REMOVING STAINS FROM FABRICS

home methods
Contents

Stain removers and how to use them ......................... 3
Absorbent materials ........................................... 3
Detergents ....................................................... 4
Solvents .......................................................... 5
Bleaches and other chemical stain removers .............. 9
Directions for removing stains ............................... 16
General stain-removal directions ............................. 16
Directions for removing individual stains ................ 18
Index to stains .................................................. 29

This is a Consumer Service of USDA

By Verda I. McLendon, Textile Chemist
Clothing and Housing Research Division
Agricultural Research Service

This bulletin supersedes Farmers’ Bulletin No. 1474, “Stain Removal From Fabrics: Home Methods.”

Issued June 1959
Slightly revised June 1964
Learn the simple methods for removing stains at home. Then act promptly when a fabric is stained. Many stains that can be removed easily when they are fresh are difficult or impossible to remove later, particularly after they are set by heat.

Selecting the method of removal

Successful stain removal starts with the selection of a method of stain removal that is suited to both stain and fabric.

Kind of stain.—Identify the stain, if possible. The treatment for one kind of stain may set another. If you can’t determine what caused the stain it will help if you can tell whether it is a greasy stain, a non-greasy stain, or a combination of the two.

Directions for removing these three main types of stains and for removing individual stains are given on pages 16 to 28.

Kind of fabric.—Before using any stain remover be sure it will not harm the fabric.

In general, the stain removers recommended in this publication will not damage the fibers in fabrics or most special fabric finishes. There are exceptions, however, which should be noted. Exceptions are listed in the description of the various kinds of stain removers and, where necessary, in the directions for removing individual stains.

Some stain removers that do not damage fibers may change the appearance of the treated area so that it looks as bad as or worse than the original stain. They may, for example, cause fading or bleeding of dyes, loss of luster, shrinkage or stretching of the fabric. They may remove nonpermanent finishes or designs. It is often difficult to use any stain remover on such fabrics as satins, crepes, taffetas, silk and rayon moires, gabardines, and velvets without causing some change in appearance.

To determine whether a stain remover will change the appearance of the fabric to be treated, test it first. Test on a sample of the material, if possible, or on a hidden part of the article—a seam allowance, hem, inside of pocket, or tail of a blouse or shirt.

If the substance needed to remove the stain will damage the fiber or change the appearance of the fabric, send the stained article to a professional drycleaner. He has the skill, the special equipment, and the reagents that enable him to handle many of the more difficult stains and fabrics.

Treating the stain

Find the specific directions for removing a stain in the section of this publication that begins on page 18. If you need more detailed information about the remover recommended, including complete directions for applying it, find this
in the section beginning on page 3.

Follow directions accurately. Use solutions only in the strengths recommended and for the length of time given.

Work carefully and patiently. Often results depend as much on the way the job is done as on the remover used.

Observe all precautions given for the use of removers that are flammable, that give off poisonous vapors, or that are poisonous if swallowed.

Stain Removers and How To Use Them

To be prepared to remove all the different kinds of stains, you will need to keep four types of removers on hand—absorbent materials, detergents, solvents, and chemical stain removers, such as bleaches.

Although some stains can be removed with only one type of remover, more often removers of two or more types are needed.

You will also need miscellaneous supplies, such as bowls, medicine droppers, and a small syringe.

Keep stain-removal supplies in a place that is convenient but out of the reach of children. Label clearly poisonous and flammable removers.

Absorbent materials

Useful absorbent materials are absorbent powders, absorbent cotton, sponges, and white or fast-color paper towels, facial tissues, and soft cloths.

How to use absorbent powders

Cornstarch, cornmeal, talc, or powdered chalk will remove some fresh stains, such as grease spatters. They are also used with solvents (p. 8).

Spread absorbent powder over the stain before it dries. Remove powder as it absorbs the stain by shaking or brushing it off; or use the upholstery attachment of a vacuum cleaner.

After surface stain has been removed, work fresh powder into the stain, then remove as before. Repeat with fresh powder until as much stain as possible has been absorbed.

It may be difficult to use this method successfully on some dark-colored articles that cannot be washed. If the white powder cannot be completely removed it may be more conspicuous on dark materials than the original stain.

How to use other absorbent materials

Absorbent cloths, absorbent cotton, absorbent paper, blotters, and sponges can be used to soak up staining liquids before they soak into a fabric. If much of the liquid can be absorbed quickly, the stain will be smaller and easier to remove than it would be otherwise. This technique will work only on fabrics that absorb the staining liquid slowly. It is often useful on such articles as rugs, upholstered furniture, and heavy coats.

To use these absorbents, hold the material so that the liquid is absorbed rather than forced into the fabric. If the stain is not greasy you may be able to remove some of the liquid that has soaked into the fabric by adding a little water to the stain and absorbing this immediately with the absorbent material. Repeat as long as any stain is absorbed.

These materials are also used to absorb stains as they are loosened from fabrics by liquid stain removers.
Detergents

Detergents—soaps and synthetic detergents (syndets)—will remove many nongreasy stains and some greasy stains. They act as lubricants, coating insoluble particles of staining material (such as carbon and colored pigments) with a smooth, slippery film. The particles can then be rinsed out of the fabric.

Liquid detergents are especially useful. They are in the concentrated form needed to remove stains, and can be easily worked into the fabric and rinsed out of it.

**How to use detergents on washable articles**

For surface stains, rub a detergent lightly into the dampened spot or rub in liquid detergent. Rinse the stained area or wash the article as usual.

If a stain is deeply imbedded, work the detergent thoroughly into the fabric. One way to do this is to rub detergent lightly into the stained area, then, holding the fabric with both hands, work the stained area back and forth between your thumbs. Bend the yarns sharply so that the individual fibers in the yarn rub against one another. It is this bending of yarns, rather than rubbing the surface of the fabric, that is effective in removing the stain. Go over the entire stained area in this way. Then rinse thoroughly.

On articles such as rugs, on heavy fabrics that cannot be bent easily, or on woolen fabrics that might be felted by too much bending of the yarn, work the detergent into the fabric with the edge of the bowl of a spoon.

**How to use detergents on non-washable articles**

Work detergent into the stained area in the same way as for wash-
able articles. Dilute liquid detergents with an equal volume of water. Use as little detergent as possible because it is difficult to remove excess detergent without wetting a large area of the fabric. Rinse thoroughly by sponging spots with cool water or by forcing water through the stain with a syringe. If alcohol is safe for the fabric, use it to rinse out the detergent. It is easier to rinse out the detergent with alcohol, and the fabric will dry more quickly.

**Solvents**

Many common stains can be removed with the right solvent. Different kinds of solvents are needed for nongreasy and for greasy stains. Water is the most useful solvent for many common nongreasy stains, and it is the only solvent that is neither flammable nor poisonous. When using other solvents, follow carefully the safety precautions listed on page 9.

With the exceptions of acetone and trichloroethylene, the solvents recommended in this bulletin will not dissolve or seriously damage the fibers in fabrics. They may, however, change the appearance of the fabric so much that the article is no longer usable. Solvents may dissolve dyes and finishes or cause other changes, such as dulling of the luster and shrinking or stretching of the treated area. Test to be sure the solvent will not change the appearance of the treated area.

To test, use a solvent on a swatch of similar material or on a hidden part of the article exactly as you would to remove a stain.

**Solvents for nongreasy stains**

Water or water with a detergent will remove many nongreasy stains. Acetone or amyl acetate, alcohol, and turpentine are needed for other nongreasy stains. All are available at drug and hardware stores.

**Acetone** is used for removing such stains as fingernail polish and ballpoint ink. It should not be used on acetate, Arnel, Dynel, or Verel.\(^1\) Flammable. Poison.

**Alcohol** (rubbing) is used for a number of stains if it is safe for the dye in the fabric. It should be diluted with two parts of water for use on acetate. Flammable. Poison.

**Amyl acetate** (chemically pure) is used for the same stains as acetone; it can be used on fabrics that are damaged by acetone. However, impure (technical grade) amyl acetate may damage the same fabrics as acetone. Flammable. Poison.

**Turpentine** is used on paint stains. Flammable. Poison.

**Grease solvents**

Special solvents, such as those used by drycleaners, are needed for greasy stains. These are available at drug, grocery, and auto-supply stores.

No solvents are available that will effectively remove greasy spots without hazard to the user. Some are flammable. All of those commonly used are poisonous. Serious illness or death can result from swallowing the liquids or from breathing too large an amount of the vapors. Information concern-

\(^1\) Fiber trademarks are used in this publication solely for the purpose of providing specific information. Mention of a trademark does not constitute a guaranty or warranty of the product named and does not signify that this product is approved to the exclusion of comparable products.

Generic names for the trademarks used in this publication are: Triacetate (Arnel), modacrylic fiber (Dynel and Verel), polyester fiber (Kodel), spandex fiber (Lycra and Vyrene).
ing the degree of toxicity of the different types of grease solvents is given in the discussion below.

Because of the hazards of toxicity and flammability the use of large amounts of these solvents in the home is not recommended. **Use only in small amounts and take the precautions listed on page 9.**

**Nonflammable.**—Carbon tetrachloride, perchloroethylene, trichloroethane, and trichloroethylene are nonflammable grease solvents. They may be sold under these names or under various trade names. Trichloroethylene should not be used on Arnel or Kodel.

Carbon tetrachloride is the most hazardous to use because it takes less vapor from this solvent than from the others to poison the user and because the poisoning from it is cumulative. However, exposure to a high concentration of vapors from any of the nonflammable solvents is dangerous; vapors of all of them are more toxic to persons whose blood contains even a small amount of alcohol.

Because carbon tetrachloride is the most hazardous, the use of one of the other nonflammable solvents is recommended.

**Flammable.**—Petroleum naphthas are the most used of the flammable grease solvents. The names petroleum distillate and petroleum hydrocarbon may be used instead of naphtha. Most of these products are sold under trade names. Use only a naphtha with a high flash-point (the higher the flashpoint, the less easily the naphtha can be ignited).

Do not use naphthas near an open flame or where there is a chance that sparks from electrical equipment or from static electricity may ignite the solvent or vapors. Never use naphthas in a washing machine or put articles that have been cleaned with naphtha in a dryer.

Although the vapors from these solvents are not as poisonous as those of the nonflammable solvents, breathing large amounts of them is dangerous.

**Mixtures.**—Many of the stain removers sold at grocery and drug stores under various brand names are mixtures of two or more grease solvents. They may contain both flammable and nonflammable kinds. The solvents used in these products can be changed without a change in the brand name.

Read the label to see which solvents are used in the mixture. Observe all precautions listed by the manufacturer.

**How to use solvents**

Place the stained area on a pad of soft cloth or other absorbent material. Place stained side down, if possible, so that the stain can be washed out of the fabric, not through it.

Dampen a pad of cotton or soft cloth with the solvent. Sponge the back of the stain with the pad. Repeated applications of only a small amount of solvent are better than a few applications of larger amounts.

Work from the center of the stain toward its outside edge, using light brushing or tamping motions. Professional drycleaners have found that a fabric is less likely to ring if worked in this direction rather than from the outside edge toward the center. Avoid hard rubbing that might roughen the surface of the fabric. Sponge the stain irregularly around the edges so that there will be no definite line when the fabric dries.

Change the absorbent pad under the fabric and the pad used for sponging as soon as they are soiled to avoid transferring the stain back to the fabric.
For hardened stains (such as old paint or tar stains) place an absorbent pad or blotter dampened with the solvent on the stain. Allow time for the solvent to soften the stain; replace the pad as needed. Finish by sponging the stain.

For stains on delicate fabrics that cannot be sponged without chafing the surface or displacing the yarns, place an absorbent pad or blotter dampened with the solvent on the stain. Replace pad as needed. Do not sponge.

Dry fabrics as rapidly as possible.

On fabrics that tend to form rings.—If a fabric tends to form rings when sponged with a solvent use either of the following methods.

(1) Use method previously described with these variations. Barely dampen the sponging pad with solvent. Apply only enough solvent to dampen fabric—not so much that solvent spreads out beyond point of application. Take extra care in sponging stain around edges, to make sure there will be no definite line when the fabric dries. Dry fabric as rapidly as possible. On some fabrics the formation of rings can be prevented by placing the treated area on a dry absorbent pad and rubbing it lightly with the palm of the hand; be sure the fabric is flat and free from wrinkles before you rub it. Or place it on the palm of one hand and rub it with the other. Rub

Applying a grease solvent. Place fabric stained side down on a pad of absorbent material. Sponge back of stain with pad dampened with grease solvent. Apply only a little solvent at a time. Work from center of the stain toward the outside edge, using light brushing or tamping motions.
with crosswise or lengthwise thread of the material.

(2) Or use a solvent-absorbent powder mixture. Add just enough solvent to cornstarch, talc, or other absorbent powder to make a thick crumbly mixture. To make sure the mixture is dry enough, test it first on a scrap of similar material. The solvent should not spread out on the cloth beyond the edge of the mixture.

Apply mixture over the stained area and work it into the fabric with gentle tamping or rubbing motions. Allow mixture to dry on the stain. Brush off and repeat if necessary.

It may be difficult to use this mixture successfully on some dark-colored articles that cannot be washed. If the white powder cannot be completely removed it may be more conspicuous on dark materials than the original stain.

To remove rings.—Once rings have formed on a fabric they may be difficult to remove.

If the article is washable, work a detergent thoroughly into the dampened ring as described on page 4. Then rinse thoroughly.

If the article is not washable you may be able to remove the ring by rubbing the fabric between your thumbs, or scratching it lightly with a fingernail. A solvent-absorbent powder mixture, used as described above, may also remove rings.
PRECAUTIONS

When using any solvent except water—

• Work out of doors or in a well-ventilated room (open several doors and windows).

• Do not breathe solvent vapors. Arrange work so that fumes are blown away from you, by a fan or breeze from an open door or window. Do not lean close to your work.

Solvent vapors are heavier than air and tend to settle unless there is forced ventilation. Do not allow small children to play on the floor in a room where solvents are being used.

• Use only a small quantity of solvent at a time; keep bottle stoppered when not in use. Unless you are working outdoors, do not pour solvents into an open bowl.

• If you spill solvent on your skin wash it off immediately.

• Observe any additional warnings given on labels of solvent containers.

In addition, when using flammable solvents—

• Do not use near open flames, including pilot lights on gas equipment.

• Do not use where there is a chance that sparks from electrical equipment or from static electricity may ignite the solvent or vapors. Never use flammable solvents in a washing machine. Never put articles that have been dampened with a flammable solvent in a dryer.

Store solvents in a safe place

When solvents are not in use, keep them tightly stoppered in a place out of the reach of children. In addition to giving off poisonous fumes, solvents are also poisonous if swallowed.

Store flammable solvents where they cannot be ignited by flames or electric sparks.

Bleaches and other chemical stain removers

Chemical stain removers will take out many stains that cannot be removed by absorbents, detergents, or solvents. The chemical removers react with such stains to form new compounds that are colorless or soluble, or both.

Because some may react with the fiber as well as with the stain, chemical removers are more likely to damage fabrics than the other types of removers. Test before using and follow carefully all directions for their use.

Kinds of chemical stain removers

Chemical stain removers include bleaches, acetic acid, ammonia, iodine, oxalic acid, and sodium thiosulfate.

Bleaches.—Bleaches are the most widely used of the chemical stain removers and the ones most likely to damage fibers and fade dyes if directions are not carefully followed. Bleaches should not be used in metal containers because metals may hasten the action of the bleach and thus increase the chance of fabric damage.

Three kinds of bleaches are recommended for home use—chlorine bleaches, peroxygen bleaches, and color removers.

The first two kinds of bleaches generally remove the same types of stains and, if safe for the fabric, can be used interchangeably. If one bleach is more effective than the others for a particular stain it is recommended in the directions (pp. 18 to 28) for removing that stain.
Color removers are generally used for types of stains for which the first two are not effective.

**Chlorine bleaches** are sold at grocery stores under various brand names. They may be in liquid, granular, or tablet form.

**Peroxygen bleaches** include sodium perborate, potassium monopersulfate, and hydrogen peroxide.

**Sodium perborate** is available as pure sodium perborate powder at drug stores. Powdered bleaches containing sodium perborate or **potassium monopersulfate** as the active ingredient are sold under various brand names at grocery stores.

The 3-percent **hydrogen peroxide** used for bleaching is sold in drug stores.

**Color removers** are sold under various brand names in drug and grocery stores.

**Other chemical stain removers.**—

**Acetic acid or vinegar** is used for neutralizing alkalies and for restoring colors changed by the action of alkalies. Use 10-percent acetic acid available from drug stores. Or substitute white vinegar, which contains 5 percent of acetic acid.

**Ammonia** is used for neutralizing acids and restoring colors changed by action of acids. Use 10-percent ammonia solution, or substitute household ammonia. Avoid breathing ammonia fumes. Poison if swallowed.

**Iodine** is used only for silver nitrate stains. Use tincture of iodine available at drug stores. Poison if swallowed.

**Oxalic acid** is used for rust and other metallic stains. Sold in crystalline form at drug stores. Poison if swallowed.

**Sodium thiosulfate** is used for removing iodine and chlorine stains. Sold in crystalline form at drug stores and, as "hypo" at photographers' supply stores.

**How to use chemical stain removers**

Try a mild treatment first. Dampen stain with cool water and stretch stained area over a bowl or place on an absorbent pad. Apply liquid removers with a medicine dropper. Or sprinkle dry removers over the dampened spot. Or, if the article is washable, the stained area or the whole article can be soaked in a solution of the remover.

Do not let the remover dry on the fabric. If it is necessary to keep the remover on the stain for more than a few minutes, keep the area wet by placing a pad of cotton wet with the remover—or with water if a dry remover is used—on the stain. Keep cotton damp until the stain is removed.

Rinse remover from washable articles by sponging area repeatedly with a cloth dampened with water or by rinsing area or whole garment in clear water.

To rinse remover from nonwashable articles, sponge repeatedly with a cloth dampened with water. Or place treated area while still damp on a clean sponge or stretch it over a bowl, then force water through the spot. The sponge is preferable because it absorbs water and so helps to keep it from spreading to surrounding dry areas. Use a syringe to force water through the spot.

If stains cannot be removed by a mild treatment, a stronger treatment may be successful. The treatment may be strengthened by lengthening the time of treatment, using a more concentrated solution of the remover, or raising the temperature of the reaction. All of these ways of strengthening the treatment increase the danger of damage to the fabric.

Additional directions for using each of the chemical stain removers are given on pages 12 to 15.
Treating a stain on a nonwashable article with sodium perborate bleach. A, apply a solution of sodium perborate. B, rinse well, using a small syringe to force water through the spot and a sponge to absorb the water.
DIRECTIONS FOR BLEACHES

Chlorine Bleaches

Do not use chlorine bleaches on fabrics that contain silk, wool, or spandex fibers, polyurethane foams, or on a fabric with a special finish (such as those used to improve such properties as wrinkle resistance, shrinkage resistance, crispness, or sheen, or to produce durable embossed and sculptured designs) unless the manufacturer states on the label that chlorine bleach is safe. The resin in some of these finishes absorbs and retains chlorine, which weakens, and sometimes yellows, the fabric. Some fabrics are not weakened or yellowed until they are ironed; then damage may be severe. See page 20 for directions for removing retained chlorine from such fabrics. Test all dyed fabrics for colorfastness. Do not use in metal containers.

<table>
<thead>
<tr>
<th>Washable articles</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mild treatment</strong></td>
<td><strong>Strong treatment</strong></td>
</tr>
<tr>
<td>Mix 2 tablespoons liquid bleach with 1 quart cool water. Apply to small stains with a medicine dropper; soak large stains in the solution. Leave on stain for 5 to 15 minutes. Rinse well with water. Repeat if necessary. For bleaches in granular or tablet form, follow directions on package.</td>
<td>Mix equal parts liquid bleach and water. Apply solution with medicine dropper to small stains. If stain is large, dip stained area in solution. Rinse immediately with water. Repeat if necessary. Be sure all bleach is rinsed out of fabric.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nonwashable articles</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mild treatment</strong></td>
<td><strong>Strong treatment</strong></td>
</tr>
<tr>
<td>Mix 1 teaspoon liquid bleach with 1 cup cool water. Apply to stain with medicine dropper. Leave on stain for 5 to 15 minutes. Rinse well with water. Repeat if necessary. For bleaches in granular or tablet form, follow directions on package.</td>
<td>Not recommended. However, if stain cannot be removed in any other way, strong treatment given above for washable articles may be used.</td>
</tr>
</tbody>
</table>
**Sodium Perborate and Potassium Monopersulfate Bleaches**

Do not use strong treatments on fabrics that contain wool, silk, or Dynel because these treatments call for hot water. Hot water shrinks Dynel; hot solutions are not safe for silk and wool. Test all dyed fabrics for colorfastness. Do not use in metal containers.

### Washable articles

<table>
<thead>
<tr>
<th>Mild treatment</th>
<th>Strong treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mix 1 to 2 tablespoons sodium perborate or potassium monopersulfate with 1 pint lukewarm water (for wool, silk, and Dynel) or 1 pint hot water (for other fabrics). Mix just before using; the solution loses strength on standing. Cover stained area with solution or soak entire article. Soak until stain is removed. This may take several hours, or overnight. Rinse well. If wool or silk is yellowed by the bleach solution, sponge with 10-percent acetic acid or vinegar to remove yellowing, then rinse with water.</td>
<td>Sprinkle sodium perborate or potassium monopersulfate on stain. Dip stain into very hot or boiling water. Stains should be removed in a few minutes. Rinse well. Repeat if necessary.</td>
</tr>
</tbody>
</table>

### Nonwashable articles

<table>
<thead>
<tr>
<th>Mild treatment</th>
<th>Strong treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprinkle sodium perborate or potassium monopersulfate on stain. Cover with a pad of cotton dampened with water. Use lukewarm water for wool, silk, and Dynel—hot water for other fabrics. Keep damp until stain is removed. This may take several hours or more. Rinse well. Or mix 1 to 2 tablespoons sodium perborate or potassium monopersulfate with 1 pint lukewarm water (for wool, silk, and Dynel) or 1 pint hot water (for other fabrics). Mix just before using; the solution loses strength on standing. Apply to stain with medicine dropper. Keep damp until stain is removed. Rinse well. If wool or silk is yellowed by the bleach solution, sponge with 10-percent acetic acid or vinegar to remove yellowing, then rinse with water.</td>
<td>Dampen stain with cool water. Sprinkle sodium perborate or potassium monopersulfate on stain. With spoon or medicine dropper, pour a small amount of boiling water on stain. Use a sponge or absorbent pad under the stain to absorb the water. Rinse well. Repeat if necessary.</td>
</tr>
</tbody>
</table>
Hydrogen Peroxide

A 3-percent solution of hydrogen peroxide is safe for all fibers; it acts slowly on stains. This solution loses strength on storage. Test all dyed fabrics for colorfastness. Do not use in metal containers.

<table>
<thead>
<tr>
<th>Washable and nonwashable articles</th>
<th>Mild treatment</th>
<th>Strong treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisten stain with a few drops of a 3-percent solution of hydrogen peroxide. Expose stain to direct sunlight. Add hydrogen peroxide as needed to keep stained area moist until stain is removed. If above treatment does not remove stain, add a few drops of household ammonia to about 1 tablespoon of hydrogen peroxide. Moisten stain immediately with this mixture, and cover with a pad of cotton dampened with the same mixture. Keep damp until stain is removed; it may take several hours or more. Rinse well.</td>
<td></td>
<td>Cover stain with a cloth dampened with a 3-percent solution of hydrogen peroxide. Cover with a dry cloth and press with an iron as hot as is safe for the fiber. Rinse well.</td>
</tr>
</tbody>
</table>

Color Removers

Color removers are safe for all fibers, but fade or remove many dyes. If test of color remover on fabric shows that the remover causes a distinct color change rather than fading, you may be able to restore the original color by rinsing immediately, then drying article in air. If color remover fades the color, original color cannot be restored. Do not use in metal containers.

<table>
<thead>
<tr>
<th>Washable and nonwashable articles</th>
<th>Mild treatment</th>
<th>Strong treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissolve 1/4 teaspoon of color remover in 1/2 cup of cool water. Wet stain with a few drops of the solution. Cover stain for 1 to 15 minutes with a pad of cotton dampened with the solution. Rinse well. Repeat if necessary.</td>
<td></td>
<td>For large stains on white or colorfast fabrics, follow directions on the package. For all other stains, dissolve 1/4 teaspoon of color remover in 1/2 cup of boiling water. Drop hot solution on stain with a medicine dropper. Rinse immediately. Repeat if necessary.</td>
</tr>
</tbody>
</table>
DIRECTIONS FOR OTHER CHEMICAL STAIN REMOVERS

Treatments are the same for washable and nonwashable articles. Unless otherwise indicated, treatment is strengthened by increasing the time the remover is left on fabric.

Acetic Acid, Vinegar
Moisten stain with 10-percent acetic acid or vinegar. Keep fabric wet until stain is removed. Rinse with water. Safe for all fibers, but may change color of some dyes. If dye changes color, rinse stain with water. Then try to restore color by moistening stain with ammonia (see below).

Ammonia
All fabrics except those that contain wool or silk.—Moisten stain with 10-percent ammonia or household ammonia. Keep stain wet until it is removed. Rinse with water. If the color of a dye is changed by ammonia, try to restore color after rinsing by moistening with acetic acid or vinegar. Rinse with water.

Wool or silk.—Dilute ammonia with an equal volume of water. Moisten stain with this solution and keep it moist until stain is removed. Rinse with water. Add a small amount of vinegar to the last rinse. If the color of a dye is changed by ammonia, try to restore color after rinsing by moistening with acetic acid or vinegar. Rinse with water.

Iodine
Directions given under silver nitrate (p. 27), the only kind of stain for which it is used.

Oxalic Acid
Safe for all fibers, but may change color of some dyes. If dye changes color after treatment, rinse stain with water. Then try to restore color by moistening stain with ammonia (see above). May cause fabric damage if not rinsed out of fabric. Poison.

Mild treatment.—Dissolve 1 tablespoon of oxalic acid crystals in 1 cup of warm water. Keep stain wet with this solution until it is removed. Rinse thoroughly with water.

Strong treatment.—Dissolve 1 tablespoon of oxalic acid in 1 cup of water as hot as is safe for fabric. Use as for mild treatment.

Or, for all fabrics except nylon, sprinkle crystals on dampened stain and dip in pan of very hot water. Rinse thoroughly.

Sodium Thiosulfate
Directions are given under chlorine (p. 20) and iodine (p. 23), the only stains for which it is used.
Directions for Removing Stains

Many common stains can be removed by following one of the three general methods given below and on the next page. These methods are for removing greasy and nongreasy stains and stains that are a combination of the two.

Also given in this section are individual directions for removing all common stains. These are listed alphabetically. The individual directions tell whether to treat a stain as a greasy, nongreasy, or combination stain or give additional directions for stains that cannot be removed by one of the three general methods.

Whenever necessary, separate directions are given for washable and nonwashable articles. Directions for nonwashables are for articles made of fabrics that are not damaged by the application of small amounts of water. If water cannot be used on a fabric, only those stains that can be removed by absorbents or by solvents that do not contain water (acetone, amyl acetate, or grease solvents) can be removed satisfactorily by home methods.

General stain-removal directions

GREASY STAINS

Washable Articles

Regular washing, either by hand or by machine, removes some greasy stains.

Some can be removed by rubbing detergent into the stain, then rinsing with hot water.

Often, however, you will need to use a grease solvent; this is effective even after an article has been washed.

Sponge stain thoroughly with grease solvent. Dry. Repeat if necessary.

It often takes extra time and patience to remove greasy stains from a fabric with a special finish.

A yellow stain may remain after solvent treatment if stain has been set by age or heat. To remove yellow stain use a chlorine or peroxygen bleach. If safe for the fabric, the strong sodium perborate treatment is usually the most effective for these stains.

Nonwashable Articles

Sponge stain well with grease solvent. Dry. Repeat if necessary. It often takes extra time and patience to remove greasy stains from fabrics with a special finish.

A yellow stain may remain after solvent treatment if stain has been set by age or heat. To remove yellow stain use a chlorine or peroxygen bleach. If safe for the fabric, the strong sodium perborate treatment is usually the most effective for these stains.
NONGREASY STAINS

Many fresh stains can be removed by simple treatments. Stains set by heat or age may be difficult or impossible to remove.

Washable Articles

Some nongreasy stains are removed by regular laundry methods; others are set by them.
Sponge stain with cool water. Or soak stain in cool water for 30 minutes or longer; some stains require an overnight soak.

If stain remains after sponging or soaking, work a detergent into it, then rinse.
If a stain remains after detergent treatment use a chlorine or peroxygen bleach.

Nonwashable Articles

Sponge stain with cool water. Or force cool water through stain with a small syringe, using a sponge under the stain to absorb the water.
If stain remains, rub detergent on stain and work it into fabric. Rinse.
A final sponging with alcohol helps to remove the detergent and to dry the fabric more quickly. Test alcohol on fabric first to be sure it does not affect the dye. Dilute alcohol with 2 parts of water before using it on acetate.
If stain remains after detergent is rinsed out, use a chlorine or peroxygen bleach.

COMBINATION STAINS

Combination stains are caused by materials that contain both greasy and nongreasy substances.

Washable Articles

Sponge stain with cool water. Or soak in cool water for 30 minutes or longer.
If stain remains, work detergent into the stain, then rinse thoroughly. Allow article to dry.
If a greasy stain remains, sponge with grease solvent. Allow to dry. Repeat if necessary.
If colored stain remains after fabric dries, use a chlorine or peroxygen bleach.

Nonwashable Articles

Sponge stain with cool water. Or force cool water through the stain with a small syringe, using a sponge under stain to absorb the water.
If a stain remains, rub detergent on the stain and work it into the fabric. Rinse spot well with water. Allow article to dry.
If a greasy stain remains, sponge with grease solvent. Allow article to dry. Repeat if necessary.
If a colored stain remains after the fabric dries, use a chlorine or peroxygen bleach.

Grease solvents.—For information on kinds of grease solvents, technique for using them, and precautions to observe when using them see pages 5 to 9. Fumes from all grease solvents are poisonous. Use these solvents only with adequate ventilation. Keep flammable solvents away from flames and sparks.
Bleaches.—For information on using bleaches see pages 9 to 14.
Directions for removing individual stains

Acids

If an acid is spilled on a fabric, rinse the area with water immediately. Then apply ammonia to the stain (pp. 10, 15). Rinse again with water.

Strong acids, such as sulfuric (used in batteries) and hydrochloric (used for cleaning brick), may damage or destroy some fibers before the acid can be rinsed out. The amount of damage depends on the kind of fiber and acid and on the concentration and temperature of the acid solution. Often, however, thorough rinsing before the acid dries on the fabric will prevent serious damage. Dilute solutions of weak acids such as acetic (vinegar) will not damage fibers.

Both weak and strong acids may change the color of some dyes. The use of ammonia after rinsing with water neutralizes any acid left in the fabric and sometimes restores colors that have changed.

Adhesive tape

Scrape gummy matter from stain carefully with a dull table knife; avoid damaging fabric. Sponge with grease solvent (pp. 6 to 9).

Alcoholic beverages

Follow directions for nongreasy stains (p. 17).

An alternate method if alcohol does not affect the color of the fabric is to sponge the stain with alcohol (pp. 5, 6). Dilute alcohol with 2 parts of water before using on acetate. If a stain remains, use a chlorine or peroxycyanogen bleach (pp. 10 to 14).

The alcohol in these beverages will cause bleeding of some dyes, which results in loss of color or formation of a dye ring around the edge of the stain. When either change occurs, the original appearance of the fabric cannot be restored.

Alkalies

If an alkali is spilled on a fabric, rinse the area with water immediately. Then apply vinegar to the stain. Rinse again with water.

Strong alkalies, such as lye, may damage or destroy some fibers before they can be rinsed out. The amount of damage depends on the kind of fiber and alkali and on the concentration and temperature of the alkali solution. In many cases, however, prompt rinsing will prevent serious damage. Silk and wool are the fibers most easily damaged by alkalies. Dilute solutions of such weak alkalies as ammonia will not damage fibers. Both strong and weak alkalies may change the color of some dyes. The use of vinegar after rinsing with water neutralizes any acid left in the fabric and sometimes restores colors that have changed.

Antiperspirants, deodorants

Wash or sponge stain thoroughly with detergent and warm water. Rinse. If stain is not removed, use a chlorine or peroxygen bleach (pp. 10 to 14).

Antiperspirants that contain such substances as aluminum chloride are acidic and may cause fabric damage and change the color of some dyes. You may be able to restore the color of the fabric by sponging it with ammonia. Dilute ammonia with an equal volume of water for use on wool or silk. Rinse.
Argyrol

Wash stain with detergent and water; this will remove most fresh stains. If stain is not removed, follow directions for silver nitrate (p. 27).

Blood

Follow directions for nongreasy stains (p. 17), with one variation. If stain is not removed by detergent put a few drops of ammonia on the stain and repeat treatment with detergent. Rinse. Follow with bleach treatment if necessary. Blood stains that have been set by heat will be difficult to remove.

Bluing

Follow directions for nongreasy stains (p. 17).

Butter, margarine

Follow directions for greasy stains (p. 16).

Candle wax, paraffin

To remove as much wax as possible, place the stain between clean white blotters or several layers of facial tissues and press with warm iron. To remove remaining stain, sponge with a grease solvent (pp. 6 to 9). Or, if safe for fabric, pour boiling water through the spot. Remove any remaining stain with grease solvent.

Candy, sirup

For chocolate candy and sirup follow directions for combination stains (p. 17). For other candy and sirup follow directions for nongreasy stains (p. 17).

First step in removing candle wax stain. Place stain between clean white blotters, then press with warm iron.
Carbon paper

Regular.—Work detergent into stain; rinse well. If stain is not removed put a few drops of ammonia on the stain and repeat treatment with detergent; rinse well. Repeat if necessary.

Duplicating.—Sponge stain with alcohol (pp. 5, 6). Dilute alcohol with 2 parts of water for use on acetate. If stain remains rub detergent into stain; wash and rinse well. Repeat if necessary.

If needed, follow treatment above with a chlorine or peroxygen bleach (pp. 10 to 14).

Catsup, chili sauce

Follow directions for nongreasy stains (p. 17).

Chewing gum

Scrape gum off without damaging fabric. The gum can be scraped off more easily if it is first hardened by rubbing it with ice.

If a stain remains, sponge thoroughly with a grease solvent (pp. 6 to 9).

Chlorine

Use one of the treatments given below to remove yellow stains caused by the use of chlorine bleaches on fabrics with some types of resin finishes (p. 12), or to prevent such stains from appearing. Use the treatment before the fabric is ironed.

On some fabrics the yellow stains form before ironing; on others, after ironing. In either case, ironing before the chlorine is removed weakens the fibers.

Yellow stains caused by the use of chlorine bleach on wool and silk cannot be removed.

White or faded spots caused by use of chlorine bleach on colored fabrics cannot be restored to the original color.

Treatment for any fabric.—Rinse fabric thoroughly with water. Then soak for one-half hour or longer in a solution containing 1 teaspoon of sodium thiosulfate to each quart of warm water. Rinse thoroughly.

To strengthen treatment make sodium thiosulfate solution with water as hot as is safe for fabric.

Treatment for white or fast-color fabrics.—A more effective treatment for fabrics that color removers will not fade is to rinse the fabric thoroughly with water, then use a color remover. Follow directions given on the package for removing stains from these fabrics.

Chocolate

Follow directions for combination stains (p. 17).

Cocoa

Follow directions for nongreasy stains (p. 17).

Coffee, tea

With cream.—Follow directions for combination stains (p. 17).

Without cream.—Follow directions for nongreasy stains (p. 17).

Or, if safe for fabric, pour boiling water through the spot from a height of 1 to 3 feet.
Correction fluid (mimeograph)

Sponge stain with acetone or amyl acetate (pp. 5, 6). Use amyl acetate on acetate, Arnel, Dynel, and Verel—acetone on other fabrics.

Cosmetics—eye shadow, lipstick, liquid makeup, mascara, pancake makeup, powder, rouge

Washable articles.—Apply undiluted liquid detergent to stain. Or dampen stain and rub in soap or synthetic detergent until a thick suds is formed. Work in until outline of stain is gone, then rinse well. Repeat if necessary. It may help to dry fabric between treatments.

Nonwashable articles.—Sponge with a grease solvent (pp. 6 to 9) as long as any color is removed. If stain is not removed, use method given for washable articles.

Crayon

Follow directions for cosmetics.

Cream

Follow directions for combination stains (p. 17).

Dyes

Follow directions for nongreasy stains (p. 17); if bleach is needed use chlorine bleach or color remover. A long soak in sudsy water is often effective on fresh dye stains.

Egg

Follow directions for nongreasy stains (p. 17).

Fingernail polish

Follow directions for correction fluid.

Nail polish removers can also be used to remove stains. Some types are more effective than others. Do not use on acetate, Arnel, Dynel, or Verel without first testing on a scrap of material to be sure it will not damage the fabric.

Fish slime, mucus, vomit

Follow directions for nongreasy stains (p. 17).

Or treat stain with a lukewarm solution of salt and water—1/4 cup salt to each quart of water. Sponge stain with solution or soak stain in it. Rinse well.

Food coloring

Follow directions for nongreasy stains (p. 17).

Fruit

Follow directions for nongreasy stains (p. 17).

Or, if safe for fabric, pour boiling water through spot from a height of 1 to 3 feet.

When any fruit juice is spilled on a fabric it’s a good idea to sponge the spot immediately with cool water. Some fruit juices, citrus among them, are invisible on the fabric after they dry, but turn yellow on aging or heating. This yellow stain may be difficult to remove.
**Furniture polish**

Follow directions for greasy stains (p. 16).

Or, if polish contains wood stain, follow directions given for paint (p. 25).

**Glue, mucilage, adhesives**

Airplane glue, household cement.—Follow directions for correction fluid (p. 21).

Casein glue.—Follow directions for nongreasy stains (p. 17).

Plastic glue.—Wash stain with detergent and water before glue hardens; some types cannot be removed after they have hardened.

The following treatment will remove some dried plastic glue stains. Immerse stain in hot 10-percent acetic acid or hot vinegar. Keep acid or vinegar at or near the boiling point until stain is removed. This may take 15 minutes or longer. Rinse with water.

Rubber cement.—Scrape gummy matter from stain carefully; avoid damaging fabric. Sponge thoroughly with grease solvent (pp. 6 to 9).

Other types of glue and mucilage.—Follow directions for nongreasy stains (p. 17), except soak stain in hot water instead of cool.

**Grass, flower, foliage**

Washable articles.—Work detergent into stain, then rinse. Or, if safe for dye, sponge stain with alcohol (pp. 5, 6). Dilute alcohol with 2 parts of water for use on acetate.

If stain remains use a chlorine or peroxxygen bleach (pp. 10 to 14).

Nonwashable articles.—Use same methods as for washable articles, but try alcohol first if it is safe for dye.

**Gravy, meat juice**

Follow directions for combination stains (p. 17).

**Grease—car grease, lard**

Follow directions for greasy stains (p. 16).

**Ice cream**

Follow directions for combination stains (p. 17).

**Ink, ballpoint**

Sponge stain repeatedly with acetone or amyl acetate (pp. 5, 6). Use amyl acetate on acetate, Arnel, Dynel, and Verel—acetone on other fabrics. This will remove fresh stains. Old stains may also require bleaching (pp. 10 to 14).

Washing removes some types of ballpoint ink stains but sets others. To see if the stain will wash out, mark a scrap of similar material with the ink and wash it.

**Ink, drawing**

Black (India ink).—Treat stain as soon as possible. These stains are very hard to remove if allowed to dry.

Washable articles.—Force water through stain until all loose pigment is removed. Unless loose pigment is removed the stain will spread when you try to remove it.

Wash with detergent, several times if necessary. Then soak stain in warm suds containing 1 to 4 tablespoons of ammonia to a quart of water. Dried stains may need to be soaked overnight.
An alternate method that will remove some stains: Force water through stain until all loose pigment is removed, wet the spot with ammonia, then work detergent into the stain. Rinse. Repeat if necessary.

Nonwashable articles.—Force water through stain until all loose pigment is removed. Unless loose pigment is removed the stain will spread when you try to remove it.

Next, sponge stain with a solution of water and ammonia (1 tablespoon of ammonia per cup water). Rinse with water. If stain remains, moisten it with ammonia, then work detergent into it. Rinse. Repeat if necessary.

If ammonia changes the color of the fabric, sponge first with water, then moisten with vinegar. Rinse well.

Colors other than black.—Follow directions for nongreasy stains (p. 17). If bleach is needed, use a color remover if safe for dye. If color remover is not safe for dye, try other bleaches.

Ink, mimeograph and printing

Fresh stains.—Follow directions for greasy stains (p. 16) or sponge with turpentine (pp. 5, 6).

Stubborn stains.—Follow directions for paint stains (p. 25).

Ink, writing

Washable articles.—Follow directions for nongreasy stains (p. 17). Because writing inks vary greatly in composition it may be necessary to try more than one kind of bleach.

Try a chlorine bleach on all fabrics for which it is safe. For other fabrics, try peroxygen bleach. A few types of ink require treatment with color removers.

The strong treatment of any of these bleaches may be needed. It will not be possible to remove stains that require strong bleaches from some colored fabrics without leaving a faded spot.

If a yellow stain remains after bleaching, treat as a rust stain (p. 26).

Nonwashable articles.—If possible, use a blotter (for small stains) or absorbent powder to remove excess ink before it soaks into the fabric (p. 3). Then follow directions for washable articles.

Iodine

Washable articles.—Three methods for removing iodine stains are given below. If the method you try first does not remove the stain, try another.

Water.—Soak in cool water until stain is removed; some stains require soaking overnight.

If stain remains, rub it with detergent and wash in warm suds. If stain is not removed, soak fabric in a solution containing 1 tablespoon of sodium thiosulfate to each pint of warm water, or sprinkle the crystals on the dampened stain. Rinse well as soon as stain is removed.

Steam.—Moisten stain with water then hold it in the steam from a boiling teakettle.

Alcohol.—If alcohol is safe for dye, cover stain with a pad of cotton soaked in alcohol (pp. 5, 6). If necessary keep pad wet for several hours. Dilute with 2 parts of water for use on acetate.

Nonwashable articles.—Try the steam or alcohol methods given above first.

If these methods are not safe for fiber or dye or if the stain remains after using them, cover stain with a pad of cotton dampened in a solution of sodium thiosulfate (1 tablespoon sodium thiosulfate to each pint of water) for about 15 minutes. Rinse well. Repeat treatment if necessary.
Lacquer

Follow directions for correction fluid (p. 21).

Mayonnaise, salad dressing

Follow directions for combination stains (p. 17).

Medicines. (See also Argyrol, Iodine, Mercurochrome, Silver nitrate.)

Because so many different substances are used in medicines it is not possible to give methods for removing all such stains.

Medicines with an oily base, gummy and tarry medicines.—Follow directions for greasy stains (p. 16).

Medicines in sugar sirup or in water.—Wash stain out with water.

Medicines dissolved in alcohol (tinctures).—Sponge stain with alcohol (pp. 5, 6). Dilute with 2 parts of water for use on acetate.

Medicines that contain iron.—Follow directions for rust (p. 26).

Medicines that contain dyes.—Follow directions for dyes (p. 21).

Mercurochrome, merthiolate, metaphen

Washable articles.—Soak overnight in a warm detergent solution that contains 4 tablespoons of ammonia to each quart of water.

Nonwashable articles.—If alcohol is safe for the dye, sponge with alcohol (pp. 5, 6) as long as any of the stain is removed. Dilute alcohol with 2 parts of water for use on acetate.

If a stain remains, place a pad of cotton saturated with alcohol on the stain. Keep pad wet until stain is removed; this may take an hour or more.

If alcohol is not safe for the dye, wet stain with liquid detergent. Add a drop of ammonia with a medicine dropper. Rinse with water. Repeat if necessary.

Metal

To remove stains caused by tarnished brass, copper, tin, and other metals use vinegar, lemon juice, acetic acid, or oxalic acid. (See pp. 10, 15 for directions for using these removers; use lemon juice according to the directions given for vinegar.) The two acids, because they are stronger, will remove stains that cannot be removed by vinegar or lemon juice.

As soon as the stain is removed, rinse well with water.

Do not use chlorine or peroxygen bleaches. These bleaches may cause damage because the metal in the stain hastens their action.

Mildew

Washable articles.—Treat mildew spots while they are fresh, before the mold growth has a chance to weaken the fabric.

Wash mildewed article thoroughly. Dry in the sun. If stain remains treat with a chlorine or peroxygen bleach (pp. 10 to 14).

Nonwashable articles.—Send article to drycleaner while stain is fresh.

Milk

Follow directions for nongreasy stains (p. 17).
**Mud**

Let stain dry, then brush well. If stain remains, follow directions for nongreasy stains (p. 17). Stains from iron-rich clays not removed by this method should be treated as rust stains (p. 26).

**Mustard**

_Washable articles._—Rub detergent into the dampened stain; rinse. If stain is not removed, soak article in hot detergent solution for several hours, or overnight if necessary.

If stain remains, use a bleach (pp. 10 to 14). Strong sodium perborate treatment, if safe for the fabric, is often the most effective bleach.

_Nonwashable articles._—If safe for dye, sponge stain with alcohol. Dilute alcohol with 2 parts of water for use on acetate.

If alcohol cannot be used, or if it does not remove stain completely, follow treatment for washable articles, omitting the soaking.

**Oil—fish-liver oil, linseed oil, machine oil, mineral oil, vegetable oil**

Follow directions for greasy stains (p. 16).

**Paint, varnish**

Treat stains promptly. They are much harder, sometimes impossible, to remove after they have dried on the fabric. Because there are so many different kinds of paints and varnishes it is impossible to give one method that will remove all stains. Read the label on the container; if a certain solvent is recommended as a thinner it may be more effective in removing stains than the solvents recommended at right.

_Washable articles._—To remove fresh stains rub detergent into stain and wash.

If stain has dried or is only partially removed by washing, sponge with turpentine (pp. 5, 6) until no more paint or varnish is removed; for aluminum paint stains, trichloroethylene (pp. 6 to 9) may be more effective than turpentine; do not use this solvent on Arnel or Kodel.

While the stain is still wet with the solvent, work detergent into it, put the article in hot water, and soak it overnight. Thorough washing will then remove most types of paint stains.

If stain remains, repeat the treatment.

_Nonwashable articles._—Sponge fresh stains with turpentine (pp. 5, 6) until no more paint is removed; for aluminum paint stains, trichloroethylene (pp. 6 to 9) may be more effective than turpentine. Do not use trichloroethylene on Arnel or Kodel.

If necessary, loosen more of the paint by covering the stain for 30 minutes or longer with a pad of cotton dampened with the solvent. Repeat sponging.

If stain remains, put a drop of liquid detergent on the stain and work it into the fabric with the edge of the bowl of a spoon.

Alternate sponging with turpentine and treatment with detergent as many times as necessary.

If alcohol is safe for dye, sponge stain with alcohol to remove turpentine and detergent. Dilute alcohol with two parts of water for use on acetate. If alcohol is not safe for dye, sponge stain first with warm detergent solution, then with water.

**Pencil marks**

_Lead pencil, colored pencil._—A soft eraser will remove these marks from some fabrics. If mark cannot
be erased follow directions for regular carbon paper (p. 20).

**Indelible pencil.**—Follow directions for duplicating carbon paper (p. 20).

**Perfume**

Follow directions for alcoholic beverages (p. 18).

**Perspiration**

Wash or sponge stain thoroughly with detergent and warm water. Work carefully because some fabrics are weakened by perspiration; silk is the fiber most easily damaged.

If perspiration has changed the color of fabric, try to restore it by treating with ammonia or vinegar. Apply ammonia to fresh stains; rinse with water. Apply vinegar to old stains; rinse with water.

If an oily stain remains, follow directions for greasy stains (p. 16).

Remove any yellow discoloration with a chlorine or peroxygen bleach (pp. 10 to 14). If safe for fabric, the strong sodium perborate treatment is often the most effective for these stains.

**Plastic**

To remove stains caused by plastic hangers or buttons that have softened and adhered to the fabric, use amyl acetate or trichloroethylene (pp. 5, 6). Test colored fabrics to be sure dye does not bleed. Do not use trichloroethylene on Arnel or Kodel.

Sponge stain with a pad of absorbent cloth or cotton moistened with the solvent. In using these solvents, observe precautions listed on page 9.

If the plastic has been absorbed in the fabric it may be necessary to place a pad wet with the solvent on the spot and let it remain until the plastic has softened. Sponge with a fresh pad moistened with the solvent. Repeat until all plastic has been removed.

**Rust**

**Oxalic-acid method.**—Moisten stain with oxalic acid solution (1 tablespoon of oxalic acid crystals in 1 cup warm water). If stain is not removed, heat the solution and repeat.

If stain is stubborn, place oxalic acid crystals directly on the stain. Moisten with water as hot as is safe for fabric and allow to stand a few minutes, or dip in hot water. Repeat if necessary. Do not use this method on nylon.

Rinse article thoroughly. If allowed to dry in fabric, oxalic acid will cause damage.

**Precaution:** Oxalic acid is poison if swallowed.

**Cream-of-tartar method.**—If safe for fabric, boil stained article in a solution containing 4 teaspoons of cream of tartar to each pint of water. Boil until stain is removed. Rinse thoroughly.

**Lemon-juice method.**—Spread the stained portion over a pan of boiling water and squeeze lemon juice on it.

Or sprinkle salt on the stain, squeeze lemon juice on it, and spread in the sun to dry. Rinse thoroughly. Repeat if necessary.

**Color removers** (p. 14) can be used to remove rust stains from white fabrics.

**Sauces, soups**

Follow directions for combination stains (p. 17).
Scorch

If article is washable follow directions for nongreasy stains (p. 17).

To remove light scorch on non-washable articles use hydrogen peroxide (p. 14). The strong treatment may be needed. Repeat if necessary.

For surface scorch on heavy fabrics you may be able to remove damaged part of the fibers with very fine sandpaper.

Severe scorch cannot be removed; it damages the fabric.

Shellac

Sponge stain with alcohol, or soak the stain in alcohol (pp. 5, 6). Dilute alcohol with 2 parts water for use on acetate. If alcohol bleeds the dye, try turpentine (see paint, p. 25).

Shoe polish

Because there are many different kinds of shoe polish no one method will remove all stains. It may be necessary to try more than one of the methods given below.

1. Follow directions for cosmetics (p. 21).

2. Sponge stain with alcohol if safe for dye in the fabric. Dilute alcohol with 2 parts of water for use on acetate.

3. Sponge stain with grease solvent or turpentine (pp. 5 to 9). If turpentine is used, remove turpentine by sponging with a warm detergent solution or with alcohol.

If stain is not removed by any of these methods use a chlorine or peroxygen bleach (pp. 10 to 14). The strong sodium perborate treatment, if safe for the fabric, is often the most effective bleach.

Silver nitrate

Dampen stain with water. Then put a few drops of tincture of iodine on the stain. Let stand for a few minutes. Then treat as an iodine stain.

Unless stain on silk or wool is treated when fresh a yellow or brown discoloration will remain.

Soft drinks

Follow directions for nongreasy stains (p. 17).

When any soft drink is spilled on a fabric it’s a good idea to sponge the spot immediately with cool water. Some soft drinks are invisible after they dry, but turn yellow on aging or heating. The yellow stain may be difficult to remove.

Soot, smoke

Follow directions for cosmetics (p. 21).

Tar

Follow directions for greasy stains (p. 16).

If stain is not removed by this method, sponge with turpentine (pp. 5, 6).

Tea. (See Coffee.)

Tobacco

Follow directions for grass (p. 22).
Transfer patterns

Follow directions for greasy stains (p. 16).

Typewriter ribbon

Follow directions for regular carbon paper (p. 20).

Unknown stains

If stain appears greasy, treat it as a greasy stain (p. 16). Otherwise, treat it as a nongreasy stain (p. 17).

See also yellowing (p. 28).

Walnut, black

These stains are very difficult to remove.

Washable articles.—If safe for fabric, boil washable articles in soapy water. This will remove fresh stains.

If stain is not removed, use a strong chlorine or sodium perborate bleach treatment (pp. 12, 13).

If stain remains, treat as a rust stain (p. 26).

Nonwashable articles.—These stains cannot be removed by home methods. Send the article to a dry-cleaner.

Wax—floor, furniture, car

Follow directions for greasy stains (p. 16).

Urine

To remove stains caused by normal urine follow directions for nongreasy stains (p. 17).

If color of fabric has been changed, sponge stain with ammonia (p. 15). If this treatment does not restore the color, sponging with acetic acid or vinegar may help (p. 15).

If stain is not removed by method given above, see directions for medicines (p. 24) and yellowing.

Yellowing, brown stains

To remove yellow or brown stains that appear in some fabrics during storage or unknown yellow or yellow-brown stains, use as many of the following treatments that are safe for the fabric as necessary, in the order given.

1. Wash.
2. Use a mild treatment of a chlorine or peroxygen bleach (pp. 12 to 14).
3. Use the oxalic-acid method for treating rust stains (p. 26).
4. Use a strong treatment of a chlorine or peroxygen bleach (pp. 12, 13).

For removal or prevention of yellow stains caused by use of chlorine bleach on resin-treated fabrics, see page 20.

Vegetable

Follow directions for nongreasy stains (p. 17).
# Index to Stains

<table>
<thead>
<tr>
<th>Stain</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>18</td>
</tr>
<tr>
<td>Acids</td>
<td>18</td>
</tr>
<tr>
<td>Adhesive tape</td>
<td>18</td>
</tr>
<tr>
<td>Adhesives</td>
<td>22</td>
</tr>
<tr>
<td>Airplane glue</td>
<td>22</td>
</tr>
<tr>
<td>Alcoholic beverages</td>
<td>18</td>
</tr>
<tr>
<td>Alkalies</td>
<td>18</td>
</tr>
<tr>
<td>Ammonia</td>
<td>18</td>
</tr>
<tr>
<td>Antiperspirants</td>
<td>18</td>
</tr>
<tr>
<td>Argyrol</td>
<td>19</td>
</tr>
<tr>
<td>Ballpoint ink</td>
<td>22</td>
</tr>
<tr>
<td>Beets. (See Vegetable.)</td>
<td></td>
</tr>
<tr>
<td>Berry. (See Fruit.)</td>
<td></td>
</tr>
<tr>
<td>Beverages:</td>
<td></td>
</tr>
<tr>
<td>Alcoholic</td>
<td>18</td>
</tr>
<tr>
<td>Chocolate</td>
<td>20</td>
</tr>
<tr>
<td>Cocoa</td>
<td>20</td>
</tr>
<tr>
<td>Coffee</td>
<td>20</td>
</tr>
<tr>
<td>Fruit juice</td>
<td>20</td>
</tr>
<tr>
<td>Milk</td>
<td>24</td>
</tr>
<tr>
<td>Soft drinks</td>
<td>27</td>
</tr>
<tr>
<td>Tea</td>
<td>20</td>
</tr>
<tr>
<td>Black walnut</td>
<td>28</td>
</tr>
<tr>
<td>Blood</td>
<td>19</td>
</tr>
<tr>
<td>Bluing</td>
<td>19</td>
</tr>
<tr>
<td>Brass</td>
<td>24</td>
</tr>
<tr>
<td>Brown stains</td>
<td>28</td>
</tr>
<tr>
<td>Butter</td>
<td>19</td>
</tr>
<tr>
<td>Candle wax</td>
<td>19</td>
</tr>
<tr>
<td>Candy</td>
<td>19</td>
</tr>
<tr>
<td>Car grease</td>
<td>22</td>
</tr>
<tr>
<td>Car wax</td>
<td>28</td>
</tr>
<tr>
<td>Carbon paper</td>
<td>20</td>
</tr>
<tr>
<td>Casein glue</td>
<td>22</td>
</tr>
<tr>
<td>Catsup</td>
<td>20</td>
</tr>
<tr>
<td>Cement:</td>
<td></td>
</tr>
<tr>
<td>Household cement</td>
<td>22</td>
</tr>
<tr>
<td>Rubber</td>
<td>22</td>
</tr>
<tr>
<td>Chewing gum</td>
<td>20</td>
</tr>
<tr>
<td>Chili sauce</td>
<td>20</td>
</tr>
<tr>
<td>Chlorine</td>
<td>20</td>
</tr>
<tr>
<td>Chocolate</td>
<td>20</td>
</tr>
<tr>
<td>Cocoa</td>
<td>20</td>
</tr>
<tr>
<td>Coffee</td>
<td>20</td>
</tr>
<tr>
<td>Combination stains</td>
<td>17</td>
</tr>
<tr>
<td>Copper</td>
<td>24</td>
</tr>
<tr>
<td>Correction fluid, mimeograph</td>
<td>21</td>
</tr>
<tr>
<td>Cosmetics</td>
<td>21</td>
</tr>
<tr>
<td>Cranberry. (See Fruit.)</td>
<td></td>
</tr>
<tr>
<td>Crayon</td>
<td>21</td>
</tr>
<tr>
<td>Cream</td>
<td>21</td>
</tr>
<tr>
<td>Deodorants</td>
<td>18</td>
</tr>
<tr>
<td>Drawing ink</td>
<td>22</td>
</tr>
<tr>
<td>Drinks, soft</td>
<td>27</td>
</tr>
<tr>
<td>Dye</td>
<td>21</td>
</tr>
<tr>
<td>Finger nail polish</td>
<td>21</td>
</tr>
<tr>
<td>Fish-liver oil</td>
<td>25</td>
</tr>
<tr>
<td>Fish slime</td>
<td>21</td>
</tr>
<tr>
<td>Floor wax</td>
<td>28</td>
</tr>
<tr>
<td>Flower</td>
<td>22</td>
</tr>
<tr>
<td>Foliage</td>
<td>22</td>
</tr>
<tr>
<td>Food coloring</td>
<td>21</td>
</tr>
<tr>
<td>Fruit</td>
<td>21</td>
</tr>
<tr>
<td>Furniture polish</td>
<td>22</td>
</tr>
<tr>
<td>Furniture wax</td>
<td>28</td>
</tr>
<tr>
<td>Glue</td>
<td>22</td>
</tr>
<tr>
<td>Grape. (See Fruit.)</td>
<td></td>
</tr>
<tr>
<td>Grapefruit. (See Fruit.)</td>
<td></td>
</tr>
<tr>
<td>Grass</td>
<td>22</td>
</tr>
<tr>
<td>Gravy</td>
<td>22</td>
</tr>
<tr>
<td>Grease</td>
<td>22</td>
</tr>
<tr>
<td>Greasy stains</td>
<td>16</td>
</tr>
<tr>
<td>Gum, chewing</td>
<td>20</td>
</tr>
<tr>
<td>Household cement</td>
<td>22</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>18</td>
</tr>
<tr>
<td>Ice cream</td>
<td>22</td>
</tr>
<tr>
<td>Indelible pencil</td>
<td>26</td>
</tr>
<tr>
<td>Ink</td>
<td>22</td>
</tr>
<tr>
<td>Iodine</td>
<td>23</td>
</tr>
<tr>
<td>Iron. (See Rust.)</td>
<td></td>
</tr>
<tr>
<td>Juice:</td>
<td></td>
</tr>
<tr>
<td>Fruit</td>
<td>21</td>
</tr>
<tr>
<td>Meat</td>
<td>22</td>
</tr>
<tr>
<td>Lacquer</td>
<td>24</td>
</tr>
<tr>
<td>Lard</td>
<td>22</td>
</tr>
<tr>
<td>Linseed oil</td>
<td>25</td>
</tr>
<tr>
<td>Lipstick</td>
<td>21</td>
</tr>
<tr>
<td>Liquid makeup</td>
<td>21</td>
</tr>
<tr>
<td>Page</td>
<td>Page</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Lye</td>
<td>Rust</td>
</tr>
<tr>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>Machine oil</td>
<td>Salad dressing</td>
</tr>
<tr>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>Makeup:</td>
<td>Sauces</td>
</tr>
<tr>
<td></td>
<td>26</td>
</tr>
<tr>
<td>Liquid</td>
<td>Scoch</td>
</tr>
<tr>
<td>21</td>
<td>27</td>
</tr>
<tr>
<td>Pancake</td>
<td>Silver nitrate</td>
</tr>
<tr>
<td>21</td>
<td>27</td>
</tr>
<tr>
<td>Margarine</td>
<td>Shoe polish</td>
</tr>
<tr>
<td>19</td>
<td>27</td>
</tr>
<tr>
<td>Mayonnaise</td>
<td>Sirup</td>
</tr>
<tr>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>Meat juice</td>
<td>Smoke</td>
</tr>
<tr>
<td>22</td>
<td>27</td>
</tr>
<tr>
<td>Medicines</td>
<td>Soft drinks</td>
</tr>
<tr>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>Mercurochrome</td>
<td>Soot</td>
</tr>
<tr>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>Methylate</td>
<td>Soups</td>
</tr>
<tr>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>Metal</td>
<td>Spinach. (See Vegetable.)</td>
</tr>
<tr>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>Metaphen</td>
<td>Sulfuric acid</td>
</tr>
<tr>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>Mildew</td>
<td>Tar</td>
</tr>
<tr>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>Milk</td>
<td>Tarnish stains</td>
</tr>
<tr>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Mimeograph correction fluid</td>
<td>Tea</td>
</tr>
<tr>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>Mimeograph ink</td>
<td>Tin</td>
</tr>
<tr>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Mineral oil</td>
<td>Tobacco</td>
</tr>
<tr>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td>Mucilage</td>
<td>Tomato. (See Vegetable.)</td>
</tr>
<tr>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>Mucus</td>
<td>Tomato sauce. (See Catsup.)</td>
</tr>
<tr>
<td>21</td>
<td>28</td>
</tr>
<tr>
<td>Mud</td>
<td>Transfer patterns</td>
</tr>
<tr>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>Mustard</td>
<td>Typewriter ribbon</td>
</tr>
<tr>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>Nongreasy stains</td>
<td>Unknown</td>
</tr>
<tr>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>Oil</td>
<td>Urine</td>
</tr>
<tr>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>Orange. (See Fruit.)</td>
<td>Varnish</td>
</tr>
<tr>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Paint</td>
<td>Vegetable</td>
</tr>
<tr>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>Pancake makeup</td>
<td>Vegetable oil</td>
</tr>
<tr>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td>Paraffin</td>
<td>Vomit</td>
</tr>
<tr>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td>Pen oil</td>
<td>Walnut, black</td>
</tr>
<tr>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>Perfume</td>
<td>Wax:</td>
</tr>
<tr>
<td>26</td>
<td>19</td>
</tr>
<tr>
<td>Perspiration</td>
<td>Candle</td>
</tr>
<tr>
<td>26</td>
<td>19</td>
</tr>
<tr>
<td>Plastic</td>
<td>Car</td>
</tr>
<tr>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td>Plastic glue</td>
<td>Floor</td>
</tr>
<tr>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>Powder, face</td>
<td>Furniture</td>
</tr>
<tr>
<td>21</td>
<td>28</td>
</tr>
<tr>
<td>Printing ink</td>
<td>Paraffin</td>
</tr>
<tr>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>Rouge</td>
<td>Writing ink</td>
</tr>
<tr>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>Rubber cement</td>
<td>Yellowing</td>
</tr>
<tr>
<td>22</td>
<td>28</td>
</tr>
</tbody>
</table>