.3.5.4.M)**Hydrochloric acid.** Prohibited scouring agent;
- 9.3.5.4.N)**Optical brighteners.** Prohibited for bleaching and color brightening;
- 9.3.5.4.O)**Other auxiliary solvents and petrochemical additives.** Prohibited for bleaching and color brightening;
- 9.3.5.4.P)**Perborate (sodium perborate).** Prohibited bleach;

- 9.3.5.4.Q) **Petroleum-derived scouring agents.** Prohibited scouring agent;
- 9.3.5.4.R) **Phosphoric acid.** Prohibited scouring agent;
- 9.3.5.4.S) **Quaternary ammonium compounds.** Prohibited softening agent;
- 9.3.5.4.T) **Silicone-based softeners.** Prohibited softening agent;
- 9.3.5.4.U) **Sodium chlorite.** Prohibited bleach;
- 9.3.5.4.V) **Sodium hypochlorite.** Prohibited bleach;
- 9.3.5.4.W) **Sulfuric acid.** Prohibited scouring agent; and
- 9.3.5.4.X) **Surfactants.** Derived from silicone, petroleum by-products or which contain alkylphenol ethoxylates.

9.3.6. Product Assembly

9.3.6.1. Synthetic materials allowed for product assembly:

- 9.3.6.1.A) **Adhesive agents.** For bonding: Only those that meet composition requirements of the Indirect Food Additives Regulation, 21 CFR 175.105 Adhesives and 176.170(b). Must be approved for the specific application.

9.3.6.2. Nonsynthetic materials prohibited for product assembly:

- 9.3.6.2.A) None listed.

9.3.6.3. Nonsynthetic materials allowed* for product assembly:

- 9.3.6.3.A) None listed.

9.3.6.4. Synthetic materials prohibited* for product assembly:

- 9.3.6.4.A) None listed.

9.3.7. Equipment Maintenance

9.3.7.1. Synthetic materials allowed for equipment maintenance:

- 9.3.7.1.A) **Cleaning compounds.** Any cleaner (except Quaternary Ammonium compounds) approved for use by USDA or EPA provided equipment can be rinsed/wiped down to eliminate residues; and
- 9.3.7.1.B) **Lubricating oils.** For equipment maintenance: “Water soluble lubricating oils” (so named because they are easily removed during the scouring process compared to solvent-based lubricants) may be used for lubricating spinning, knitting, and weaving equipment if their residue is removed from the fiber product during scouring.

9.3.7.2. Nonsynthetic materials prohibited for equipment maintenance:

- 9.3.7.2.A) None listed.

9.3.7.3. Nonsynthetic materials allowed* for equipment maintenance:

- 9.3.7.3.A) **Lubricating oils.** For equipment maintenance: “Water soluble lubricating oils” (so named because they are easily removed during the scouring process compared to solvent-based lubricants) may be used for lubricating spinning,

knitting, and weaving equipment if their residue is removed from the fiber product during scouring.

9.3.7.3.B) **Quaternary ammonium compounds.** Prohibited cleaner.

9.3.7.4. Synthetic materials prohibited* for equipment maintenance:

9.3.7.4.A) None listed.

9.3.8. Pest Control

9.3.8.1. Synthetic materials allowed for pest control:

9.3.8.1.A) **Adhesive traps.** May not contact fiber product directly;

9.3.8.1.B) **Carbon dioxide;** For pest control: May contact fiber product directly;

9.3.8.1.C) **Gel baits.** For pest control. May not contact fiber product directly;

9.3.8.1.D) **Inert materials.** For pest control: Formulated pesticide products that contain any synthetic inert ingredient classified by EPA as List 4 or considered GRAS (generally recognized as safe) by FDA, unless explicitly prohibited by other provisions of these standards.

9.3.8.1.E) **Pheromones traps.** For use in passive dispensers; and

9.3.8.1.F) **Vitamin D₃.** When used in traps. May not contact fiber product directly;

9.3.8.2. Nonsynthetic materials prohibited for pest control:

9.3.8.2.A) **Strychnine;** and

9.3.8.2.B) **Tobacco dust (nicotine sulfate).**

9.3.8.3. Nonsynthetic materials allowed* for pest control:

9.3.8.3.A) **Biological controls.** Non GMO forms only. May not contact fiber product directly;

9.3.8.3.B) **Botanical pesticides.** If not formulated with prohibited substances. May not come into direct contact with organic products;

9.3.8.3.C) **Nitrogen.** For pest control: May contact fiber product directly;

9.3.8.4. Synthetic materials prohibited* for pest control:

9.3.8.4.A) **Synthetic pesticides.** Synthetic pesticides are prohibited unless otherwise allowed under the *American Organic Standards* for organic production and processing.

Appendix 1: Supporting Documentation for Evaluating Materials

1. Evaluation criteria that apply to all inputs and their metabolites:

1.1 Evaluation Criteria for Biodegradability and Toxicity

Evaluation Criteria for Biodegradability and Toxicity ⁸			
	Biodegradability Ready Biodegradability—Closed Bottle Test: OECD 301D <u>Quantification levels for Biodegradability:</u> Readily Biodegradable:>70% at 28 days Not Readily Degradable:< 70% at 28 days		Toxicity to Aquatic Organisms Microorganisms used to treat wastewater (ASRIT) ⁹ : OECD 209 or Acute Immobilization Test and Reproduction Test (Daphnia): OECD 202 <u>Quantification Levels for Toxicity to Aquatic Organisms:</u> Low Toxicity: $EC_{50} > 100$ mg/l Moderate Toxicity: $EC_{50} = 10$ to 100 mg/l High Toxicity: $EC_{50} < 10$ mg/l
Preferred if:	> 70% readily degradable	and	> 100 mg/l low toxicity
Allowed if:	< 70% not readily degradable	and	> 100 mg/l low toxicity
	> 70% readily degradable	and	10 – 100 mg/l moderate toxicity
Prohibited if:	< 70% not readily degradable	and	< 100 mg/l moderate to high toxicity
	Biodegradability testing is not applicable--if the material is highly toxic it is prohibited.		< 10 mg/l high toxicity

⁸ For more detail on this topic, refer to: *Guidance for the User Industry on the Environmental Hazard Labelling of Dyestuffs*. Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers (ETAD), Clarastrasse 4, P. O. Box, CH-4005 Basel, Switzerland.

⁹ Activated Sludge, Respiration Inhibition Test

2. Evaluation criteria that apply to dyes

2.1 Limits on trace metal impurities : ¹⁰

Note: While heavy metals in dyestuffs are prohibited, heavy metals may be present as impurities in dye formulations. The limits below restrict the levels of heavy metals in the entire dye formulation.

Name of Heavy Metal	Limits on Trace Metal Impurities in Dyes (ppm)	Limits on Trace Metal Impurities in Organic Pigments (ppm)
Antimony	50	250
Arsenic	50	50
Barium	100	100
Cadmium	20	50
Chromium	100	100
Cobalt	500	--
Copper	250	--
Iron	2500	--
Lead	100	100
Manganese	1000	--
Mercury	4	25
Nickel	200	
Selenium	20	100
Silver	100	--
Tin	250	--
Zinc	1500	1000

¹⁰ Trace metal impurities in organic colorants: Rationale of ETAD's trace metal limit recommendations. Undated document. Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers (ETAD), Clarastrasse 4, P. O. Box, CH-4005 Basel, Switzerland.

2.2 Azo dyes prohibited by ETAD'S Guidance Document¹¹:

Azo dyes that can be reductively cleaved into one or more of the aromatic amines listed below are prohibited.

Ref. #	Name of Aromatic Amine	CAS Number
1	4-Aminoazobenzene	60-09-3
2	o-Anisidine	90-04-0
3	2-Naphthylamine	91-59-8
4	3,3'-Dichlorobenzidine	91-94-1
5	4-Aminodiphenyl	92-67-1
6	Benzidine	92-87-5
7	o-Toluidine	95-53-4
8	4-Chloro-o-toluidine	95-69-2
9	4-Methyl-1,3-phenylenediamine	95-80-7
10	o-Aminoazotoluene	97-56-3
11	5-Nitro-o-toluidine	99-55-8
12	4,4'-Methylene-bis-(2-chloraniline)	101-14-4
13	4,4'-Methylenedianiline	101-77-9
14	4,4'-Oxydianiline	101-80-4
15	p-Chloraniline	106-47-8
16	3,3'-Dimethoxybenzidine	119-90-4
17	3,3'-Dimethylbenzidine	119-93-7
18	p-Cresidine	120-71-8
19	2,4,5-Trimethylaniline	137-17-7
20	4,4'-Thiodianiline	139-65-1
21	4-methoxy-m-phenylenediamine	615-05-4
22	4,4'-Methylenedi-o-toluidine	838-88-0

¹¹ ETAD Information on the 19th Amendment of the Restrictions on the Marketing and Use of Certain Azocolorants. 2002. Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers (ETAD), Clarastrasse 4, P. O. Box, CH-4005 Basel, Switzerland.

2.3 Prohibited azo pigments listed in ETAD'S Guidance Document:¹²

Key to "Regulatory Status" codes:

- A = exempted under 5th Amendment
- B = restricted under 5th Amendment
- C = test data not available

Pigments with C.I. Generic Name					
* = there are no registered manufacturers of these pigments					
<i>Ref. #</i>	<i>C.I. Name</i>	<i>C.I. No.</i>	<i>EINECS No.</i>	<i>CAS No.</i>	<i>Regulatory status</i>
1	Pigment Yellow 12	21090	228-787-8	6358-85-6	A
2	Pigment Yellow 13	21100	225-822-9	5102-83-0	A
3	Pigment Yellow 14	21095	226-789-3	5468-75-7	A
4	Pigment Yellow 14	-	-	7621-06-9	A
5	Pigment Yellow 17	21105	224-867-1	4531-49-1	A
6	Pigment Yellow 49*	11765	220-802-6	2904-04-3	C
7	Pigment Yellow 55	21096	228-771-0	6358-37-8	A
8	Pigment Yellow 63* Pigment Yellow 121*		238-611-1	14569-54-1	C
9	Pigment Yellow 83	21108	226-939-8	5567-15-7	A
10	Pigment Yellow 87	21107:1	239-160-3	15110-84-6	C
11	Pigment Yellow 114*	21092	271-879-8	68610-87-7	C
12	Pigment Yellow 124*	21107	267-243-4	67828-22-2	C
13	Pigment Yellow 126	21101	290-823-3	90268-23-8	A
14	Pigment Yellow 127	21102	271-878-2	68610-86-6	A
15	Pigment Yellow 152	21111	250-799-7	31775-20-9	C
16	Pigment Yellow 170	21104	250-797-6	31775-16-3	C
17	Pigment Yellow 171*	-	-	53815-04-6	C
18	Pigment Yellow 172	21109	-	76233-80-2	C
19	Pigment Yellow 174	21098	279-017-2	78952-72-4	A
20	Pigment Yellow 176	21103	290-824-9	90268-24-9	A
21	Pigment Orange 3*	12105	-	6410-15-7	C

¹² For complete details on the pigments covered by the ETAD Guidance Document, please consult: ETAD Information Notice No. 6: German Ban of use of certain azo compounds in some consumer goods (Revised October 1998), Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers, Basel, Switzerland. <http://www.etad.com>

22	Pigment Orange 13	21110	222-530-3	3520-72-7	A
23	Pigment Orange 14*	21165	229-920-2	6837-37-2	C
24	Pigment Orange 15*	21130	228-789-9	6358-88-9	C
25	Pigment Orange 16	21160	229-388-1	6505-28-8	A
26	Pigment Orange 34 Pigment Orange 35 * Pigment Orange 37 *	21115	239-898-6	15793-73-4	A
27	Pigment Orange 44*	21162	241-469-3	17453-73-5	C
28	Pigment Orange 63*	-	-	76233-79-9	C
29	Pigment Red 7*	12420	229-315-3	6471-51-8	C
30	Pigment Red 8	12335	229-100-4	6410-30-6	B
31	Pigment Red 17	12390	229-681-4	6655-84-1	C
32	Pigment Red 22	12315	229-245-3	6448-95-9	B
33	Pigment Red 37	21205	229-986-2	6883-91-6	C
34	Pigment Red 38	21120	228-788-3	6358-87-8	B
35	Pigment Red 41	21200	229-389-7	6505-29-9	C
36	Pigment Red 42*	21210	228-790-4	6358-90-3	C
37	Pigment Red 114	12351	228-774-7	6358-47-0	C
38	Pigment Blue 25	21180	233-354-1	10127-03-4	C
39	Pigment Blue 26*	21185	226-614-0	5437-88-7	C
40	Pigment Green 10*	12775	262-934-7	61725-51-7	C

Pigments with no C.I. Generic Name			
Ref. #	EINECS Number	CAS Number	Regulatory status
1	-	171091-00-2	C
2	-	169873-88-5	C
3	-	169873-87-4	C
4	-	169798-13-4	C
5	-	169798-12-3	C
6	-	169798-08-7	C
7	-	169873-87-4	C
8	-	160611-26-7	C
9	-	124236-34-6	C
10	-	103621-95-0	C
11	-	103621-93-8	C
12	-	103621-94-9	C
13	304-380-1	94249-03-3	C
14	300-272-3	93924-77-7	C
15	288-428-6	85721-17-1	C
16	280-397-7	83399-84-2	C
17	279-221-1	79665-33-1	C
18	-	78952-70-2	C
19	-	78245-94-0	C
20	-	76822-91-8	C
21	276-461-9	72207-62-6	C
22	-	71130-18-2	C
23	272-732-0	68910-13-4	C
24	255-508-7	41709-76-6	C
25	250-798-1	31775-17-4	C
26	-	30496-22-1	C
27	-	26841-50-9	C
28	-	5629-79-8	C

2.4 Dyes that are known to be allergenic

The following dyes are prohibited for use in organic fiber processing because they have been reported to cause cases of allergic contact dermatitis.¹³

Ref. #	Name of Dye
1	Disperse Blue 1
2	Disperse Blue 3
3	Disperse Blue 7
4	Disperse Blue 26
5	Disperse Blue 35
6	Disperse Blue 102
7	Disperse Blue 106
8	Disperse Blue 124
9	Disperse Yellow 1
10	Disperse Yellow 3
11	Disperse Yellow 9
12	Disperse Yellow 39
13	Disperse Yellow 49
14	Disperse Orange 1
15	Disperse Orange 3
16	Disp Orange 37/76
17	Disperse Red 1
18	Disperse Red 11
19	Disperse Red 17

¹³ Information provided courtesy of Ciba Specialty Chemicals, September 22, 2003.

Appendix 2: Accessories

Accessories List	
NOTE: This appendix applies to all final products labeled as “organic”.	
<i>Item</i>	<i>Annotation</i>
Buckles	Chains of metal must be free of chrome and nickel. Cannot be galvanized with chrome or nickel plating.
Buttons	Wood or other natural materials. Metal buttons must be free of chrome and nickel. Cannot be galvanized with chrome or nickel plating.
Cords / Handles	100% natural fibers only.
Bands / Edgings	100% natural fibers. Up to 5% total weight of product of elastic allowed provided elastic is covered with natural fibers.
Linings / Pockets	100% natural fibers.
Seam Bindings	100 % natural fibers. Up to 5% total weight of product of elastic allowed provided elastic is covered with natural fibers.
Shoulder Pads	100 % natural fibers
Zippers	Tape of renewable materials. Chains of metal must be free of chrome and nickel. Cannot be galvanized with chrome or nickel plating.

Commentors on the Draft Versions of the Standards

Draft versions *American Organic Standards for Fiber Post Harvest Handling, Processing, Record Keeping, & Labeling* benefited from informed and constructive comments from the organic and fiber processing industries and the standards have been revised accordingly. The organizations and individuals who submitted a response to the draft standards are listed below.

Thank you, Commentors!

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