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BLEACHING FUR

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This invention relates to the bleaching of fur and more particularly to bleaching of fur with peroxide solutions.

The object of the invention is to provide an improved method for bleaching fur with peroxide solutions which is especially suitable for the production of white fur.

Fur or fur skins have been bleached heretofore with solutions of hydrogen peroxide, the purpose of such treatment being to lighten the color of dark fur, to bleach light colored fur to white shades or to enhance the whiteness of naturally "white" furs. However, heretofore it has been difficult to obtain a good white by bleaching gray or other light colored furs.

I have discovered that an unusual improvement in the bleaching of furs with peroxide solution may be obtained by the use of oxalic acid or a soluble salt of oxalic acid in conjunction with the peroxide bleach bath. By this method, light colored or gray fur may be bleached to a good white in a single operation.

In one method of carrying out my invention I may add a soluble oxalate, for example sodium oxalate, to an ordinary hydrogen peroxide bleach bath. Preferably I utilize an alkaline solution of hydrogen peroxide which may be made either by dissolving sodium peroxide in water or by adding a suitable alkalining agent to a solution of hydrogen peroxide. Dilute peroxide solutions are suitable for carrying out my process, for example, solutions of 1 volume to 8 volume strength. I prefer to use a bleach bath having a hydrogen peroxide concentration of 3 to 5 volumes. Various alkalining agents may be used, for example sodium silicate. I prefer to maintain the alkalinity of the bath equivalent to a pH of 8.8 to 10.2.

A preferred method for utilizing my invention comprises first treating the fur with a solution of oxalic acid or oxalate and then bleaching in an alkaline peroxide bleach bath which may or may not contain oxalate. For example, the gray fur may be treated by saturating with a weak solution of oxalic acid, e. g. a 0.1 to 1.0% solution, and then immersed in the peroxide bleach, preferably without an intermediate rinsing. However, if desired, after the oxalic acid treatment, the fur may be rinsed before treating with the peroxide.

The fur or fur skins to be bleached may be contacted with the peroxide bleaching solution by any suitable method. One method comprises immersing the fur in the bath at a moderate temperature, e. g. 70 to 125° F., for 4 to 20 hours or until bleached to the desired extent. After bleaching, the fur may be handled in various ways, for example, it may be rinsed, soured, and dried. I prefer to rinse the bleached fur thoroughly to remove the bleaching solution, then to sour with a weak acid solution, for example acetic acid, and then to dry the bleached fur.

My invention will be further illustrated by the following examples:

Example 1

The above described method of bleaching was applied to rabbit fur which had been carroted and then removed from the hide by a chemical process. As a result of the method of its removal from the skin, this fur was impregnated with an acidic substance. For this reason, the initial alkalinity of the bath was made sufficiently high to provide an excess of alkali over that required to neutralize the acid on the fur, since it was desired to bleach in an alkaline bath. A hydrogen peroxide bleach bath of 5 volume concentration was made up of the following ingredients:

Hydrogen peroxide (100 vol.)	gallons	7½
Sodium peroxide	pounds	2½
Sodium silicate	do	6
Sodium oxalate	do	6
Water	gallons	150

25 pounds of the fur was immersed in the above bath for 20 hours at a temperature of about 85° F. The bleached fur removed from the bath was thoroughly rinsed, soured with a dilute solution of acetic acid, and dried. The resulting product had a good white color.

Example 2

Gray rabbit fur similar to that of Example 1 was bleached by immersing in a bath of the following composition for 16 hours at room temperature:

Hydrogen peroxide (100 vol.)	gallons	5
Sodium silicate	pounds	12
Sodium oxalate	do	2
Water	gallons	100

A good white color was obtained.

Example 3

A quantity of fur similar to that used in Example 1 was treated by immersing it in a 0.25% solution of oxalic acid for 15 minutes. Two portions of the acid-treated fur then were treated separately with intermediate rinsing in baths of

the following compositions for 16 hours at room temperature:

		Bath A	Bath B
Hydrogen peroxide (100 vol.)	gals.	5	5
Sodium silicate	lbs.	12	12
Sodium oxalate	lbs.	2	None
Water	gals.	100	100

Both portions of the fur were bleached to a good white; the portion treated in Bath A was slightly whiter than that treated in Bath B.

Various modifications of my herein described method of bleaching fur may be made without departing from the spirit and scope of my invention. For example, the amount of oxalate used may be varied over a wide range. Although in carrying out my invention by using a peroxide bleach bath containing oxalate, I prefer to add 2 to 6 pounds of sodium oxalate or its equivalent of oxalic acid or other oxalate for each 100 gallons of the bleach bath, various other proportions may be used with success.

An advantage of my improved bleaching process is that it is capable of producing a good white fur in a reasonable bleaching time and without damage to the fibers. A further advantage is that the process has substantially no adverse effect on the felting quality of the fur and may be successfully used to bleach either carroted fur or uncarroted fur.

The term "soluble oxalate" is used in the appended claims to designate either oxalic acid or a soluble salt of the same.

I claim:

1. A fur bleaching process comprising immersing fur in an alkaline hydrogen peroxide solution of about 3 to 5 volume strength containing sodium oxalate and sodium silicate, the total alkalinity of said solution not exceeding the alkalinity of a solution containing substantially 100 gallons of water, 5 gallons of 100 volume hydrogen peroxide solution, 12 pounds of sodium silicate and 2 pounds of sodium oxalate.

2. A method of bleaching fur which has previously been subjected to a carroting process which comprises treating said fur with an alkaline hydrogen peroxide solution containing a soluble oxalate, the total alkalinity of said solution not exceeding the alkalinity of a solution containing substantially 100 gallons of water, 5 gallons of 100 volume hydrogen peroxide solution, 12 pounds of sodium silicate and 2 pounds of sodium oxalate.

3. A fur bleaching composition comprising an alkaline solution of hydrogen peroxide of 1 to 8 volume strength containing a soluble oxalate, the total alkalinity of said solution not exceeding the alkalinity of a solution containing substantially 100 gallons of water, 5 gallons of 100 volume hydrogen peroxide solution, 12 pounds of sodium silicate and 2 pounds of sodium oxalate.

4. A fur bleaching composition comprising an alkaline solution of hydrogen peroxide of about 3 to 5 volume strength containing sodium oxalate and sodium silicate, the total alkalinity of said solution not exceeding the alkalinity of a solution containing substantially 100 gallons of water, 5 gallons of 100 volume hydrogen peroxide solution, 12 pounds of sodium silicate and 2 pounds of sodium oxalate.

5. A fur bleaching process which comprises immersing fur in an alkaline hydrogen peroxide solution of about 1 to 8 volume strength which contains a soluble oxalate, the total alkalinity of said solution not exceeding the alkalinity of a solution containing substantially 100 gallons of water, 5 gallons of 100 volume hydrogen peroxide solution, 12 pounds of sodium silicate and 2 pounds of sodium oxalate.

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