CARE & CLEANING INFORMATION FOR GARMENTS MADE FROM BLENDS OF INHERENTLY FLAME-RESISTANT FIBERS

These garments are made from fabrics that are heat resistant and permanently flame resistant. Inherently flame-resistant fibers are blended with modacrylic, rayon, nylon and other fibers. The fabrics may also incorporate fibers that are anti-static or have other characteristics. Regardless of the blend, in static-sensitive environments proper grounding procedures must be observed.

Any flame-resistant garments should be removed immediately and replaced with clean FR apparel if they become fouled with flammable material.

These garments should be washed using soft water (water hardness should not exceed 25 ppm or 1.5 grains). Hard water adversely affects cleaning, resulting in increased detergent usage. Hard water contains mineral salts that can form insoluble deposits on the surface of fabrics. Buildup may negate the flame-resistant characteristics of the garment and may serve as fuel if garments are exposed to an ignition source.

Laundry temperatures up to 140°F are best for good colorfastness. Processing in hotter formulas may be required to remove soils but could affect color and shrinkage. These garments can also be dry cleaned in perchloroethylene.

Important considerations are temperature control in washing and drying and removing flammable soils or chemicals that can overwhelm or mask the FR properties.

INDUSTRIAL LAUNDRY

- Process separately from other types of garments throughout the entire operation to prevent accumulation of lint and minimize pilling.
- Sort by shade to reduce staining or color transfer which may occur.
- Use low temperature (140°F max.), low alkalinity surfactant chemistry for water washing. Higher pH products and elevated wash temperatures accelerate color loss.
- Washing at hotter temperatures and higher levels of alkalinity may be necessary to remove soils. This will not damage the fabric or degrade the FR properties but may affect color. Removing flammable soils is more important than color retention.
- Use a multiple add procedure (break and second suds) where necessary due to soil levels.
- Do **not** use chlorine bleach. This will weaken the fabric and accelerate color loss. Use of oxygen bleach is acceptable where necessary. Do not use starch or fabric softeners as they can coat fibers and mask FR performance and/or serve as fuel in the event of garment ignition.
- Temperature step-downs between baths should not exceed 15°F. Cool to 95°F or less before extraction to minimize wrinkling.
- Rinse well and sour properly.
- Short extraction at low levels will help reduce wrinkling improving finished appearance.
- Condition at 130°-160°F stack temperature so fabric temperatures measured in the basket do not exceed 200°F. This fabric will dry rapidly. Do **not** over dry. Excessive heat will cause color loss. Cool down to 100°F or less and remove promptly from the dryer.
- Shrinkage like 100% cotton fabrics can be expected.
- Tunnel finishing will improve fabric smoothness but may cause hanger impressions. If creases in pants are desired, pressing will be required. Do not exceed 280°F fabric temperature.

HOME WASH

- Wash and dry separately to prevent accumulation of lint.
- Pre-treat greasy stains and do not overload the washer to help insure removal of soils.
- Garments may be washed in warm water (up to 140ºF max) using any typical home laundry detergent. Do not use tallow **soap.**
- Permanent Press Cycle is recommended for best appearance over the life of the garment.
- Water hardness should not exceed 25 ppm or 1.5 grains. Hard water precipitates soaps and can result in the build-up of calcium and magnesium salts. These can serve as fuel in the event they are exposed to an ignition source.
- Do **not** use chlorine bleach. Do **not** use starch or fabric softeners as they may coat fibers and mask FR performance and/or serve as fuel in the event of garment ignition.
- Do **not** over dry.
- For maximum flame resistance, greases and oils must be thoroughly removed. If home procedures do not accomplish this, commercial laundering or dry cleaning is recommended.

DRY CLEANING

- Perchloroethylene solvent can be used. In cases of heavy, oily soil, this may be the preferred approach. It is necessary to ensure all solvent has been completely dried from the garment.

REPAIR AND MENDING

- Minor repairs that do not affect the integrity of the garment should be made with like materials by sewing on patches or darning small holes.

The information in this bulletin is based on the results of testing in our laboratory and information from the fabric vendor. It is provided for your guidance and knowledge. As of the publication date, this bulletin contains up to date information on care and cleaning. Please visit our website at www.bulwark.com for the latest information.

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