



## **Removing Stains at Home**

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Many stains can be removed from clothing and household furnishings, increasing their quality and prolonging their useful life. A stain is a chemical reaction between the staining agent and the fibers and finishes of a fabric. There is no single product or method for removing all stains, because the chemical makeup of each stain and agent is unique.

These directions have been tested in a Cornell University laboratory. If followed, the chance of removing the stain is very good. "Old" stains are more difficult to remove than "fresh" ones, and some staining agents are so strong that they will not react to any efforts to remove them.

Some commercial stain removal products have been developed that are based on the chemistry these methods use. If you choose to purchase a product other than those referred to in this publication, be sure that the product indicates it will remove the particular stain you have. Remember, there is no single product capable of removing all stains.

To use these directions, look up individual staining agents. The list indicates whether the stain can be removed and, if so, whether there are specific directions or general directions (indicated by a number).

For combination stains (such as coffee with cream) always treat the greasy or oily component first. Remember that many products contain artificial color, so treat for food or fabric coloring as well. (Example: cough syrup plus red food coloring directions.)

All removal chemicals, materials, and directions are included in this publication. Be sure to read and follow all precautions and directions before attempting to remove any stain.

#### **Sources:**

Wentz, M., A. C. Lloyd, and A. Watt. 1975. Experimental Removal of Stains, in *Textile Chemist and Colorist*, vol. 7, no. 10, p. 30/179-34/183.

White, Vivian, circa 1976. *Home Methods of Stain Removal*. Revised by Judy L. Price, Cornell Cooperative Extension, Monroe County, and Ann T. Lemley, Dept. of Textiles and Apparel, Cornell University, 2002.

#### **References:**

Eastman Kodak Company and Cornell Cooperative Extension, Suffolk County

# Important Precautions

Read care labels on fabric.

Pre-test stain removal agents on an inconspicuous area of the article. Apply several drops of the agent (such as water, dry cleaning solvent, detergent solution, bleach, or other recommended remover) and rub gently with a clean white towel. If color transfers to the cloth or a color change occurs, a professional cleaner should be consulted.

Use solvents in a well-ventilated room where there is no chance of electrical sparks from refrigerators, fans, etc. Do not smoke. Do not use solvents near an open flame or pilot light. Avoid spilling solvents on skin or clothes. Wash off immediately if this happens.

Do not use metal spoons or metal containers with bleaches.

Do not use chlorine bleach on wool, silk, or spandex.

Do not over-wet. Place absorbent pad under the stain. Use solvents sparingly. Blot frequently. Tamp stain with spoon or brush.

Do not rub or brush. Feather liquids unevenly in the area surrounding the stain to avoid a ring.

Be patient. Some stains respond slowly. Procedures may need to be repeated several times. All stains cannot be removed from every fabric because of differences in the age of the stain and the structure of materials, fibers, dyes, and finishes. Professional dry cleaners have skills and resources not available to the consumer.

Some stains require professional treatment.

# Supplies

## Solvents

Water—Use cool or lukewarm.

Detergent solution—Use mild liquid hand dishwashing detergent. Mix 1 teaspoon detergent with 1 cup of warm water.

Dry-cleaning solvent—Sold in drug stores, grocery stores, variety stores, hardware stores, and automobile service stations. Can use commercial dry spotter such as Carbona, Energine, K2R, or Goddards. *Do not use* gasoline, lighter fluid, or carbon tetrachloride (no longer available in New York State).

Paint, oil, and grease remover (POG)—Available in hardware stores.

Amyl acetate (banana oil)—Sold in drug stores. Use chemically pure amyl acetate. *Do not use* oil-type nail polish remover.

Rubbing or denatured alcohol—Sold in drug stores. *Do not use* alcohol with added color or fragrance.

## Lubricants for Waterborne Stains

Mild liquid hand dishwashing detergent—*Do not use* dishwashing machine detergent or strong built laundering detergents.

Commercial laundry pretreatment sprays

Glycerin—Sold in drug stores.

Detergent, pretreatment sprays, and glycerin are used to lubricate waterborne stains and are general-

ly followed by flushing or washing with water.

## Lubricants for Greasy Stains

Lard—Sold in grocery stores.

Mineral oil—Sold in drug stores.

Dry spotter—Make by mixing one (1) part coconut or mineral oil and eight (8) parts dry-cleaning solvent.

Lard, mineral oil, and dry spotter are used to lubricate greasy or tar stains and are followed by flushing with dry-cleaning solvent. *Do not use* unsaturated fats or oils as lubricants. If not completely removed, they will age and form yellow stains.

## Acids and Alkalis

Household ammonia solution—*Do not use* ammonia with added color or fragrance. Mix 1 tablespoon of ammonia with 1/2 cup of water, or add ammonia to detergent solution.

White vinegar solution—May be diluted. Add 2/3 cup of water to 1/3 cup of vinegar, or add vinegar to detergent solution.

## Bleaches

Hydrogen peroxide—Use 3% solution sold as a mild antiseptic in drug stores. *Do not use* the stronger solution sold in cosmetic departments for bleaching hair.

Sodium perborate—Found in many “all fabric” bleaches; read the label. May be substituted for

hydrogen peroxide. Requires more time, higher temperature, and more thorough rinsing.

Chlorine bleach—Used for local applications applied with medicine dropper. Mix 1 teaspoon of bleach with 1 tablespoon of water. *Do not* leave chlorine bleach solution in contact with fabric for more than 2 minutes. Flush with water after each application, then with vinegar solution. *Do not use* chlorine bleach on wool, silk, or spandex. For soaking or laundering, follow directions on the container.

Color remover—Sold in drug stores, grocery stores, and variety stores, usually in a display of home tints and dyes. Use as described on package.

## **Enzyme Products**

Enzyme presoak—Examples are Biz and Axion.

Enzyme-containing laundry detergent—Present in many liquid detergents. Look on the label for the words “enzyme” or “protein stain remover.” For localized treatment of stain, use 1/2 teaspoon enzyme product and 1/2 cup warm water. For presoak of entire article, follow directions on package.

## **Miscellaneous Chemicals**

Iodine—Use tincture of iodine, which can be purchased at a drug store.

Sodium thiosulfate—Use pure sodium thiosulfate or “fixer,” sold in drug stores and photo supply stores. Solution keeps for several months if

tightly capped. Sodium thiosulfate is used to remove iodine and chlorine bleach stains. Chlorine bleach stains cannot be removed from wool, silk, or spandex.

## **Absorbent Materials**

Absorbent cotton

White facial tissues

White paper towels

Soft white cloths

Sponges (test for damage by chemicals first)

# Stains

# is the procedure group

- are special directions

n no home directions

## Acids

Adhesive tape	1
Aftershave lotion	3
Airplane glue	4
Alcoholic beverages	5
Alkalis	
Antiperspirant	6
Asphalt	8
Automobile wax	1
Ballpoint pen ink	-
Bath oil	3
Battery acid	n
Beer	5
Berries	5
Black walnut	-
Blood	3
Bluing	7
Body discharge	3
Brass (metal)	n
Butter	8
Cake frosting	2
Calamine lotion	1
Candle wax	-
Candy (not chocolate)	6
Canola oil	8
Caramelized sugar	5
Carbon paper	4
Casein glue (such as Elmers)	5
Castor oil	8
Catsup	2

## Cement:

Contact	
Epoxy	
Household	
Rubber	
Cheese, cheese sauce	2
Chewing gum	8
Chili sauce	2
Chlorine (laundry, pool, etc.)	-
Chocolate	2
Clothing dye (see fabric dye)	
Cocoa	2
Coconut oil	8
Cod liver oil	8
Coffee (black)	5
Cologne (perfume)	-
Contact cement	4
Copper (metal)	n
Cordials	5
Corn oil	8
Corn remover	4
Corn syrup	5
Cough syrup	5
Crayon, wax or grease	1
Cream	
Dairy	2
Shaving	5
Cuticle oil	4
Cuticle remover	4
Deodorant	6
Dishwasher detergent (chlorine)	-
Dye (see fabric dye, food coloring, hair dye)	
Egg white	3
Egg yolk	2

Epoxy cement	n	Gravy	
Evergreen pitch	-	Grease	
Eyebrow pencil	1	Grease crayon	
Eye drops	3	Gum, chewing	
Eye liner	1	Hair dye	
Eye shadow	1	Red	
Fabric dye		Other colors	
Red	6	Hair spray	
Other colors	7	Hand lotion	
Face powder	1	Hide glue	
Fingernail hardener	4	Home permanent	
Fingernail polish	4	Household cement	
Fish glue	3	Ice cream	
Fish slime	3	Icing, cake	
Flavoring extracts (alcohol)	-	Ink	
Floor wax	1	Ballpoint pen	
Floor wax remover (alkalis)	-	Felt-tip marker (magic)	
Food coloring		India	
Red	6	Mimeograph	
Other colors	7	Stamp pad	
Flowers (grass)	-	Red	
Frosting, cake	2	Other colors	
Fruit, fruit juice	5	Typewriter ribbon	
Fruit preserves	5	Writing	
Furniture polish	1	Red	6
Furniture wax	1	Other colors	7
Gasoline	1	Insecticides	1
Gentian violet	7	Iodine	9
Glue		Jam	5
Airplane	4	Jelly	5
Casein (such as Elmer's)	5	Juice	
Contact cement	4	Fruit	5
Fish	3	Tomato, vegetable	5
Hide	3	Kerosene	1
Household cement	4	Ketchup	2
Plastic	4	Lacquer	4
Rubber cement	8	Lard	1
Super	-	Leaf (grass)	
Grass	-	Linseed oil	
		Lipstick	

Lotion		Oven cleaner (alkalis)	-
Aftershave	3	Paint	
Hand	1	Solvent base (oil paint)	1
Suntan	5	Watercolor	
Lubricating oil	1	Red	6
Makeup, liquid or pancake	1	Other colors	7
Maple syrup	5	Water emulsion (latex)	1
Margarine	1	Peanut oil	8
Mascara	1	Pencil	-
Mayonnaise	2	Penicillin	9
Meat juice	2	Perfume	-
Mercurochrome	6	Perspiration	6
Merthiolate	6	Photo developer fluid	9
Metal	n	Plastic glue	4
Mildew	-	Powder, face	1
Milk	2	Preserves, fruit	5
Mixed drinks	5	Pudding	2
Molasses	5	Putty	1
Mouthwash	3	Rouge	1
Mucus	3	Rubber cement	8
Mud	5	Rust	-
Mustard	-	Safflower oil	8
Nail polish	4	Salad dressing	2
Nose drops	1	Salve	1
Oil		Sap (evergreen pitch)	1
Bath	3	Sauces	2
Canola	8	Scorch	-
Castor	8	Shaving cream	5
Coconut	8	Shellac	-
Cod liver	8	Sherbet	3
Corn	8	Shoe polish	
Cuticle	4	White	-
Linseed	8	Other colors	1
Lubricating	1	Silver nitrate	9
Olive	8		
Peanut	8		
Safflower	8		
Soy bean	8		
Vegetable	8		
Ointment	1		
Olive oil	8		

Syrup		Vomit	
Chocolate	2	Walnut, black	
Corn	5	Wax	
Maple	5	Automobile	1
Smoke	1	Candle	-
Soft drinks (dark colored)	5	Floor	1
Solder, liquid	4	Furniture	1
Soot	1	Wax crayon	1
Soup		Whisky	5
Meat	3	White out	
Vegetable	2	Wine	
Soy bean oil	8	Writing ink	
Stamp pad ink		Red	6
Red	6	Other colors	7
Other colors	7		
Starch	3		
Sugar, caramelized	5		
Sun block	1		
Suntan lotion	1		
Super glue	-		
Tape, adhesive	1		
Tar	1		
Tarnish (metal)	n		
Tea	5		
Tobacco	5		
Tomato juice	5		
Toner (copy machine)	-		
Toothpaste	5		
Tree sap (evergreen pitch)	-		
Typewriter ribbon			
Carbon	4		
Ink	1		
Unknown stains	-		
Urine	6		
Varnish	4		
Vegetables	5		
Vegetable oil	8		
Vinegar, colored	5		

# Stains Unlikely to Be Removed

## Chemical Stains That Destroy or Change Dye

There are some stains that cannot be removed in spite of all the time and effort you spend treating them. The following list provides examples of stains where the dyes or fabrics have been permanently altered.

Acids—such as stomach acid, toilet bowl cleaners, tile grout cleaners, corn and callous removers, foot care preparations

Acne medications and skin creams—products containing benzoyl peroxide such as acne medications, fade or age creams, foot care preparations, pet shampoos

Strong alkalis—such as drain cleaners, oven cleaners

Bleaches—such as chlorine bleach, swimming pool chemicals, mildew stoppers

Dimethylsulfoxide—included in some arthritis medications

Disinfectants and germicides—some household cleaning products such as bathroom cleaners

Pesticides—such as Diazinon and Orthene

Plant foods and fertilizers

Old urine stains

Miscellaneous—epoxy cement, furniture stain, black walnut, some yellow dyes

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## Procedures

### Group 1 Hydrophobic (Fats, Oils, Waxes)

Follow these procedures for non-washable fabrics, testing all removers first on an inconspicuous area of the article. For washable fabrics, the same methods can be used for localized stain removal before laundering.

1. Sponge with dry-cleaning solvent.
2. Lubricate with mineral oil, lard, or dry spotter.
3. With absorbent pad, apply dry spotter or paint, oil, and grease

remover. Keep stain moist with spotter and blot occasionally with absorbent material. If fabric is strong enough, tamp with brush or spoon. Flush with dry-cleaning solvent. Repeat steps 2 and 3 until no more stain is removed. Allow to dry.

4. With medicine dropper, apply several drops of detergent solution and a few drops of ammonia. Work into stain. Continue as long as stain is being removed. Flush with water.
5. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not

use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

## **Group 2**

### **Food Containing Oils and Fats**

Follow these procedures for non-washable fabrics, testing all removers first on an inconspicuous area of the article. For washable fabrics, the same methods may be used for localized stain removal before laundering.

1. Sponge with dry-cleaning solvent. Keep absorbent pad underneath.
2. Lubricate with pad dampened with dry spotter. Keep stain moist, changing pad as it picks up stain, or lubricate with a small amount of mineral oil or lard. For stronger fabrics, tamp frequently with brush or spoon.
3. Flush with dry-cleaning solvent. Allow to dry.
4. With medicine dropper, apply mild detergent solution to which has been added a few drops of ammonia. For stronger fabrics, tamp with brush or spoon. Flush with water.
5. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine bleach on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove

excess chlorine, then flush with water. For chocolate stains, use hydrogen peroxide (3%) and add a drop or two of ammonia. Flush with water.

## **Group 3**

### **Protein and Starch**

Follow these procedures for non-washable articles, testing all removers first on an inconspicuous area of the article. For washable articles, the same methods may be used for localized stain removal before laundering.

1. Blot up as much stain as possible. Place pad underneath.
2. Keep another absorbent pad moist with enzyme product over stain for 30 minutes. For stronger fabrics, tamp with spoon or brush. Flush with water.
3. Flush with ammonia solution. Flush with water. Blot.
4. Flush with vinegar solution. Flush with water. Blot.
5. For blood stains not completely removed, bleach with hydrogen peroxide (3%) applied with medicine dropper. Add a drop of ammonia. Flush with water.

## **Group 4**

### **Plastics and Resins**

Follow these procedures for non-washable articles, testing all removers first on an inconspicuous area of the article. For washable articles, the same methods may be used for localized stain removal before laundering.

1. Place pad underneath. Sponge with dry-cleaning solvent.
2. Lubricate with pad dipped in dry

- spotter, lard, or mineral oil. On stronger fabrics, tamp with spoon or brush.
3. Flush with dry-cleaning solvent. Repeat steps 2 and 3 until no more stain is removed.
  4. Apply pad moistened in amyl acetate. Keep moist 15 minutes. Blot. occasionally. For stronger fabrics, tamp with spoon or brush. Flush with dry-cleaning solvent.
  5. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.
4. With absorbent pad, moisten with solution of enzyme product. Cover with pad soaked in enzyme solution. Let stand 30 minutes. Keep stain warm and moistened with solution. Flush with water.
  5. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

### **Group 5 Tannin and Glucose**

Follow these procedures for non-washable fabrics, testing all removers first on an inconspicuous area of the article. For washable fabrics, the same methods may be used for localized stain removal before laundering.

1. Sponge with water.
2. With absorbent pad, apply mild detergent solution and a few drops of vinegar. Cover with pad moist with this solution. For stronger fabrics, tamp occasionally with brush or spoon. Flush with water.
3. With absorbent pad, apply alcohol to stain. Cover with pad

soaked with alcohol. Change pad as it picks up stain.



### **Group 6 Water-Soluble Body Waste, Deodorants, Red Dyes**

Follow these procedures for non-washable fabrics, testing all removers first on an inconspicuous area of the article. For washable articles, the same methods may be used for localized stain removal before laundering.

1. Sponge with water.
2. With absorbent pad, apply mild detergent solution and a few drops of ammonia. Press stain every 5 minutes with clean pad moistened with solution. Flush with water.
3. With absorbent pad, apply detergent solution with a few drops of vinegar. Press stain every 5 minutes with clean pad moistened with solution. Flush with water.

4. With absorbent pad, apply alcohol. Let stand as long as stain is being removed. For stronger fabrics, tamp occasionally with spoon or brush. Flush with water.
5. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

### **Group 7 Inks, Dyes, Pigments**

Follow these procedures for non-washable fabrics, testing all removers first on an inconspicuous area of the article. For washable fabrics, the same methods may be used for localized stain removal before laundering.

1. Sponge with water.
2. With absorbent pad, apply solution of mild detergent and a few drops of vinegar. Let stand 30 minutes or more. Blot every 5 minutes with clean pad moistened with detergent and vinegar. Flush with water.
3. With absorbent pad, apply alcohol to stain. Cover with pad. Change pad as it picks up stain, pressing hard each time. Flush with alcohol. Allow to dry.
4. Sponge with water.
5. With absorbent pad, apply solution of mild detergent and a few drops of ammonia. Let stand 30

minutes. Blot every 5 minutes with clean pad moistened with detergent and ammonia. Flush with water. Dry.

6. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine bleach on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

### **Group 8 Asphalt, Oxidizing Oils, and Gums**

Follow these procedures for non-washable fabrics, testing all removers first on an inconspicuous area of the article. For washable fabrics, the same methods may be used for localized stain removal before laundering.

1. Place clean absorbent material under the stain. With absorbent pad, apply dry-cleaning solvent. Cover the stain with a pad moistened with solvent. Change pad as it picks up stain.
2. With absorbent pad, apply dry spotter. For stronger fabrics, remove pad ever 5 minutes and tamp stain with brush or spoon. Continue alternating soaking and tamping until stain is removed. An alternate method is to lubricate with lard or mineral oil. Tamp with brush or spoon. Flush with dry-cleaning solvent. Continue alternating lubrication and flushing. Allow to dry.

## **Group 9 Medicinal (Iodine, Silver Salts)**

Follow these procedures for non-washable fabrics, testing all removers first on an inconspicuous area of the article. For washable fabrics, the same methods may be used for localized stain removal before laundering.

1. For argyrol stain only, mix 1 tablespoon enzyme product with 1 quart warm water. Using absorbent pad wet stain with this solution. Allow to soak for 30 minutes, changing pad frequently. Flush with water and proceed to step 2. For other stains, sponge with water and proceed to step 2.
2. For all stains except iodine, add tincture of iodine with medicine dropper, just enough to cover stain.
3. With medicine dropper, wet stain with sodium thiosulfate solution (1 teaspoon to 1/2 cup water). Add a few drops of ammonia. Flush with water.

## **Special Stains**

### **Acids**

1. Sponge with water and ammonia.
2. Flush with water.
3. Repeat steps 1 and 2.

*Note:* Strong acids may cause permanent damage.

### **Alkalis**

1. Sponge with vinegar solution.
2. Flush with water.
3. Repeat steps 1 and 2.

*Note:* Strong alkalis may cause permanent damage.

### **Ballpoint Pen Ink**

1. Apply lukewarm glycerin. If fabric is strong enough, tamp with brush or spoon. Blot, pressing hard on stain. Keep stain moist with glycerin. Continue as long as stain is being removed. Flush with water.
2. Apply mild detergent solution with several drops of ammonia. Continue to tamp. Flush with water.
3. If stain remains, use chlorine bleach. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

## **Black Walnut**

1. Sponge with water.
2. With medicine dropper, apply detergent solution and a few drops of vinegar. Cover with absorbent pad dampened with detergent solution and vinegar. Let stand 5 minutes. If fabric is strong enough, tamp with brush or spoon. Flush with water. Repeat until no more stain is removed.
3. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

## **Candle Wax**

1. Place stain between blotting papers or folded paper towels. Iron at low temperature. Replace papers and iron again. Continue changing papers and ironing until no more wax remains.
2. Sponge with dry-cleaning solvent.
3. If any stain is left, use chlorine bleach. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

## **Chlorine**

1. Mix 1/4 teaspoon color remover with 1/2 cup cool water. Sponge stain.
2. Flush with water.

## **Evergreen Pitch (Tree Sap)**

1. Dampen a cloth with rubbing alcohol, vegetable shortening, or petroleum jelly.
2. Rub the spot, or blot if the fabric is very delicate.
3. Wipe off with paper towel and wash remaining grease off with soap and water.
4. If all is not removed, use turpentine, followed by soap and water.

## **Grass (Flower, Leaf)**

1. With medicine dropper, apply amyl acetate. Blot.
2. With medicine dropper, apply detergent solution or enzyme product. Blot. Flush with water.
3. With medicine dropper, apply ammonia solution. Blot. Flush with water.
4. With medicine dropper, apply vinegar solution. Blot. Flush with water.
5. Sponge with alcohol. Blot. Flush with water.
6. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

## **Lipstick**

1. With absorbent pad, apply paint, oil, and grease remover or dry-cleaning solvent. Blot. Repeat until no more stain is removed. Be careful not to allow stain to spread or to reapply to fabric.
2. With medicine dropper, apply detergent solution and a few drops of ammonia. If fabric is strong enough, tamp with spoon or brush. Blot. Flush with water.
3. With medicine dropper, apply detergent solution and a few drops of vinegar. If fabric is strong enough, tamp with brush or spoon. Flush with water. Allow to dry.
4. Sponge with alcohol.
5. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

## **Mildew**

1. With medicine dropper, apply enzyme product solution. Blot with absorbent pad. Keep stain moist with solution for 30 minutes. Flush with water.
2. With medicine dropper, apply detergent solution and a few drops of vinegar. Blot. Flush with water.
3. With absorbent pad, apply alcohol. Blot. Flush with alcohol.

4. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

## **Mustard**

1. Brush or carefully scrap off excess mustard.
2. With medicine dropper, apply detergent solution. Blot.
3. With medicine dropper, apply vinegar solution. Blot.
4. With medicine dropper, apply enzyme product solution. Blot. Flush with water.
5. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

## **Pencil**

1. Erase excess stain with soft eraser.
2. Flush with dry-cleaning solvent.
3. Lubricate with mineral oil or dry spotter.
4. Flush with dry-cleaning solvent.
5. Cover stain with absorbent pad

moistened with dry spotter. Let stand 30 minutes. Flush with dry-cleaning solvent.

6. With medicine dropper, apply detergent solution and a few drops of ammonia. If fabric is strong enough, tamp with brush or spoon. Flush with water.

## Perfume

1. Flush with water.
2. With medicine dropper, apply detergent solution. If fabric is strong enough, tamp.
3. With absorbent pad, apply alcohol. Let stand as long as stain is being removed. Change pad as it picks up stain.
4. Flush with water.

## Rust

For small areas of rust:

1. Wet the area of the rust spot.
2. Apply hydrofluoric acid. (This is available in plastic dropping bottles in grocery and department stores. One brand name is Whink. Follow directions on the bottle.)\*
3. Rinse the fabric thoroughly and dry it.

\*Barkeeper's Friend, Zud, and Shiny Sinks, which all contain oxalic acid, can also be used. Iron Out also is very effective. *Caution:* Hydrofluoric acid is extremely corrosive to the skin. Use rubber or plastic gloves.

For larger areas of rust:

Method A: RoVer Rust remover (available through Maytag dealers)

1. Launder in hot water with detergent and RoVer Rust Remover.
2. Follow manufacturer's directions.

3. If colorfastness is questionable, test in a concealed area first.

Method B: Oxalic acid (poisonous—keep away from children)

1. Make up a solution of 1 tablespoon of oxalic acid per cup of water; either use hot water (160–180 F), or heat the solution to that temperature range.
2. Spread the stained area over a bowl.
3. Pour hot oxalic acid solution over the fabric. Repeat until the stain disappears.
4. Rinse the fabric thoroughly with water containing a few drops of ammonia per cup of water. Dry the fabric.

## Scorch

*Note:* Scorched fabrics may be weakened. Stain removal treatment may further damage the fabric.

1. With medicine dropper, bleach stain with hydrogen peroxide (3%). Add a drop or two of ammonia. Let stand for several minutes up to 1 hour. Keep area moist with hydrogen peroxide and ammonia.
2. Flush with water.

## Shellac

1. Sponge with dry-cleaning solvent.
2. Lubricate with mineral oil or dry spotter.
3. Flush with dry-cleaning solvent.
4. With medicine dropper, apply alcohol. If fabric is strong enough, tamp with brush or spoon.

5. Flush with alcohol.

## **Super Glue**

1. Soak fabric in cool water.
2. Tamp with a brush or spoon.
3. Repeat steps 1 and 2 until glue softens and dissolves.
4. Flush with water.

## **Toner**

1. Sponge with laundry detergent.
2. Tamp with brush or spoon.
3. Place in washing machine and launder in cold water.

## **Unknown Stains**

If you cannot identify a stain, begin with the method least likely to cause damage. Always test remover on an inconspicuous area of the article.

1. Sponge with dry-cleaning solvent.
2. With absorbent pad, apply dry spotter. If the fabric is strong enough, tamp with brush or spoon. Flush with dry-cleaning solvent. Repeat step 2 until no more stain is removed.
3. With absorbent pad, apply amyl acetate. If fabric is strong enough, tamp with brush or spoon. Flush with dry-cleaning solvent.
4. With medicine dropper, apply detergent solution and a few drops of ammonia. If fabric is strong enough, tamp with brush or spoon. Flush with water. Allow to dry.
5. With absorbent pad, apply alcohol. Allow to dry.

6. Bleach to remove final traces of stain. Apply bleach solution with medicine dropper. Do not use chlorine solution on wool, silk, or spandex. Do not allow bleach to remain more than 2 minutes. Flush with water after each bleach application. Apply vinegar solution to remove excess chlorine, then flush with water.

## **White Out**

1. Sponge with acetone (unless fabric contains acetate).
2. Tamp with brush or spoon.
3. Flush with alcohol.

## **White Shoe Polish**

1. Sponge with dry-cleaning solvent.
2. With medicine dropper, apply dry spotter. If fabric is strong enough, tamp with brush or spoon. Flush with dry-cleaning solvent.
3. Sponge with amyl acetate. If fabric is strong enough, tamp.
4. Flush with dry-cleaning solvent.
5. With medicine dropper, add a few drops of vinegar. If fabric is strong enough, tamp.
6. Flush with water.



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