FIBERS

COTTON—CELLULOSIC FIBER
SOURCE: Fruit of the cotton plant
WHEN BURNED:
Ignites fairly quickly and smells like burning weeds
Bright orange flame with gray smoke
Not totally consumed, weave still identifiable in ashes
Must be chemically treated to be flame resistant
CHARACTERISTICS:
+Versatile, dyes and prints well, absorbent
-Wrinkles, fades, and shrinks unless mercerized and preshrunk
-Mildews if kept moist, rots in sunlight, doesn't wear well
CARE: Washable and dry-cleanable, although washing may remove finishes
May require ironing
COST: Moderate to high, depending upon quality
A major product of the United State and China and is readily available
USES: Towels, bedspreads, curtains, some rugs

LINEN—CELLULOSIC FIBER
SOURCE: Fibers are from the stalks of the flax plant
Is grown in moderate climates--Great Britain and some European countries
WHEN BURNED:
Burns readily and smells like weeds, but sweeter smelling than cotton
Bright orange flame with gray smoke
Must be treated with flame retardant
CHARACTERISTICS:
+Crisp, appealing natural texture, absorbent
+Dyes well and maintains good appearance
-Brittle, stiff, inflexible
-Sun fades, permanent creases
-Stains are difficult to remove
CARE: Dry cleaning recommended
Kitchen linens may be washed in hot water
Ironing is required
COST: Depending upon quality (i.e. fiber length) medium to moderately high
USES: Fine table linens, kitchen linens, upholstery, slipcovers, drapery, wall coverings

USES: Carpet backing, wall covering, draperies, crafts
JUTE—CELLULOSIC FIBER
SOURCE: Stalk of the jute plant
WHEN BURNED:
  Burns quickly and smells like weeds
  Bright orange flame with gray smoke
CHARACTERISTICS:
  +Dyes bright colors, strong when dry
  -Will rot if kept damp, fades and is brittle
CARE: Hand wash or dry clean
COST: Inexpensive

WOOL—NATURAL PROTEIN FIBER
SOURCE: Wool of sheep
WHEN BURNED:
  Difficult to ignite—natural flame retardant qualities
  Very distinct odor of burning hair
  Gray smoke
  Sears back and curls, leaving a black, crisp ash
CHARACTERISTICS:
  +Dyes well
  +Resilient, durable, absorbent
  -Scratchy
  -Susceptible to moths
  -Some people are allergic to wool
CARE: Dry-clean or hand wash
COST: Expensive
USES: Carpet (particularly Oriental rugs), some upholstery, wall coverings

SILK—NATURAL PROTEIN FIBER
SOURCE: Silkworm cocoons
WHEN BURNED:
  Burns slowly and self-extinguishes
  Almost sweet odor with gray smoke
CHARACTERISTICS:
  +Rich, dyes well, excellent drapability
  -Decomposes in sun, moisture, soil
CARE: Dry clean or hand wash
COST: Expensive
USES: May be used for draperies or wall coverings, but due to expense is usually limited to wall hangings, accessories and trims
LEATHER—NATURAL PROTEIN FIBER
SOURCE: Hides of cattle, swine, or deer
WHEN BURNED:
   Flame resistant, but smells like meat cooking
   No real flame or smoke due to difficulty of ignition
CHARACTERISTICS:
   +Extremely durable
   -Quality varies; susceptible to marks, holes, and tears
CARE: Mild soap and water
COST: Expensive
USES: Upholstery, desk tops, some wall coverings

RAYON—REGENERATED CELLULOSIC FIBERS
SOURCE: Wood chips and cotton linters
WHEN BURNED:
   Ignites readily but melts before burning
   Smells like other cellulosic fibers
   Orange flame, black smoke
CHARACTERISTICS:
   +Great drapability
   -Will sun rot and mildew, wrinkles easily, shrinks if not treated
CARE: Dry clean, some are washable
COST: Inexpensive to moderate
USES: Usually blended with other fibers for draperies and upholstery

ACETATE—REGENERATED CELLULOSIC FIBERS
SOURCE: Wood chips, cotton linters, and acetic acid
WHEN BURNED:
   Ignites readily, melts, orange flame, black smoke
CHARACTERISTICS:
   +Silk like
   -Weakens with age, particularly in the sun
CARE: Dry clean, some are washable
COST: Inexpensive to moderate
USES: Bedspreads, draperies, linings, slipcovers, some upholstery
NYLON (POLYAMIDE/THERMOPLASTIC)
SOURCE: Amide linkages attached to two aramid rings
WHEN BURNED:
- Melts but self extinguishes
- Moderately flame resistant
- Gray/black smoke, bright orange flame
CHARACTERISTICS:
- Strong, durable and versatile
- Scratchy and harsh, static, can sun rot
CARE: Dry clean or launder, cleans well
COST: Low to moderate
USES: Carpet, curtains, upholstery, wall coverings (used extensively in interiors)

ACRYLIC (THERMOPLASTIC)--MANUFACTURED SYNTHETIC
SOURCE: Over 85% acrylonitrile units, synthetic long-chain polymer
WHEN BURNED:
- Ignores easily, melts then burns slowly
- Black smoke, bright orange, flickering flame
CHARACTERISTICS:
- Soft, warm, looks like wool, retains shape and color well, resistant to wrinkles
- Nonabsorbent, susceptible to piling and static electricity, stretches out of shape
CARE: Machine wash in warm water with mild detergent and dry on low setting
COST: Inexpensive to moderate—very inexpensive compared to wool
USES: Blankets, carpet, rugs, upholstery, some draperies

POLYESTER (THERMOSETTING PLASTIC)--MANUFACTURED SYNTHETIC
SOURCE: Synthetic polymer ester of substituted aromatic carboxylic acid
WHEN BURNED:
- Ignoles quickly, melts, drips, forms a hard almost clear residue
- Black smoke, bright orange flame
CHARACTERISTICS:
- Very durable, retains color very well, resists wrinkles, retains shape
- Nonabsorbent, generates static electricity, soils easily
CARE: Machine wash in warm water, dry on low setting, may be dry cleaned
COST: Inexpensive
USES: Bedspreads, blankets, carpeting, draperies, mattresses, sheets, tablecloths, upholstery
OLEFIN (PROPYLENE AND ETHYLENE)--MANUFACTURED SYNTHETIC
SOURCE: Long-chain polymer of ethylene, propylene or other olefin units
WHEN BURNED:
Burns slowly, melts
Black smoke, bright orange flame
CHARACTERISTICS:
+ Very strong, resistant to abrasion
- Shrinking, chemicals and oils will cause stains
CARE: Machine wash, dry on low setting, do not iron
COST: Very inexpensive
USES: Awnings, carpeting, outdoor furniture, upholstery

VINYL (THERMOPLASTIC RESIN)--MANUFACTURED SYNTHETIC
SOURCE: Vinyl chloride, long-grain polymer
WHEN BURNED:
Melts, self-extinguishes
CHARACTERISTICS:
+ Imitates leather (available in many colors and textures)
- Splits, difficult to repair
CARE: Mild soap and water
COST: Low to medium
USES: Upholstery, wall coverings, table coverings

Other fibers such as saran, fiberglass, latex, and metallic that are not always available nor commonly used have been omitted.