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Removing Stains from Washable Fabrics

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Most spots and stains can be removed by prompt attention and correct laundry procedures, but some will require extra treatment. The procedures recommended below will work in most cases, but methods may need to be repeated several times to be successful. The patience required for stain removal is rewarded by extending the life of your clothing and other textile products.

Guidelines for Removing Stains

● Know as much about the fabric as possible. Read the care label to determine safe procedures, and remember that the procedures described in this publication do not apply to fabrics labeled "dry clean". Fabrics labeled "dry clean" should be taken to the cleaner as soon as possible after being stained. Identify the fiber content and the type of stain for the cleaner. And remember that not all stains can be removed—by you or by the dry-cleaner.

- Heat sets stains. Do not dry a stained fabric in the dryer or press it until you are sure all of the stain has been removed.
- Treat stains quickly. Old stains may be impossible to remove.
- Old remedies, such as applying milk to ink stains, are unreliable. The remedy may produce an additional stain.
- Some stains (for example coffee, tea, and fruits) are set by alkalis such as ammonia; others (blood and vomit) are set by alcohol. Avoid using chemicals unless you are certain they will work on the stain you are treating.
- Never mix stain removers, especially ammonia and bleach. If more than one remover is needed, rinse thoroughly between the treatments.
- When in doubt, leave it to a professional dry-cleaner. Point out the location and the type of stain, if known.

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General Rules for Stain Removal

- Treat stains as soon as possible.
- Work on a clean, well-lighted surface in a well-ventilated area.
- Blot or scrape excess liquid or solid matter from the surface without damaging the fabric. An absorbent material such as talc or cornstarch may be used to absorb much of the stain. Brush the absorbent off before continuing with the stain removal process.
- Read and follow package directions for any product used.
- Always test each stain remover on a sample of the fabric (taken from a seam allowance, facing, etc.) or on a hidden part of the garment before using. For testing, apply the amount of product recommended on the package. Let stand two to five minutes, then rinse. If color or texture is affected, do not use this product to treat the stain.
- When treating a spot, place it face down on white paper towels or a soft, clean, white cloth pad. Apply stain remover to the wrong side of the stain so that the stain will be forced off the surface and not through the fabric. An eyedropper is useful for applying removers. Replace the towels or cloth pad frequently to prevent the stain from transferring back onto the fabric.
- Sponge by applying stain remover sparingly to the underside of the fabric by dabbing with a clean, soft, lintless cloth.
- Tamp (lightly tap) the fabric with a soft brush to loosen the stain if the fabric is not damaged by tamping. Do not rub as this may roughen the fabric, damage the fibers or remove color through abrasion. Test the brush in the remover before using it to make sure bristles do not dissolve and color from the brush handle does not bleed.
- Feather the edges of the treated area to prevent the formation of a ring. Use small amounts of remover with quick light strokes.
- Flush the stain away by adding remover slowly to the spot from the wrong side of the fabric.
- When using any bleach, do not try to bleach just a spot on a colored garment. Bleach the whole garment to prevent uneven color removal.
- Always launder with a detergent after stain removal treatment to remove the stain remover as well as any remaining trace of the stain.

Classification of Stains and Removal Methods

Stains may be classified in several ways. The most common classification is the wet/dry system, which refers to whether the stain is dissolved with a water-based or "wet" solution, or a non-water-based or "dry" solution. This system has four stain categories:

- a. Dry type - stains that do not contain and are not dissolved with water. (Examples: oil, butter, wax)
- b. Wet type - stains that contain water and are removed with water. (Examples: soft drinks, tea, gelatin) Wet type stains are subdivided into groups that contain similar ingredients and require similar treatment for removal: tannin, protein and dye.
- c. Combination wet and dry types and unknown stains. (Examples: chocolate, gravy, lipstick) Combination type stains also are subdivided into the groups protein and dye.
- d. Special stains needing unique treatment because of chemical make-up or physical characteristics. (Examples: chewing gum, iodine, lead pencil)

Stain Removal Products

Bleaches

Chlorine bleaches contain a hypochlorite compound. Do not use them on wool, silk, polyurethane foam, spandex or blends of these fibers; on finishes which are embossed or flame retardant; or on fabrics labeled no chlorine bleach. Avoid contact with metal. Always follow package instructions for dilution. Liquid chlorine bleaches lose strength during storage. If your bleach is more than six months old, it may need to be replaced with fresh bleach. (*Examples: Clorox, Purex, White Magic*)

To test for Colorfastness to liquid chlorine bleaches, mix 1 tablespoon of bleach with ¼ cup of water. Use an eyedropper to put 1 drop of the solution on a hidden area. Let it stand for 2 minutes, then blot dry. If there is no color change it is safe to use.

Color removers are safe for all fabrics but will remove most dyes. Avoid contact with metal. Use when bleaches are not effective and you are willing to redye the article. (*Rit, Tintex*)

Lemon juice may damage fabric texture or color.

Oxygen bleaches are usually safe for all fabrics and colors. Do not use on fabrics with flame retardant finishes. Powdered bleach packages have directions for doing colorfastness tests. (*Snowy, Clorox 2*)

Rust removers (oxalic acid) may change the color of some dyes (*Rit, Whink, RoVer*). Avoid contact with the skin. Do not use rust removers containing hydrofluoric acid because they are extremely toxic and can burn the skin.

Laundry Products

Detergents come in liquid, bar and granular form. Colored detergents can stain fabrics and soaps may make some stains more difficult to remove. Check labels for contents. All granular detergents should be made into a paste with water for pretreating a stain. Some laundry detergents are heavy duty (*Yes, Wisk, Dynamo*), while others are all purpose (*Tide, All, Cheer*).

Enzyme products aid in removing protein stains such as blood and meat broth, ground-in dirt, grass stains and perspiration, and in restoring whiteness. (*Axion, Biz*)

Prewash products are available in aerosol sprays, liquids and sticks. Aerosol and pump sprays are the most common. Aerosol prewash products frequently contain a petroleum distillate that is similar to dry-cleaning fluid. (*Clorox Prewash, Spray'n Wash, Shout*) Pump-type sprays of the same brands are generally detergent based.

Soaps should not be used for stain removal unless specified in the method because they may make some stains more difficult to remove. Soaps come in granular form and may be mixed with detergents in some products. Read labels before using granular products. Soaps also are available in bar form, as are detergents. Products containing soap usually say so on the label. (*Ivory Snow, Pure and Natural, Ivory*)

Solvents for Nongreasy Stains

Ammonia may change the color of some dyes and make some stains impossible to remove. Moistening with white vinegar may or may not restore color. Use nonsudsy household ammonia. Ammonia is poisonous and should be handled with care. (*Ajax, Bo Peep, Top Job*)

Nail polish remover containing acetone is not safe for acetate, triacetate and modacrylic fabrics. Test nail polish remover that does not contain acetone on fabrics before using it.

Water is the most effective solvent for nongreasy stains. It also is used to dissolve or dilute other products.

Wet spotter is prepared by mixing one part glycerin (sold at drug stores), one part liquid detergent and eight parts water. Store in a squeeze bottle and shake before use.

White vinegar may change the color of some dyes. Moistening with ammonia may or may not restore color.

Solvents for Greasy Stains

Dry cleaning fluid may change the color of some dyes. (*Energine, Carbona* and some aerosol prewash sprays such as *Shout, Spray'n Wash, Clorox Prewash*) Look for these ingredients: perchloroethylene, trichloroethylene, petroleum solvents or petroleum distillates.

Dry spotter is prepared by mixing one part mineral oil with eight parts dry-cleaning fluid. Store in a tightly capped glass bottle. Shake before use.

Commercial stain removers for greasy stains are also available. (*K-2R Spot Remover*)

Note: Never use carbon tetrachloride, gasoline or lighter fluid as a solvent because of the *extreme danger* involved.

Common Stains

Find the name of the stain you wish to remove and refer to the method and page number listed beside it. When more than one method and page number are given, use the methods in the order they appear. It may not be necessary to use all the methods, so stop as soon as the stain has been removed.

Stain	Page Numbers
Acne medicine	
Special	9
Adhesive tape	
Special	9
Alcoholic beverages	
Wet	8
Tannin	8
Asphalt	
Combination	8
Dye	8
Automotive oil	
Dry	8
Oil	8
Baby formula	
Wet	8
Protein	8
Ball point pen ink	
Combination	8
Dye	8
Barbecue sauce	
Combination	8
Dye	8
Beer	
Wet	8
Tannin	8
Benzoil peroxide	
Special	9
Blood	
Wet	8
Protein	8

Stain	Page Numbers
Blueberry	
Wet	8
Dye	8
Butter	
Dry	8
Oil	8
Calamine lotion	
Combination	8
Dye	8
Candle wax	
Combination	8
Dye	8
Candy (non-chocolate)	
Wet	8
Dye	8
Carbon paper	
Combination	8
Dye	8
Catsup	
Combination	8
Dye	8
Cheese	
Combination	8
Protein	8
Chewing gum	
Special	9
Chocolate	
Combination	8
Dye	8

Stain **Page Numbers**

Cocoa	
Combination	8
Dye	8
Coffee	
Wet	8
Tannin	8
Collar/cuff soil	
Dry	8
Oil	8
Cologne	
Wet	8
Tannin	8
Color bleeding	
Wet	8
Dye	8
Cranberry	
Wet	8
Tannin	8
Crayon	
Combination	8
Dye	8
Cream	
Combination	8
Protein	8
Deodorant	
Special	9
Dye transfer	
Wet	8
Dye	8
Egg	
Combination	8
Protein	8
Eye make-up	
Combination	8
Dye	8
Fabric softener	
Special	9
Face make-up	
Combination	8
Dye	8
Face powder	
Combination	8
Dye	8

Stain **Page Numbers**

Feces	
Wet	8
Protein	8
Felt tip permanent marker	
Wet	8
Dye	8
Felt tip water color marker	
Wet	8
Tannin	8
Fingernail polish	
Special	9
Fruits and fruit juices	
Wet	8
Tannin	8
Furniture polish	
Combination	8
Dye	8
Gelatin	
Wet	8
Protein	8
Grass	
Wet	8
Dye	8
Gravy	
Combination	8
Dye	8
Grease	
Dry	8
Oil	8
Hair spray	
Combination	8
Dye	8
Hand lotion	
Dry	8
Oil	8
Ice cream	
Combination	8
Protein	8
India ink	
Wet	8
Dye	8

Stain	Page Numbers
Ink, permanent	
Wet	8
Dye	8
Ink, washable	
Wet	8
Tannin	8
Iodine	
Special	9
Juices and juice drinks	
Wet	8
Tannin	8
Dye	8
Kool-Aid	
Wet	8
Dye	8
Lead pencil	
Special	9
Lipstick	
Combination	8
Dye	8
Livestock paint	
Combination	8
Dye	8
Mayonnaise	
Dry	8
Oil	8
Meat broth	
Wet	8
Protein	8
Mercurochrome	
Wet	8
Dye	8
Mildew	
Special	9
Milk	
Combination	8
Protein	8
Mud	
Wet	8
Protein	8
Mustard	
Wet	8
Dye	8

Stain	Page Numbers
Odors	
Special	9
Oil (all types)	
Dry	8
Oil	8
Paint, latex	
Special	9
Paint, oil	
Special	10
Paraffin	
Dry	8
Oil	8
Perfumes	
Wet	8
Tannin	8
Perspiration	
Special	10
Pine resin	
Combination	8
Dye	8
Pudding	
Wet	8
Protein	8
Raspberry	
Wet	8
Tannin	8
Ring-around-the-collar	
Dry	8
Oil	8
Rubber cement	
Special	10
Rust	
Special	10
Salad dressing	
Combination	8
Dye	8
School paste	
Wet	8
Protein	8
Scorch	
Special	10

Stain	Page Numbers
Shoe polish	
Combination	8
Dye	8
Skunk odor	
Special	10
Smoke	
Special	10
Soft drinks	
Wet	8
Tannin	8
Soot	
Special	10
Strawberry	
Wet	8
Tannin	8
Tar	
Combination	8
Dye	8
Tea	
Wet	8
Tannin	8
Tempera paint	
Wet	8
Dye	8
Tomato juice	
Wet	8
Tannin	8
Tomato paste	
Combination	8
Dye	8
Typewriter correction fluid	
Special	10

Stain	Page Numbers
Urine	
Special	10
Vegetables	
Wet	8
Vomit	
Wet	8
Protein	8
Wax	
Dry	8
Oil	8
White glue	
Wet	8
Protein	8
Wine	
Wet	8
Tannin	8
Yellowing	
Special	10

Stain Removal Methods

The general methods for stain removal given below will remove almost all stains when they are fresh. If traces of stain remain after using the general method given below, refer to the second page number listed by the name of the stain for additional instructions. Stain removal methods are given in order from the most gentle to the most harsh, so always stop treatments as soon as the stain has been removed.

Dry Type Stains

Dissolve the stain with a grease solvent. Lubricate the stain with dry spotter, coconut oil or mineral oil (sold in health food or drugstores) to penetrate and loosen the stain; sponge or tamp. Flush with grease solvent. Repeat until no more stain is removed.

Wet Type Stains

Dissolve the stain with cool water. Lubricate the stain with detergent solution or wet spotter to penetrate and loosen the stain; sponge or tamp. Flush with cool water. Repeat until no more stain is removed.

Combination Wet and Dry Type and Unknown Stains

Treat as a dry type stain first. Dry fabric without heat and then treat as a wet type stain.

Oil-based Stains

After completing the steps in Dry Type Stains, let fabric dry without heat. Then work full strength heavy-duty liquid detergent into the stain or spray with a prewash product. Wash the article using hottest water safe for the fabric and the recommended amount of detergent. Inspect before drying. Repeat this treatment if traces of stain remain. If the stain persists, and the item is white or colorfast, soak for 15 minutes in a dilute solution of chlorine bleach.

Protein Stains

After completing the steps in Wet Type Stains, if traces of stain remain, soak in an enzyme solution, following package directions. Rewash and inspect. If the stain persists, re launder using recommended amounts of detergent and bleach appropriate for the fabric.

Tannin Stains

After completing the steps in Wet Type Stains, if traces of stain remain, work full-strength liquid detergent into the stain. Wash using hottest water safe for the fabric and the recommended amount of detergent. Inspect before drying. If stain persists, re launder using recommended amounts of detergent and bleach appropriate for the fabric.

Dye Stains

Dye stains are very difficult to remove. After completing the steps in Wet Type Stains, apply heavy-duty liquid detergent and launder using warm water and the recommended amount of detergent. Inspect before drying and if any stain remains, apply wet spotter and a few drops of ammonia and sponge or tamp. Flush with wet spotter. Repeat until no more stain is removed. If the stain remains, soak in a dilute solution of all-fabric bleach if safe for the fabric. If the stain persists, and the garment is white or colorfast, soak for 15 minutes in a dilute solution of chlorine bleach and water. If stain remains, it can be removed only with color remover, which will remove all color from the fabric.

Special Stains

Acne medicine. Rusty, yellowish stains caused by acne medicine are bleached spots caused by benzoil peroxide. They cannot be removed. Benzoil peroxide is very insoluble and hard to rinse off the body. To prevent damage when products containing benzoil peroxide are used, white collars and white household textiles are the best choice.

Adhesive tape. Apply ice to harden the sticky residue. Crack or scrape off excess. Then use procedures for Dry Type Stains. If traces of stain remain use the procedures for Dye Stains.

Benzoil peroxide. See *acne medicine*.

Chewing gum. See *adhesive tape*.

Deodorant. Apply liquid detergent to stains. Launder in warm water using recommended amount of detergent. Residues of aluminum or zinc salts may be impossible to remove.

Fabric softener. Work soap or detergent into spots and launder using warm water and recommended amount of detergent. Do **not** use fabric softener during laundering. Inspect before drying. If traces of stain remain soak in a solution of bleach and water, using bleach that is safe for the fabric. Relaunder. Avoid using dryer-added fabric softeners with these fabrics.

Fingernail polish. Test nail polish removers that do not contain acetone on all fabrics before use. Use acetone or acetone-based nail polish remover on all washable fabrics unless they contain acetate, triacetate or modacrylic fibers. Take these fabrics to the dry cleaner and identify the stain. To remove stain, apply nail polish remover and sponge or tamp. Flush with additional remover. Repeat until no more stain is removed. Launder according to the care label instructions.

Iodine. Sodium thiosulfate, available from photo supply stores as "acid fixer" or "photofixer", removes iodine quickly. If the "fixer" contains other chemicals in addition to sodium thiosulfate, do not use it. Make a solution and apply to the stain, then sponge or tamp. Flush with additional solution. Repeat until no more stain is removed.

Lead pencil. Use art gum eraser to lift off excess. Do not rub hard. Spray with prewash product or apply heavy-duty liquid detergent and launder using warm water and recommended amount of detergent.

Mildew. Shake or brush item outdoors to remove excess. Work heavy-duty liquid detergent into spots, then launder in hottest water safe for fabric using recommended amounts of detergent and bleach safe for the fabric. If traces of stain remain, repeat laundering procedure. Mildew is difficult to remove and may require several launderings.

Odors. Most odors are removed by laundering in warm water using adequate detergent. If odors persist, soak articles in a solution of baking soda and water, then relaunder. Storing clothing and other textile products in closets with open containers of calcium carbonate crystals, activated charcoal or soda may help. Baking soda may be sprinkled on dry fabrics and left for several hours. Then vacuum or shake off.

Paint, latex. While paint is still wet, soak fabric in cold water. Then wash in cool water with recommended amount of detergent. If paint has dried it will be very difficult to remove. Treat as a combination stain or use a commercial product for removing paint from fabric.

Paint, oil. While the paint is still wet, treat the spots with the solvent recommended for thinning the paint. If you are unsure of which solvent to use, turpentine or alcohol may work. Sponge or tamp and flush with more thinner. Repeat until no more stain is being removed. Rinse solvent out with hot water and launder in hottest water safe for the fabric using the recommended amount of detergent.

Perspiration. Work liquid detergent into stain or soak in warm water with enzyme product 20 to 30 minutes. Launder in hottest water safe for the fabric using the recommended amount of detergent. If fabric is discolored, try to restore it with ammonia if the stains are fresh, or with white vinegar if the stains are old. Rinse and relaunder.

Rubber cement. See *adhesive tape*.

Rust. Use commercial rust remover on white and colorfast fabrics. Test fabrics to be sure they do not change color before using. Chlorine bleach will make rust stains permanent. Lemon juice and salt may be effective. Sprinkle salt on the stain, squeeze lemon juice on it and spread the fabric in the sun to dry. Remember that lemon juice and sunlight can both bleach colors. Sunlight also may turn some white fabrics yellow.

Scorch. Launder in warm or hot water using recommended amount of detergent. If traces of stain remain, relaunder using recommended amounts of detergent and oxygen bleach, if safe for the fabric. Scorched areas will be permanently weakened. Synthetics or synthetic blends that are scorched will be melted or glazed and cannot be restored.

Skunk odor. See *odors*. Commercial products for removing skunk odor are available from some farm and ranch supply stores.

Smoke. Launder in the regular cycle in warm wash and warm rinse. Use the recommended amount of heavy-duty liquid or phosphate-built laundry detergent and bleach safe for the fabric. Be aware that bleach may cause some fading or damage to the fabric. Keep loads small so fabrics have room to move easily. Air dry and inspect. Repeat as necessary. From three to five launderings may be necessary for cotton and cotton-blend fabrics.

Soot. See *smoke*.

Typewriter correction fluid. Apply thinner recommended on the bottle. Test before using. Sponge or tamp and flush with additional thinner. Repeat until no more stain is removed. Launder in hottest water safe for fabric using recommended amount of detergent. If the thinner cannot be used, take to drycleaner and identify the stain.

Urine. Soak in cool water then treat stain with liquid detergent. Launder in cool or warm water. Inspect before drying. If stain remains, soak in enzyme product and relaunder in warm water. For stains on fabrics that cannot be placed in washer, sponge with cool water and then sponge with detergent solution. Rinse by sponging with a solution of half white vinegar and half water. Let air dry. If odor remains, sprinkle with baking soda or calcium carbonate, let stand overnight and then vacuum.

Yellowing. Yellowing may be caused by using too little or too much detergent for proper cleaning or by using cold water for oily soil. Yellowing on silk, wool or spandex is often a result of fiber aging or use of chlorine bleach and is not removable. To correct yellowing on other fabrics, wash in hottest water safe for fabric using a cup of water conditioner instead of detergent. If discoloration persists, relaunder with water conditioner or with recommended amounts of detergent and bleach safe for the fabric. To prevent yellowing in the future, use the recommended amount of detergent and warm or hot wash cycles with cool rinse cycles.

Storing and Using Stain Removers Safely

Some stain removal products are flammable; others are toxic. Treat them all with care. Do not mix stain removal materials, especially ammonia and chlorine bleach or full strength liquid detergent and undiluted chlorine bleach. Mixtures produce toxic fumes. Read and heed all warnings.

Keep stain removal materials out of the reach of children. Keep them locked up if necessary. Store stain removers in their original containers so you will have label directions to follow. Place closed containers in a cool dry place away from food products.

Do not get stain removal chemicals near your face. Wash any spilled removers off your skin and the work surface immediately. Do not breathe any more solvent than necessary and work in a well ventilated area. Do not use solvents near an open flame or electrical outlet.

Do not add solvents directly to the washer or dryer. Launder or rinse out the solvent, or be absolutely sure that all of the solvent has evaporated from the fabric before putting it into a laundry appliance. Empty and wash all utensils and containers used for stain removal immediately after using them.

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Stain Removers Safely

Stain removers are powerful products that can remove most stains from fabrics. However, they can be harmful if used incorrectly. Always read the label carefully and follow the directions. Do not use on delicate fabrics or silk. Test on a small area first. Keep out of reach of children. Do not use on electrical outlets.

Do not add solvents directly to the washer or dryer. Launder or rinse on the solvent or be sure that all of the solvent has evaporated from the fabric before putting it into a laundry appliance. Do not use on electrical outlets.

Do not use on delicate fabrics or silk. Test on a small area first. Keep out of reach of children. Do not use on electrical outlets.

Always use the solvent in a well-ventilated area. Do not use in a confined space. Do not use on electrical outlets.

Do not use on delicate fabrics or silk. Test on a small area first. Keep out of reach of children. Do not use on electrical outlets.

Rubber cement. See *adhesive tape*.

Do not use on delicate fabrics or silk. Test on a small area first. Keep out of reach of children. Do not use on electrical outlets.

Search. Laundry is made with water.

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement is implied by the Cooperative Extension Service.

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