

Common Stains and Stain Removers

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COMMON STAINS AND STAIN REMOVERS

By FLORENCE KNOX, '26

The Effect of the Different Types of Stain Removers on Common Stains and Fabrics—Simple and Inexpensive Methods Employed in the Removal of All Ordinary Stains

N connection with the cleaning and care of articles made of textile fabrics, the removal of stains is very important. The laundries and dry-cleaning concerns are ever spending more time and money in using and finding the best scientific methods for removing stains from all kinds of fabrics. If the ordinary housewife would spend a few hours of study, she can effectively and inexpensively carry out most of these processes in her home. There are several things she must know to do this: First, the nature of the stain; Second, an agent that will react to remove the stain; and third, the effect the reagent has on the material itself.

There are three general types of reagents used in stain removal-absorbents, solvents, and chemical reagents. The absorbents remove some kinds of stains by absorbing them. Fuller's earth is a natural clay having an absorbent action on oils and grease. It may be used for the household removal of grease spots from textile fabrics by rubbing the spot with some of the powder. Fresh powder must be used when the old shows signs of becoming greasy. Sometimes heat may be used. In this case, place a layer of the absorbent on each side of the fabric, both above and below the stain and apply a warm iron using only a slight amount of pressure. Other absorbents that can be used in this manner are French chalk and magnesia. Absorbents may be necessary if the stained material cannot be washed.

Solvents are liquids that remove stains because the stains are composed of materials that are soluble. If the material is washable, cold water is the most common solvent. If the stain is fresh, cold water alone may carry off the stain. Sometimes hot water is needed to dissolve it. If hot water and soap are used first, the stain is usually set and is difficult to remove without injury to the fabric. If boiling water is to be used, spread the material over a large bowl and pour the water through the stain until it disappears. The kettle containing the water should be held high so the water may fall with force on the stain. Benzine and cleaning naphtha are ef-

fective fat and grease solvents, but are highly inflammable. Carbon tetrachloride, whose trade-name is Carbona or Clenzoil, is an excellent solvent for fats and is safer than most solvents because it is non-inflammable. Chloroform is a solvent for fats, kerosene, resins, and rubber and is non-inflammable. Ether, although an excellent solvent for fats and mineral oils, is highly inflammable. There is danger from fire and explosion in its use. Gasoline is a solvent for fats and oils. It becomes dangerous when used in a closed room because it volatilizes at a low temperature and the gas that is formed is explosive when mixed with air. Turpentine is a solvent for varnish, paint, resins, and oils.

Many stains cannot be removed with either absorbents or with any of the above mentioned reagents. In these cases, they may be removed with certain chemical reagents. The value of these depends on the fact that they react chemically with the material of which the stain is composed, forming compounds which are soluble or colorless, or both. Chlorine water acts as a bleaching agent and colored compounds that undergo oxidation can be bleached with it. When chlorine water is used in bleaching, the fabric should be treated with an antichlor solution (a solution of sodium thiosulphate), followed by thorough rinsing in water. The chlorine that remains in the fabric weakens the threads and the antichlor solution reacts with it removing it. Chlorine water should not be used upon silk or wool. Do not use it upon colored fabrics without determining by using a sample of the cloth whether or not the color of the fabric will be affected. Chlorine water is difficult to prepare and cannot be kept very long. For these reasons, chlorinated lime is more often used for bleaching. To use this, dissolve five grams of chlorinated lime in 150 cc. of cold water (in proportion of one-half ounce of lime to one pint of water). Strain through a piece of cheese-cloth into a glass dish or large bowl. Then put a 1-20 solution of hydrochloric acid into another glass dish. Place the material to be bleached in the chlorinated lime

solution and allow it to stand five minutes. (Do not breathe fumes from the solution). Remove and place in the acid solution. Then place the fabric alternately in the two solutions until it is bleached. After bleaching immerse it in a solution of sodium thiosulphate. It should then be rinsed with water.

Javelle water is used for bleaching and for removing of stains. To prepare it, mix thoroughly 1 pound of sal soda, 1-4 pound chloride of lime, and two quarts of cold water. Let it stand several hours. Pour off the clear liquid and keep in a glass stoppered bottle for use. It should be kept in a dark cool place. In using this, stretch the stained article and rub if necessary. Always rinse in ammonia water after the stain has been removed until all the odor of lime is gone.

Potassium permanganate is an oxidizing agent which can be used in removing many colored stains. It is non-injurious to delicate fabrics, if used with care. After using this, a brown stain usually is formed, but can be removed by treatment with a solution of oxalic acid.

Hydrogen peroxide is used many times to bleach delicate fabrics which might be injured by chlorine. Since commercial solutions of hydrogen peroxide contain acid to make the compound more stable, the solution must be made alkaline at the time it is used as a bleaching agent. For home use, borax may be used. Dissolve some borax in a small amount of water and using litmus paper, neutralize the commercial peroxide. After soaking the materials to be bleached in a solution of borax for about five minutes, wring them, and place them into the neutralized solution of hydrogen peroxide. Let stand in this for several hours.

Sulphur dioxide is used sometimes but is rather inconvenient for household use.

Stain removal agents which will fulfill the needs of the average household are javelle water, hydrogen peroxide, benzine, potassium permanganate, carbon tetrachloride, and oxalic acid. It is best to keep all of them (Continued on Page 16)

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Common Stains and How to Remove Them

Stains should be removed before the article is washed. When the stain is fresh and moist, it comes out easiest. Many times cold water will remove a stain and sometimes hot water is necessary. If possible, determine the character of the stain before trying to remove it for some stains are set by treatment that would remove others. Consider the material that is to be treated. White and colored materials, cotton, linen, silk, and wool should not always be treated in the same manner.

For removing stains the following methods may be used. In case of lack of materials, several methods are given for the removal of each type of stain.

Stains from Acids:

1. Neutralize as quickly as possible with an alkaline solution. Use household ammonia, borax solution, or baking soda solution.

Stains from Alkalies:

1. Neutralize with weak acids. Use vinegar, lemon juice, or oxalic acid solution.

Stains from Bluing:

1. Spots from ball bluing may be removed by soaking in cold water or by vigorous rubbing with soap and warm water.

2. Spots from liquid bluing may be removed by application of boiling water.

Stains from Chocolate or Cocoa:

1. Fresh cocoa stains can usually be removed by boiling water.

2. Rub with soap and warm water. 3. If long standing, use a bleaching agent.

Stains from Coffee:

1. If fresh, use boiling water.

2. For an older stain, potassium permanganate followed by oxalic acid.

3. Treat with Hydrogen peroxide. Fruit Stains:

1. For fresh stains, pour boiling water through stain.

2. For older stains, use a bleaching agent.

Grease Stains:

1. Cold water.

2. Sponge vigorously with wood alcohol.

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Grease and Oils:

1. Fats removed by treatment of fat absorbent.

2. Kerosene is soluble in ether, chloroform, or benzene.

3. Lubricating oils (grease stains) are soluble in carbon tetrachloride, gasoline, alcohol, or ether.

Ink Stains:

1. Ordinary writing ink:

a. Soak in a solution of oxalic acid. Does not affect wools or remove color of fabric.

b. Treat with Javelle water. This bleaches colored materials.

c. Soak in sour milk.

2. Marking inks:

a. Soak in sodium thiosulphate for several days followed by vigorous rubbing. No reagent has been found up to the present time which has proven at all effective in removing marking inks.

3. Red inks:

a. Water will remove most of these spots from fabrics.

Iodine Stains:

1. Soak in a solution of sodium thiosulphate.

Iron Rust:

1. Some iron stains are caused from contact with iron in the presence of air and moisture. Others may be caused by the use of iron compounds (such as liquid bluing) upon clothes that have not been thoroughly rinsed. If a soap containing free alkali has been used and has not been entirely removed in rinsing, it will react with the bluing forming ferric hydroxide, which on drying in the fabric will form ferric oxide or a rust stain. Treat with dilute hydrochloric or oxalic acid.

Paint:

1. If fresh, remove with turpentine or chloroform.

2. If old, let soak for some time in one of the above solvents and then rub.

Varnish:

1. Remove with benzene, turpentine, or chloroform.

Tar:

1. Gasoline.

2. If dry, soften with butter and wash with soap and water.

Paraffin:

1. Scrape off excess and then treat with benzene.

Scorch:

1. Put water on spot and place in sunshine.

Tea:

1. If fresh, pour boiling water on stain.

2. Treat with bleaching agent,