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NON-MESSY TACK CLOTH

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This invention relates generally to tack cloths and more particularly to a new and improved chemically impregnated tack cloth characterized by its greater efficiency and resistance to the rubbing off of the chemicals on the hands of the user.

The use of tack cloths for the removal from various surfaces of dust, lint and other forms of foreign matter is relatively well known. Such cloths find wide industrial applications such as, for example, the removal of foreign matter such as dust, grinding particles, sanding particles, or the like, from various objects or surfaces prior to the finishing operations thereof such as painting or varnishing. Although tack cloths have enjoyed wide industrial usage, they have heretofore been characterized by certain objectionable features which have discouraged their more universal use in the home or office.

Generally, a tack cloth comprises a textile material of relatively loose weave which has been chemically treated to give the same a sticky or tacky character. When such a treated cloth is rubbed over a surface, the undesirable foreign particles adhere to the cloth and are thus removed from the surface. Although the prior tack cloths were fairly efficient in removing the foreign particles, they were invariably characterized by the fact that the chemical coating tended to rub off onto the hands of the user so that the user's hands became undesirably sticky and messy. The use of such messy tack cloths was of course particularly objectionable in non-industrial applications, such as general dusting and cleaning in the house.

It is therefore an important object of this invention to provide a chemically treated tack cloth which while still retaining its tacky properties is also non-messy; i.e., will not rub off onto the hands of the user thereof. The invention thus lends itself to more universal use and applicaiton for general cleaning and dusting in the home or office.

Another object of the invention is to afford a non-messy tack cloth of the character described which will remain desirably soft and tacky indefinitely under normal temperature conditions.

A further object is to provide a non-messy tack cloth of the character described which is resistant to spontaneous combustion so that no special precautions need be taken in the handling and disposal thereof.

Still another object is to afford a non-messy tack cloth of the character described which is completely safe and non-injurious to the user thereof.

Still a further object is to provide a non-messy tack cloth of the character described which is most efficient for the purposes stated and yet leaves no deposit or residue on the surface being cleaned. A related object is to provide a tack cloth of the character described which is completely safe and non-injurious to virtually all surfaces, including fine furniture and the like.

Yet another object is to afford o non-messy tack cloth of the character described which is not characterized by any offensive odors.

Yet a further object is to provide a non-messy tack cloth of the character described which may be most inexpensively mass produced so that the same may be conveniently discarded after each use thereof.

Another object is to afford a non-messy tack cloth of the character described containing therein an ultraviolet ray inhibitor to further insure against any hardening of the cloth even when exposed to sunlight.

With these and other objects in view which may appear as the description proceeds, the invention accordingly consists of the new and improved chemically treated tack cloth hereinafter fully described and discussed and from a consideration of which should result an understanding of the article and an appreciation of the many advantages inherent therein.

The term tackifier has commonly been given to the substance with which a textile material is treated to render the same sticky or tacky. As already indicated above, a suitable tackifier must be tacky at normal temperatures and yet must be sufficiently stiff or viscous to adhere to the cloth and not come off on the surface being cleaned or the user's hands. Similarly, the tackifier should desirably be in the form of a liquid under manufacturing conditions so that the tack cloth may be simply and inexpensively fabricated by merely dipping the textile material in a bath of the tackifier.

I have discovered that an ideal tackifier possessing all of the aforementioned qualities consists of a solution of a polyestyrene and the plasticizer, methyl dihydroabietate. The subject tack cloth is thus fabricated by merely dipping an absorbent textile material such as cheesecloth, or the like, in the described plasticized polystyrene solution. A preferred solution comprises by weight 25% to 50% of the polystyrene and 50% to 75% of the plasticizer, methyl dihydroabietate. The use of lesser amounts of the plasticizer results in a tackifier which is too stiff, while the use of greater amounts thereof will result in a tackifier which is too soft and tends to become messy.

Applicant is aware that plasticized polystyrene has heretofore been employed in tack cloths. Thus, for example, Patent No. 2,633,593, teaches the use of polystyrene plasticized with chlorinated phenyls. However, to applicant's knowledge, none of said prior tack cloths achieved the desirable results of the instant invention, and particularly the described non-messy characteristic. The salutary results of my invention may thus be attributed to the use of methyl dihydroabietate as the plasticizer. The exact chemical reasons for these superior and unforseeable results may only be theorized, but it is known for example, that methyl dihydroabietate has excellent wetting ability, an extremely low vapor pressure, great stability to oxidation and is essentially a non-drying material. At any rate, the plasticizing of polystyrene with methyl dihydroabietate and the impregnation of of cloth with the resulting solution results in a tack cloth the properties of which exceed that which might be expected from a plasticized polystyrene.

Since plasticized polystyrene tends to harden when exposed to sunlight for long periods of time, an ultraviolet ray inhibitor may be added to the tackifier. Similarly, pigment dye coloring matter and perfumed "masking odors" may likewise be added if desired.

From the above description, it should be apparent that I have provided a new and improved chemically treated tack cloth. The tack cloth is completely non-messy and will not rub off on the user's hands or the surface being cleaned. The cloth is highly efficient and retains its soft tackiness under all normal temperature conditions. In the latter regard, the cloth may be efficiently used in the temperature range between 0° C. and 100° C. In addition, the tackifier is not spontaneously combustible and is non-flammable below its boiling point.

What I claim and desire to secure by Letters Patent of the United States is:

1. A tack cloth comprising a fibrous web impregnated with a tackifier consisting of methyl dihydroabietate and polystyrene, said cloth being characterized by its resistance to the adherance of said tackifier to the hands of the user.

2. The tack cloth of claim 1 in which said methyl dihydroabietate comprises 50% to 75% by weight and said polystyrene comprises 25% to 50% by weight.

3. The tack cloth of claim 2 in which an ultra-violet ray inhibitor is added to said tackifier to prevent hardening when said cloth is exposed to sunlight.

4. The tack cloth of claim 3 in which perfumed masking odors are added to said tackifier.

5. A plasticized polystyrene solution for impregnating a fibrous web material to make a non-messy tack cloth, said plasticizer comprising methyl dihydroabietate in the proportion by weight of 50% to 75% to 25% to 50% polystyrene.

6. A tack cloth to which dust readily clings and having the characteristics of being storable, non-toxic, porous, readily conformable and pliable, said tack cloth being easily slidable over surfaces without clinging to the surfaces and without depositing foreign materials thereupon or upon the hands of the user thereof, said tack cloth comprising a fibrous web impregnated with a tackifier consisting of methyl dihydroabietate and polystyrene, said methyl dihydroabietate comprising 50% to 75% by weight and said polystyrene comprising 25% to 50% by weight.

References Cited in the file of this patent

UNITED STATES PATENTS

2,633,593	Wright et al.	Apr. 7, 1953
2,862,904	Mullins	Dec. 2, 1958
2,955,962	Engdahl	Oct. 11, 1960