Cleaning Pesticide Soiled Clothing

Clothing worn while applying pesticides normally becomes contaminated. From these clothes, the body can contact and absorb the chemicals. Protective clothing (long-sleeve shirts, pants, gloves, hat, and boots) can reduce pesticide exposure, but unless they are laundered properly, significant amounts of pesticides can remain on them or be passed onto other clothing.

TOXICITY AND PESTICIDE RESIDUES

Hazards are less pronounced in handling clothing exposed to low toxicity pesticides. The ease of pesticide removal through laundering does not depend on toxicity level; however, it depends on **chemical class, solubility, and formulation of the pesticide.** For example, 2,4-D amine is easily removed through laundering because it is soluble in water; 2,4-D ester is much more difficult to remove through laundering.

Clothing contaminated with highly toxic and concentrated pesticides must be handled most carefully, as these pesticides can be absorbed through the skin, and/or cause serious skin injury. In general, as the concentration of active ingredients (i.e) in the pesticide increases, the removal of pesticide residue by laundering decreases.

Ordinary laundry procedures won’t rid the clothes of highly toxic and concentrated pesticide residues.

BEFORE WASHING CLOTHING WITH PESTICIDE RESIDUE

- Handle dirty clothing with gloves.
- Throw away clothes soaked with pesticides. Do not try to clean them. When in doubt, remember that residue may contaminate your washing machine.

- Leather items cannot be laundered. Discard these items to avoid being exposed every time you wear them.
- Shake clothing outside if you worked with pesticides that are granular, dust, or powders. Check pockets and cuffs for pesticide particles.

HOW TO CHOOSE LAUNDRY DETERGENT: Choose a phosphate (powdered) detergent or a heavy-duty liquid detergent. Heavy-duty liquid detergents are particularly effective in removing oily mollifiable concentrate (EC) formulations and are insensitive to water hardness. Phosphate-powdered detergents are particularly effective in removing particulate soils (wettable powder formulations) but are sensitive to hard water.

REPELLENT FINISHES: Research also indicates that fluorochemical soil repellent finishes for pesticide applicator protective apparel fabric reduce pesticide absorption, and thus give barrier properties to work clothes. However, such finishes are temporary, and should be reapplied after every second laundering. Scotchgarde is a trade name of a spray fluorochemical soil repellent finish.

LAUNDERING RECOMMENDATIONS FOR PESTICIDE-CONTAMINATED CLOTHING.

- Keep contaminated clothing separate from other garments. Use a disposable plastic bag placed in a plastic box to hold them rather than a cloth bag or laundry basket. Wear rubber gloves when putting contaminated garments into the bag, and again when placing garments in the washer. If pesticide has left a stain, apply a prewash soil and stain remover, or rub in a heavy-duty liquid detergent.
- Pre-rinse contaminated clothing by hosing down outdoors, soaking in a separate tub or pail, or agitating in the washing machine. If rinsing outdoors, rinse and dispose of water away from ground water sources and away from areas where children play, or animals are kept.
- Ideally, a separate washer should be purchased and used to wash pesticide contaminated clothing but always wash

contaminated clothing separately from the family wash. Research shows that pesticide residues are transferred from contaminated clothing to other clothing when they are laundered together.

- Wash only a few contaminated garments at a time. Wash garments contaminated by the same pesticides together.
- Use as hot a water temperature as possible—the hotter the better. Cold water washing may save energy, but it will not remove the pesticide effectively.
- Set washer water level for extra large or large load to flush fabrics thoroughly. Use regular cycle (at least 12 minutes) and normal wash speed settings. A double rinse is recommended.
- Laundry additives such as chlorine bleach or ammonia do not improve removal of pesticide residues. Never use ammonia and chlorine bleach in the same wash load.
- Clothing worn while using low toxicity products may be laundered effectively in one machine washing. Check the pesticide label for keywords indicating toxicity levels. Remember to discard clothing heavily soiled with full-strength or concentrated liquid pesticides.
- Line dry the garments. This prevents the possibility of residues collecting in the dryer.
- Remove any leftover pesticides from the washer by running an “empty load” through the complete cycle, using hot water, full or normal water level, detergent, and normal or regular machine settings and cycles.

FINAL WORD

Ordinary laundry procedures will not rid clothes of highly toxic pesticide residues. Clothing contaminated with highly toxic and concentrated pesticide can be absorbed through the skin and cause serious skin injury.