

UNITED STATES PATENT OFFICE

2,030,740

SOFT-LUSTER RAYON

Rudolph S. Bley, Elizabethton, Tenn., assignor to North American Rayon Corporation, New York, N. Y., a corporation of Delaware

No Drawing. Application October 25, 1934, Serial No. 750,015

8 Claims. (Cl. 106—40)

The present invention relates to a process of preparing cellulosic spinning solutions from which soft-luster products may be produced having the property of filtering out ultra-violet rays.

5 The primary object of my invention has to do with the incorporation of such compounds into viscose and cuprammonium cellulose solutions to form therefrom soft-luster, ultra-violet ray-filtering products.

10 Another object of this invention has to do with the incorporation of a compound of the group consisting of triphenyl stibine, triphenyl bismuthine, phthalimide and p-aminobenzoic acid into viscose and cuprammonium cellulose solutions for the aforementioned purpose.

15 A third object of my invention relates to the manufacture of novel products per se, namely soft-luster, regenerated cellulose containing an ultra-violet ray-filtering substance.

20 Other objects of my invention will become apparent to those skilled in the art after a study of the following specification.

I am well aware that it has, heretofore, been proposed to produce soft-luster rayon by incorporating inorganic and organic pigments, etc., into cellulosic spinning solutions prior to the extrusion thereof. I am also aware that cellulosic products have, heretofore, been rendered resistant to ultra-violet rays by dyeing them with suitable dyes. However, I believe to be the first one to manufacture substantially white, soft-luster rayon having the property of filtering out ultra-violet rays. This, unexpectedly, is accomplished by delustering agents of the group consisting of triphenyl stibine, triphenyl bismuthine, phthalimide and p-amino-benzoic acid. The following table depicts the chemical characteristics of these agents:

40	Compound	Formula	Form	Water-solubility
	Triphenyl Stibine...	(C ₆ H ₅) ₃ .Sb.....	Solid...	Little soluble.
	Triphenyl bismuthine.	(C ₆ H ₅) ₃ .Bi.....	do....	Do.
45	Phthalimide.....	$ \begin{array}{c} \text{CO} \\ \diagdown \quad \diagup \\ \text{C}_6\text{H}_4 \\ \diagup \quad \diagdown \\ \text{CO} \end{array} $	do....	Do.
50	P-aminobenzoic acid.	NH ₂ .C ₆ H ₄ .COOH	do....	Do.

Cellulosic spinning solutions, containing one or a plurality of these compounds, may be spun in conventional manner to form filaments and yarns which subsequently may be woven into textiles,

etc. Wearing-apparel, manufactured from such textile materials, will effectively prevent the formation of sun-burns on the skin of human beings wearing it.

My novel delustering agents may be dissolved and/or dispersed in conventional viscose and cuprammonium cellulose solutions. The amounts of delustering agent, to be distributed in these cellulose solutions, may be varied at will, although about 0.5 to 10.0% is sufficient to produce ultra-violet ray-filtering yarns, these percentages being based upon the cellulose content of the spinning solutions. Inorganic and organic pigments, solvents, etc., may be admixed with the viscose and cuprammonium cellulose solutions before spinning to vary the chemical and physical characteristics of the finished products. It is to be noted that ordinary rayon goods may be impregnated with my novel agents to render them impregnable to ultra-violet rays. In this manner, it is possible to retain the natural luster of rayon.

Modifications of my process will readily be recognized by those skilled in the art, and I desire to include all modifications falling within the scope of the appended claims.

I claim:

1. A spinning solution for the manufacture of soft-luster, ultra-violet ray-filtering artificial silk comprising a solution of the group consisting of viscose and cuprammonium cellulose and a compound of the group consisting of triphenyl stibine, triphenyl bismuthine, phthalimide and p-amino-benzoic acid.

2. A spinning solution for the manufacture of soft-luster, ultra-violet ray-filtering artificial silk comprising a solution of the group consisting of viscose and cuprammonium cellulose and about 0.5 to 10.0% of a compound of the group consisting of triphenyl stibine, triphenyl bismuthine, phthalimide and p-aminobenzoic acid, said percentages being based upon the cellulose content of said solution.

3. A spinning solution for the manufacture of soft-luster, ultra-violet ray-filtering artificial silk comprising a solution of the group consisting of viscose and cuprammonium cellulose together with triphenyl stibine.

4. A spinning solution for the manufacture of soft-luster ultra-violet ray-filtering artificial silk comprising a solution of the group consisting of viscose and cuprammonium cellulose together with phthalimide.

5. A spinning solution for the manufacture of soft-luster, ultra-violet ray-filtering artificial silk

comprising a solution of the group consisting of viscose and cuprammonium cellulose together with p-aminobenzoic acid.

5 6. A spinning solution for the manufacture of soft-luster, ultra-violet ray-filtering artificial silk comprising a solution of the group consisting of viscose and cuprammonium cellulose together with about 0.5 to 10.0% of triphenyl stibine, said percentage being based upon the cellulose content of said solution.

10 7. A spinning solution for the manufacture of soft-luster, ultra-violet ray-filtering artificial silk comprising a solution of the group consist-

ing of viscose and cuprammonium cellulose together with about 0.5 to 10.0% of phthalimide, said percentage being based upon the cellulose content of said solution.

8. A spinning solution for the manufacture of 5 soft-luster, ultra-violet ray-filtering artificial silk comprising a solution of the group consisting of viscose and cuprammonium cellulose together with about 0.5 to 10.0% of p-aminobenzoic acid, said percentage being based upon the cellulose content of said solution. 10

RUDOLPH S. BLEY.