



STAIN REMOVAL FOR WASHABLE FABRICS

The instructions and procedures described in this publication apply only to washable items. Always read the care label and follow the care instructions. Take “Dry Clean Only” garments to the dry cleaner.

Tips for Successful Stain Removal

- All detergents are not alike; some are more effective than others in removing soil and stains. Some detergents are especially effective against a broad range of stains. If you regularly wash heavily soiled clothes, you’ll probably notice a difference if you use the most effective products available.
- Most spots and stains can simply be washed out if you identify and pretreat spots before washing. For washables, this is the easiest way to deal with all but problem stains. No product can completely remove all stains, but some detergents remove most stains.
- Take washable items to the dry cleaner if the stain covers a large area, if the item is bulky, or if the fabric is fragile.
- Treat stains as soon as possible because fresh stains are more easily removed. Use a pretreat stick if you can’t remove the stain immediately.
- Blot (do not rub) liquid stains immediately with an absorbent material and gently scrape excess staining material from the fabric surface.
- Test stain remover on an inconspicuous part of the garment to check for color change or fabric damage. Do not use if color change or damage occurs.
- When spotting with dry-cleaning solvent, place stained area face down on white absorbent toweling and work from the wrong side of the garment. Push the stain out, not in. To avoid rings, work from the center out using irregular strokes around the edges.
- Avoid using hot water on unidentifiable stains.
- Avoid excessive rubbing as it may break the fiber, damage the finish, remove the color, or spread the stain. Rubbing also can cause yarn slippage on loosely woven fabrics or fabrics made from low-twist yarns.
- Allow dry-cleaning solvents to evaporate from the fabric before you wash it or put it in a dryer. Thoroughly rinse out stain remover before laundering to avoid undesirable chemical reactions. Carefully follow product instructions.
- Chlorine bleach should not be used on fabrics containing silk, wool, spandex, or urethane; polyurethane foam; and fabrics with certain special finishes. Check the item’s care label for directions.
- Do not treat suede, leather, or fur. Take these items to a dry cleaner that specializes in leather or fur care.
- Never iron stained fabrics because heat sets stains.
- Some stains are difficult to remove, and some are impossible to remove. Be prepared to accept some failures.

Understanding Precautionary Statements

A cleaning product’s label supplies a great deal of important information including that which appears in the precautionary statement. To ensure accurate safety information, the Federal Hazardous Substances Act governs how precautionary statements are used on household cleaning product labels. Read and pay careful attention to all precautionary statements.

Most household cleaning products are not dangerous. If exposure in small amounts or swallowing small amounts does not cause major harm, the product is not required to carry a precautionary statement. Many hand dishwashing detergents fall into this category.

The “signal word” is the first, and largest, word in the precautionary statement. The word signaling the mildest warning is either **CAUTION** or **WARNING**. These two interchangeable words are the ones most commonly used for household cleaning products. When they appear in the statement, the product is not likely to produce permanent damage as a result of exposure if appropriate first aid is administered. Many laundry detergents fall into this category.

DANGER indicates that greater precaution should be taken and often appears on specialty products intended for tough jobs, such as unclogging drains or removing certain stains.

Although **POISON** is not classified as a signal word under the act, it is the strongest indication of hazard. It is rarely used on household cleaning products.

Specific words and phrases, such as “flammable,” are included in the precautionary statement. These explain possible consequences that could occur if the product is misused.

Precautionary measures are also included. These describe actions to be taken or avoided. For example, the label

might instruct consumers to wear rubber gloves for protection, avoid product vapors, and/or use the product in a well-ventilated area.

When necessary or where appropriate, first-aid instructions are also included in the precautionary statement.

Take advantage of all information on labels to get the best and safest use from cleaning products.

Stain Removal Products and Supplies

Stain removal products usually can be found in supermarkets, general merchandise or drug stores, and hardware centers. Because the successful removal of many stains depends on prompt treatment, it is advisable to keep supplies on hand. Contrary to some claims, there is no such thing as an all-purpose stain remover. The proper stain removal product to use is determined by the type of stain being treated.

Note: No endorsement of companies or products mentioned is intended, nor is criticism of companies or products not mentioned implied.

Washing Products

- **Light duty, pH-neutral:** Orvus, Synthrapol. Available at fabric stores that cater to quilters and by mail order.
- **Hand dishwashing liquid:** Dawn, Dove, Ivory, Lux, Palmolive.
- **All-purpose, laundry:** Tide, Bold, Cheer, All, Era.
- **Soap** (use in soft water only): Fels Naphtha.

Bleach

- **Hydrogen peroxide:** Clorox 2, Vivid. Use laundry product or a 3 percent solution of hydrogen peroxide sold as a mild antiseptic. Do not use the stronger solution sold for bleaching hair. Hydrogen peroxide is safe for all fibers, but test for colorfastness on dyed fabrics. Thorough rinsing is needed to remove bleach from fabrics.
- **All-fabric** (oxygen or sodium perborate): Biz, Snowy. Check for colorfastness before using by following product directions for testing. Apply the test to a hidden area of the garment. If there is a color change, do not use the all-fabric bleach.
- **Chlorine, liquid** (sodium hypochlorite): Clorox, Purex. Chlorine bleach is more effective than oxygen bleach but might damage some fibers, dyes, and finishes. Check garment care label. Check for colorfastness before using by following product directions for testing. Apply the test to a hidden area of the garment. If the color changes, do not use chlorine bleach. Refer to all-fabric bleach procedures. Note: Chlorine bleach can react with rust in hard water and turn clothes pink. If the water turns red or brown, it contains excessive iron and you should use only oxygen bleaches.
CAUTION: Read precautionary statement on label.

Pretreatment Products

Pretreatment products contain soil removers that penetrate stubborn stains and suspend them in the washwater so they can be flushed away. Some pretreatment products also have enzymes that break down protein stains, such as blood

and grass. They are available in several formulations. Apply all liquids (including aerosols) just before washing, and leave on a minute or two. Do not let the fabric dry out. Launder items immediately after treatment.

- **Aerosol sprays:** Shout, Spray'n Wash, Magic PreWash. For use on all stains. Especially effective on grease-based stains.
- **Pump-type liquid:** Shout, Spray'n Wash. May be used on all stains but less effective on grease-based stains than aerosol products because solvents can only be packaged in cans.
- **Sticks:** Magic Wand, Shout, Spray'n Wash. For use on all stains. Washing of treated items may be delayed several days if necessary.

Other Useful Chemicals

Note: Always read and follow directions of any product carefully before using.

- **Alcohol** (rubbing, denatured, or isopropyl; 70 percent or 90 percent concentration with no added color or fragrance): Note: Alcohol fades some dyes so check for colorfastness. When working with acetate, dilute the alcohol with two parts water to one part alcohol.
- **Ammonia** (without added color or fragrance): Note: Ammonia changes the color of some dyes. Test on fabric before using. If color changes, rinse the area with water, apply a few drops of white vinegar, and rinse with water again. This sometimes restores the original color. To use on silk or wool, dilute with equal parts of water.
- **Color removers** (contain sodium hydrosulfite): RIT Color Remover, Tintex. These are often found in displays of home dyes and tints. RIT Color Remover removes dye stains from whites washed by mistake with colored items and helps remove brown iron rust stains on white fabric washed in hard mineral waters.
- **Color retention:** Dylon Color Shield. Prevents fading and color runs. It is used to set colors on non-colorfast cottons and cotton/polyester. Available at stores and from some mail-order notions companies. Retayne (organic cationic dye-fixing agent) is a product to improve washfastness of commercially dyed fabrics that have a tendency to bleed when washed (usually direct dyed cottons). It may also be used as an after treatment for reactive dyes where washing facilities are not adequate for maximum fastness. For best results, treat fabric with Retayne *before* washing it the first time. Available from some dye suppliers listed in fiber-related magazines.
- **Color run remover:** Dylon Run Away (sodium hydrosulfite, sodium carbonate), RIT Color Remover, Synthrapol. Synthrapol is described by the manufacturer as a mild detergent manufactured specifically for removing excess dye. When dyeing, not all of the dye reacts with the fiber being dyed. Excess dye can be removed by rinsing the fiber as thoroughly as possible with a small amount of Synthrapol. Synthrapol suspends the dye and carries it from the fiber, preventing the dye from staining the fiber during the washing phase. Available at stores that cater to quilters and through dye suppliers.

- **Color whitener:** RIT Fabric Whitener & Brightener. Cleans and whitens white fabrics and brightens colors. RIT White-Wash (sodium hydrosulfite and sodium carbonate anhydrous) removes or lightens stains and whitens non-bleachable white fabrics. RoVer Rust Remover also can be used to whiten fabrics. Follow package instructions.
- **Dry-cleaning fluid** (petroleum solvent, petroleum hydrocarbon, petroleum distillate, perchloroethylene, trichloroethane, naphtha): Carbona, Energine, Goddard's. Buy products labeled "fireproof" if possible. Note: Perchloroethylene and trichloroethane are being phased out and have been removed from most, but not all, products because of environmental concerns. All of these products are extremely toxic. CAUTION: Read and follow precautionary statements carefully before using.
- **Enzyme presoak products** (amylase, protease, lipase): Axion, Biz, Snowy. Note: These products are bleaches with enzymes in them. Do not use on silk or wool since enzymes digest protein. They are most effective in warm to hot water. Clothes should be allowed to soak 15 to 30 minutes. To preserve the strength of the presoaks, do not mix them with water until you are ready to use, and do not combine them with chlorine bleaches.
- **Glycerine:** Glycerine is available in drug stores and is helpful in removing ballpoint ink.
- **Nail polish remover** (acetone): Note: Do not use on acetate, triacetate, or modacrylic as these fibers are adversely affected by acetone. Acetate fabric will dissolve. For other washable fabrics, use non-oily nail polish remover.
- **Rust removers** (hydrofluoric acid, oxalic acid): RoVer, Whink. Some rust removers can be used only on white fabrics. Read the label and directions before purchasing. Whink and RoVer remove rust stains from white and colored fabrics. Most rust removal products can be purchased in hardware, drug, and grocery stores. RoVer is available in 16-ounce containers and must be purchased from authorized Maytag dealers and parts distributors.
- **Waterless hand cleaners:** Goop. Waterless hand cleaners are especially effective on greasy stains. They were originally intended to remove grease from hands but are safe for most fabrics (test first). These cleaners are creamy lotions usually sold in tubs or small cans and can be purchased in hardware stores or automotive departments.
- **White vinegar** (acetic acid): Note: If the dye changes color after use, rinse well with water to remove vinegar and add a few drops of ammonia to the area to neutralize. Rinse with water. Do not use colored vinegar—it can leave a stain.

Classification of Stains

The system used here in classifying stains for removal from washable fabrics is not the only system. Other books or sources might suggest different methods. The purpose here is to describe at least one method that should give good results when you correctly use readily available consumer products or supplies.

This stain classification system starts with stains that require similar treatment and are easiest to remove if treated promptly and correctly. Stains that require two-step or special treatment are listed last. All stains are listed alphabetically in the index.

Protein Stains

Soak in cold water. Launder.

Baby food	Ice cream
Baby formula	Milk
Blood	Mucus
Cheese sauce	Mud
Cream	Pudding
Egg	Urine
Feces	Vomit
Gelatin	White glue, school paste
Grass	

Fresh protein stains can be removed by soaking and agitating in cold water before washing. These stains contain other ingredients besides protein, but the protein needs to be treated first. If hot water is used first, it cooks the protein and causes coagulation between the fibers in the yarns of the fabric, making the stain more difficult to remove. If protein stains are dried or old, scrape or brush off crusted matter (if any) then soak in cold water using a detergent or an enzyme presoak product.

After treating the stain, launder in warm (not hot) water, rinse, and inspect. If stain remains, soak an additional half hour then rewash. Bleach may be necessary if it is a strongly colored stain, such as a beet, strawberry gelatin, or ice cream stain.

Tannin Stains

Detergent wash in hot water.

Alcoholic beverages	Felt-tip watercolor pen or washable ink
Beer	
Berries (cranberries, raspberries, strawberries)	Fruit juice (apple, grape, orange)
Coffee	Soft drinks
Cologne	Tea
	Tomato juice

Fresh tannin stains are usually removed by laundering in detergent and hot water (as safe for fabric) without any special treatment. Old tannin stains may need bleaching for complete removal.

Oil-based Stains

Use heavy-duty detergent with hot water.

Automotive oil	Hair oil
Bacon fat	Hand lotion
Butter/margarine	Lard
Car door grease	Mayonnaise
Collar/cuff greasy rings	Salad dressing
Cooking fats and oils	Suntan oil or lotion
Face creams	

Oil stains can be removed by pretreatment with a heavy-duty liquid detergent, an aerosol petroleum-based solvent pretreat-

ment spray, or a pump-type detergent-based pretreatment spray. If these products are unavailable, mix a powdered detergent with water to make a runny paste and apply that to the stain.

Heavy-duty liquid detergents or aerosol sprays are more convenient and effective. Work the full-strength heavy-duty liquid detergent into the stain, or spray with the pretreatment product; then wash the garment using hot water (if safe for fabric) and the recommended amount of detergent for a regular laundry load. Rinse, and inspect before drying. Repeat this treatment if removal is incomplete the first time.

Dye Stains

Detergent wash and bleach (as safe for fabric).

Cherry, blueberry	India ink
Color bleeding in wash (dye transfer)	Kool-Aid
Felt-tip pen (permanent ink—may not come out)	Mustard
	Tempera paint

Dye stains are very *difficult* to remove. Pretreat the stain with a heavy-duty liquid detergent; then rinse thoroughly. If the stain persists, launder again using chlorine bleach (if safe for fabric). For garments that cannot be chlorine bleached, soak in oxygen bleach then launder.

Attempt restoration of white fabrics that have picked up color from other fabrics by using a color remover.

Combination Stains

Combination stains contain a variety of ingredients, but these stains usually have an oily/waxy component and a dye or pigment component. Two-step treatment: Remove oily/waxy portion; then remove dye portion using bleach (as safe for fabric).

Step 1: Remove oily/waxy portion of stain.

(Procedure depends on whether stain is in Group A or B.)

Group A

Spray or spot-treat with dry-cleaning solvent; then rub with heavy-duty liquid detergent before washing.

Ball-point ink	Floor wax
Candle wax	Furniture polish
Carbon paper	Lipstick
Carbon typewriter ribbon	Pine resin
Crayon	Shoe polish
Eye makeup (mascara, pencil, liner, shadow)	Tar

Group B

Rub heavy-duty liquid detergent into stain before washing.

Barbecue sauce	Face makeup (powder, rouge, foundation)
Calamine lotion	
Catsup or tomato sauce	Gravy
Cocoa or chocolate	Hair spray

Step 2: Remove dye portion of stain.

Start with an all-fabric bleach because it is less damaging to colors and fabrics. Use liquid chlorine bleaches for tough dye stains, if fabrics are colorfast to bleach.

Since the appropriate removal method varies with the stain, start by using the least destructive stain removal methods first. If the whole garment can be submerged, start by soaking the garment in cold water (as for protein stains). If not, use warm water and spot treatment technique. Next, use liquid detergent and lukewarm or hot water, rinse, and let air dry (as for oil stains). If the stain persists, use a pretreatment spray or solvent (as for combination stain) and all-fabric bleach. If the all-fabric bleach is ineffective on the stain and the garment is colorfast or white, finally try a dilute solution of liquid chlorine bleach. If you suspect the stain is iron rust, treat with rust remover. Do not use chlorine bleach as it can make rust stains more obvious.

Unidentifiable Stains

Always use the least destructive stain removal method first. Start by soaking the garment in cold water (as for protein stains). Next, use liquid detergent and lukewarm or hot water, rinse, and let air dry. If you suspect the stain is rust, use rust remover before bleach. If the stain persists, use a pretreatment spray or solvent and all-fabric bleach. If that does not work and the garment is colorfast or white, try using dilute chlorine bleach following package guidelines.

Stains Needing Special Treatment Methods

- **Adhesive tape, chewing gum:** Apply ice to harden surface; scrape off excess. Saturate with pretreatment aerosol product or cleaning fluid. Rinse; then launder.
- **Diesel fuel odor/stain:** Dry cleaning will remove and is the best choice. To launder, pretreat items with a prewash product that contains petroleum solvent, such as Shout.
- **Deodorants, antiperspirants:** Light stain—pretreat with liquid laundry detergent; launder. Heavy stain—pretreat with prewash stain remover. Allow to stand for five to 10 minutes. Launder using an oxygen bleach. Build-up of aluminum or zinc salts may be impossible to remove.
- **Fingernail polish:** *Do not use nail polish remover (or acetone) on acetate, triacetate, or modacrylic fabrics as these fibers are adversely affected by acetone. Acetate fabric will dissolve. Take these fabrics to professional dry cleaners and point out the stain.* For other fabrics, use non-oily nail polish remover and the spot treatment method.
- **Ink:** Some inks in each of the following categories—ballpoint, felt tip, liquid—may be impossible to remove. Laundering might set some types of ink. Pretreat using one of the following methods:
 - Pretreat using prewash stain remover; then launder, or
 - Use denatured alcohol or cleaning fluid. Sponge the area around the stain with the alcohol or cleaning fluid before applying it directly on the stain. Spot treat from the wrong side of the fabric, applying alcohol or cleaning fluid to the back of the stain. Replace paper towels frequently. Rinse thoroughly and launder.
- **Kerosene odor/stain:** See diesel fuel.
- **Lead pencil:** Use art gum eraser to lift off excess; avoid hard rubbing. Spray with pretreatment aerosol product; launder.

- **Mildew:** Shake or brush item outdoors. Pretreat darkest stains with heavy-duty liquid detergent. Launder in hot water with a heavy-duty detergent and chlorine bleach (if safe for fabric). Or, soak in oxygen bleach and hot water; then launder.
- **Odor:** Most odors are removed by one or more launderings. Use a detergent formulated to remove odors, a liquid detergent, or a powdered detergent and liquid chlorine bleach (if safe for fabric). See smoke/soot. For persistent odor problems, place activated charcoal or baking soda in an open container and store with clothes in closet.
- **Paint—water-based:** Rinse fabric in warm water while stains are still wet; launder. Once paint has dried, it cannot be removed.
- **Paint—oil-based and varnish:** Use thinner recommended on the label. If label is not available, use turpentine. Rinse. Pretreat with prewash stain remover, bar soap, or laundry detergent; launder.
- **Perspiration:** Use a prewash stain remover, or rub with bar soap. If perspiration has changed the color of the fabric, apply ammonia to fresh stains or white vinegar to old stains; rinse. Launder, using hottest water safe for fabric. Stubborn stains might respond to washing in an enzyme-containing product or oxygen bleach in hottest water safe for fabric.
- **Rust:** Rust stains cannot be removed in normal laundering. Use of chlorine bleach makes them permanent. Use a rust remover recommended for fabrics; launder.
- **Smoke/soot:** Use a liquid laundry detergent, if possible. Otherwise, use a powdered laundry detergent and liquid chlorine bleach (if safe for fabric). Use normal cycle with warm wash and warm rinse. Keep the load small so fabrics have room to move easily in the water. Do not use a fabric softener until all odor has been removed as it will “mask” the odor. Repeat the washing three to five times until all smoke

odor is gone. Avoid drying the fabric between launderings if possible. If fabric must be dried, use no heat in the drier.

References/Resources on Stain Removal

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Classification of stains (chart) adapted from *Quick ’n Easy Stain Removal*, Iowa State University Cooperative Extension Service. Jan Stone, textiles and clothing specialist, author.

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