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ALIEN PROPERTY CUSTODIAN

PROCESS FOR THE RECOVERY OF CELLULOSES SUITABLE FOR THE MANUFACTURE OF PHOTOGRAPHIC PAPERS

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No Drawing. Application filed November 10, 1939

The cellulose which is used for the manufacture of papers for photographic purposes should be almost free from reducing substances which may exert a deleterious effect upon photographic emulsion layers sensitive of light.

Object of our invention is a process for liberating the celluloses from the above mentioned unfavourable reducing substances in a simple and sure manner. Our invention yields even to satisfactory results if relatively very impure celluloses, for instance, straw cellulose is used.

According to our invention the cellulose, in a bleached or, especially, unbleached state is treated primarily with alkali at elevated temperature and under such conditions that no noticeable modification of its content of alpha cellulose occurs; the cellulose is then subjected to a pretreatment with peroxide and afterwards finished with hypochlorite. At the end of the bleaching treatment the material may be acidified. As starting material, according to my invention, all celluloses, as for instance, sulfite cellulose, sulfate cellulose, cellulose obtained by alkaline treatment and the like come into consideration. Thereby cellulose, beech cellulose, cotton or even impure celluloses, such as straw cellulose. According to our invention the treatment with alkali at elevated temperature should be carried out in such manner that no noticeable modification or increase of the contents of alpha cellulose occurs. This may be effected accordingly, for instance, by adjusting the temperature, duration of treatment, strength of alkali or several of these steps in such a way that the contents of alpha cellulose will at least be only insignifi-

cantly be altered. Generally, it has proved advantageous not to increase content of alkali in this step over about 5 grs/liter of the bleaching bath. This treatment is followed by a combined bleaching treatment with hypochlorite and peroxide which may be varied accordingly, whereby the bleaching with peroxide may be carried out with hydrogen peroxide or hydrogen peroxide evolving substances, such as sodium peroxide, perborate, percarbonate and the like and if desired, also with caustic soda, lime or other alkalis in small quantities at moderately elevated temperatures. It has proved advantageous to maintain the alkalinity of the bleaching bath in these steps also below about 5%.

After the bleaching treatment the material may be acidified, advantageously when still hypochlorite is present.

The invention is further illustrated by the following example:

Unbleached straw cellulose is treated with 4% caustic soda, calculated on absolutely dry substances, for two hours at a temperature of 100° C. and with a density of material of about 5%. Then the material is treated with 0.3 to 0.5% sodiumperoxide at a temperature of 35 to 45° Centigrade until the peroxide is completely consumed. The product is then finished, acidified and finally washed, whereby an intermediate washing with 2.5% active chlorine (as calcium hypochlorite or solution of alkali hypochlorite) may be inserted, if desired.

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