25. STAIN REMOVAL

Suddenly unexpected stains, unseen stains are natural to smudge on the garment. Try to remove stain quickly and spot when it comes on dress because we know about that stain and spot so removing the spot is easy, but if spot is old then it becomes tough. Secondly we can't remember about the spot. In that case removing of spot become difficult and for removing the spot if wrong chemical is used then the yarn of garments gets damaged.

The following point is important in the process of removing the stain, that it is important to identify the stain and choose the suitable medium to discard, then use the stain removal procedure or method.

Classification of stains

Animal	**Vegetable**	**Greasy**	**Mineral**	**Colour**	**Grass**	**Others**
milk	tea	oil	ink	warnish	grass	sweat
curd	coffee	ghee	medicine	colour of printing,	leaves	burn
egg	honey	butter	rust	dying and drawing		
blood	fruit	cream				
meat	vegetable	grease				

Identification of stain : Identification of type of stain can be done by following three methods :

(1) **On seeing: :** Unknown stain can be identified by its color and size or by looking at it like blue ink, tea, coffee, turmeric and nail polish. When the cloth is stained with oil spreads, ghee or spot of ink it spread while paint or nail paint is thickened on that same place.

(2) **Smelling :** Identificition can be done by smelling specially intense and clear smell like sweat, perfumes, paint, pickles, shoes polish & nail paint etc.

(3) **Touching :** Identification of some stain and spots can be done by touching, like egg, custard milk etc spots become dry and hard. Paint and nail paint spot get thickened on cloth. Chewing gum and chocolate spot are sticky.

(1) **Animated spot :** Animated food substance like milk, yoghurt, egg, flesh and blood is associated with it and fall in this category. Coming in contact of heat, protein gets coagulated on layer of cloth and makes it hard. This type of stain should be removed with cold water.

(2) **Vegetable spots :** Tea, coffee, fruit, juice, honey, vegetable, coco etc spots come in this category. Generally it is acedic in nature, to remove this type of stain alkaline product are used.

(3) Oily spots : Ghee, oil, butter, hair oil, etc. fall in this category. It can be removed from the clothes by absorbents and solvent.

(4) Organic spot : Organic substances are found in this type of spot. It is a medicinal, rust and ink spot. Firstly it removes by acedic solution, after that alkaline solution is used to make it free from acidic effect.

Table 25.1: Methods of Stain Removal

S. No.	Use	Method	Useful substances
1. Solution	Use to remove fat soluble stains	1. Remove the dirt & dust over the clothes 2. Place the stained part of cloth on towel or bloating paper 3. Apply solution in circular motion with the help of sponge or cotton ball 4. Stain is soaked by bloating paper and clean through this process 5. This process is called sponge method.	Petrol, Methylated, Spirit, Acetone, Linseed oil, Kerosene, Benzene, Carbon tetra chloride
2. Absorbents	Use to remove greasy stains	1. Sprinkle absorbent on stain, it will absorb the oil/fat 2. Apply wet absorbent on both side of stain and keep aside, it will absorb the grease & remove with brush after drying. 3. Rub wet bread on burn stain to clean it.	Wheat flour, Refined flour, Bread crumbs, Talcum powder, Chalk powder, Salt and Wet bread
3. Chemicals	Use to remove stains not cleaned by above two methods or stubborn kind of stains	1. Remove stains by sponge method and dilute solution of chemical reactants. 2. Dip the spotted part of clothes in chemical or sprinkle few drops on stain to remove it. 3. Use chemicals very cautiously. 4. Rinse the garments repeatedly with water to make chemical free.	Sodium perborate, Borax, Hydrogen peroxide, Water, Lemon juice, Oxalic acid, Suhaga.

(5) Color spot : Nature of color is of different types, some are alkaline, acidic, and other neutral. One should know the nature of spots then only start process for removing spot.

(6) Spot of grass : It is made up of chlorophyll. It is in separate category of vegetable spot. It can be remove from soap water when fresh and if it is old use methylated spirit for removal.

(7) Enamel paint or varnishing spot : The nature of enamel and varnishing paint is different from other spot. Therefore, kept in the separate category.

(8) Different and unknown spot : Spot of sweat is not kept in the category of animated spot because protein is absent. It contains acidic spot. It can be clean with cold water or solution

of ammonia. In the same way the spot of burn does not comes in a special category. So it is categorized in others class.When cotton clothes comes in the contact of intense heated iron, turns into brown or burn spot which can be removed by washing clothes and bleached.

Some of the spot cannot be recognized due to the reason of old & dry, which change the color shape, smell, everything, in that it cannot be recognized. Such type of unknown spot can be removed by chemicals.

Different types of chemicals are used to remove the different type of spots :

(1) (i) Oxidation and oxidizing reagent : Oxygen is the important part of oxidizing reagent, it comes in the contact of spot in free form and make it colorless compund. This reagent is good for white clothes, but not suitable for colored clothes. If it used on the colored clothes it destroys the color of the cloths. oxidizing reagents are following:-

a) **Sunlight, air & grass :** Natural reagent are easily available. From that linen and cotton clothes become white and free from stains and spots. After washing of stained clothes, spread them under sunlight. In the presence of oxygen and moisture removal of chlorophyll become fast. Spots are removed and cloth become clean and white.

b) **Sodium hydrochloride :** It is a powerful reagent which is also known by name "jewel water". It can be prepared at home by using washing soda - 250 gm, boiled water - 500 ml, lime - 250 gm and cold water - 2 liter and store in glass bottle. By mixing the equal parts of hot water stains on cotton and linen clothes can be removed.

c) **Sodium perborate :** This chemical is used to remove the stain and spot. It is also a powerful reagent. Oxygen released after mixing in hot water. Mix the sodium perborate in hot water (boiled) and sponge it. It removes stains very quickly.

d) **Potassium permanganate :** It is used to remove the spot of fungus, color and sweat. In half liter of water, half tablespoon of potassium permanganate mix to make solution to remove the spot, but due to potassium permanganate color of the dress becomes brown, which can be removed by oxalic acid or hydrogen peroxide.

e) **Hydrogen peroxide :** This agent is good for the clothes made up of animal fiber. It's a soft type of reagent which is used on all types of clothes. The ratio used is one part reagent and six part of cold water. After using this reagent rinse the cloth with clean water and remove the effect of reagent.

(ii) Bleaching Agent : When this agent is used, it removes the oxygen from the spot and disintegrate the spot to remove stain. It is used for animal fiber. They are of following types :

a) **Sodium bi-sulphite :** It is good for the clothes which is made up of animal fiber. It is an effective reagent. After coming in the contact of clothes, it releases sulphur -di – oxide. Which breaks oxygen and remove the spot. After using this, quickly rinse the clothes in clean water and save the clothes from the harm of reagent.

b) **Sodium hydro-sulphite :** This agent is available in the market in powder form. It can be used for all types of clothes. Dissolve this reagent in water and wash the spotted clothes. It clean the spot by action of oxygen. Wash the clothes in clean water after using this. .

(2) Acidic reagent : As the name indicates it is acidic by nature. It used on spot which is alkaline in nature. They are following :

a) **Oxalic acid :** This reagent is used to remove the spot of rust and flower sap. It is granular, poisonous, and chemical

substance. So, it should be used carefully. The clothes should be neutralize with ammonia after removing the stain and spot otherwise clothes degrade. It should not be used on those clothes which are made up of animal fiber.

b) **Lime salt :** It is also called sorale salt. It is used similar to oxalic acid.

c) **Acetic acid :** Dilute solution is used to remove the spot. In one pint of water 1 tea spoon acetic acid is sufficient. vinegar can be used in place of it.

d) **Oleic acid :** It is used to remove the greasy spot from cotton clothes. It cannot be used in colored, silk, & woolen clothes.

(3) Alkaline reagents : As the name suggest nature of this is alkaline. It should be used only on cotton & linen clothes. Alkaline reagents harm the animal fiber when used in high concentration**.** While dilute solution can be used on clothes made up of animal fiber. Others are as following:-

a) **Washing soda** : It dissolves in hot water. It is used to remove the greasy and acidic spot.

b) **Borax :** It is a light alkaline absolute and is in the form of powder. It dissolves easily in water. It is used on all types of clothes. It is used for spot neutralization after removing the acid.

c) **Ammonia :** It is used to remove the greasy spot etc on animal made fiber. It is a fast acting alkaline agent. The smell of ammonia is pungent and strong. It is always used in dilute form.

(4) Greasy absorbent reagent : It is in the form of powder, like talcum powder, flour bran,bread crums, refined flour and salt. It absorbs the greasy spot and clean them.

(5) Greasy solution reagent : This removes the greasy spot. It is expensive and flammable. It is used in dry wash i.e. dilute petrol, benzene, acetone, methylated sprit, oil of tarpene, kerosene and carbon tetrachloride.

Guidelines and precautions for removing stains :

(i) Identify the spot by seeing and touching and smelling.

(ii) Type of clothes

(iii) Nature of clothes and spot then select the process of spot removing.

(iv) Light solution are used on color linen, woolen, silk and rayon.

(v) Wash the clothes in clean water to release the effect of reagent quickly.

(vi) Check the spot is deep or raw before removing the spot.

(vii) Take care of fire while using the flammable chemical substance.

(viii) Select the right process from dilute, absorbent and chemical process.

(ix) First use homemade solution such as soap, cold hot water, yoghurt, salt, lemon, raw milk etc to remove the spot. When the spot is not release from homemade solution then use chemical reagent.

(x) Stain removal from chemical substance should be done in open air.

(xi) Absolute dilute solution of reagents should be used.

Important point :

1. Spot on the clothes are smudged incidentally and unknowingly.
2. Identify the spot by seeing, touching and smelling.
3. Fresh stain are removed easily.
4. Use dilute, absorbent and reagent to remove different types of spots.
5. Nature and type of clothes and stain should be known only then select the process and method of spot removing.
6. Types of spots are animated, vegetable, greasy, mineral, color etc.

Questions :

1. Choose the correct answer for the following questions :

(i) Types of vegetable spot :

(a) Blood (b) Sweat

(c) Milk (d) Turmeric

(ii) Category of medicinal spot is :

(a) Animal fiber (b) Plant fiber

(c) Mineral (d) All of the above

(iii) Egg spot is removed by :

(a) Hot water & soap (b) Cold water & soap

(c) Salt & soap (d) All of the above.

(iv) Spot of the grass:

(a) Vegetable category (b) Mineral

(c) Animal fiber (d) All of the above

(v) Spot of fat is removed by use of :

(a) Solution (b) Chemical

(c) Absorbent (d) All of above.

2. Fill in the blanks :

(i) greased spot can be removed by using ..... & .....

(ii) Animated spot is identify by .....

(iii) Flour is ..... substance.

(iv) Alkaline absolute is.....

3. Write the name of absorbent substance

4. Why it is necessary to remove the spot of clothes?

5. Differentiate between alkaline and acidic absolute?

6. Write the category of spot

7. What is the main process of removing the spot?

8. What do you mean by absolute reagent? How many types are there ?

9. Alkaline and acidic absolute is used for which types of spot and clothes.

10. Write general rules for stain removal ?

Answers :

1) (i) d (ii) c (iii) b (iv) d (v) c

2. (i) solution, absorbent

(ii) touching (iii) absorbent (iv) ammonia.