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DRY CLEANING COMPOSITION

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4 Claims. (Cl. 87—5)

This invention relates to a novel composition particularly useful for dry cleaning fabric, clothing and the like, also a method for using this composition.

One object of this invention is to prepare a hydrocarbon base detergent of high detergent power. Another object is to prepare a hydrocarbon base dry cleaning composition of low inflammability and therefore not subject to great fire hazard. Still another object is to devise a process whereby fabrics, clothing and the like may be thoroughly cleaned and after cleaning are free from the usual disagreeable odors characteristic of materials cleaned by the usual dry cleaning methods.

With these and other objects which will be apparent hereinafter the invention consists in a new and useful composition of matter and its use in dry cleaning all as more fully described in the following specification and pointed out in the appended claims.

The composition prepared according to this invention has a high solvent action with respect to dirt and grease which soil various fabrics. It is known that ether has a powerful solvent action but its use in dry cleaning compositions has required very great precautions on the part of the user to avoid igniting it because of its great inflammability. I have found that by employing instead of the normal ether, chlorinated compounds of the same in conjunction with other solvents that the hazard due to the inflammability of ether may be largely overcome, while the solvent action is practically unaffected. It is also useful to employ chlorinated ether in connection with chlorinated hydrocarbons which will, along with the chlorinated ether, reduce the inflammability of otherwise inflammable mixtures. This effect is due to the fact that chlorinated hydrocarbons are less inflammable of themselves and in many cases more volatile than the inflammable constituents. They act in a protective way to prevent inflammable concentrations of the otherwise combustible constituent.

I employ in my cleaning composition a petroleum hydrocarbon base preferably comprising about 85% of the final product. Suitable hydrocarbon bases are benzine, naphtha, gasoline and the like. However, it is advantageous but not essential to employ as a hydrocarbon one which meets the specifications of Stoddard solvent. The properties of this solvent are described in Commercial Standard C. S. 3–28 published by the Government Printing Office. Stoddard solvent has a flash point of about 100° F., but by adding 5% of dichloroethyl ether, a specific example of a chlorinated ether, the flash point may be raised to 107° F. Larger quantities further increase the flash point thereby decreasing the dangers of accidental combustion.

Chlorinated hydrocarbons also have a similar effect upon the flash point of Stoddard solvent. The addition of chlorinated hydrocarbons, for example carbon tetrachloride or tetrachlorethane, also raise the flash point of the hydrocarbon base.

The following example illustrates a composition that I have found to be particularly suitable for dry cleaning purposes because of its low inflammability and high solvent action, but it is to be understood that the invention is not limited thereto. The method of preparation is to mix in a suitable agitator or by means of circulation the following ingredients in about the proportions named below:

	Percent
Tetrachlorethane	1
Dichloroethyl ether	3 to 5
Carbon tetrachloride	6 to 4
Stoddard solvent	90

The proportions given above can be varied within rather wide limits, but it is generally advisable to employ not less than about 85% of a petroleum hydrocarbon.

This composition when employed for dry cleaning purposes by washing fabrics, clothing and the like exercises a high detergent action and the cleaned article after drying is quite free from odor, a very material advantage in a dry cleaner.

The fire hazard from the use of this composition is practically negligible.

While this composition is particularly suitable for cleaning fabrics, clothing, etc., it should be understood that it may be used for cleaning other materials, as will be apparent to one skilled in the art.

While I have described and explained a specific example of my invention it is to be understood that the invention is not to be limited thereto but that chlorinated ethers other than dichloroethyl ether may be substituted for it and that other chlorinated hydrocarbons of the ethane and ethylene series may be employed in place of the specific example, tetrachlorethane.

I claim:

1. A dry cleaning composition comprising the following ingredients: not less than about 85% Stoddard solvent, dichlorethyl ether, tetrachlorethane and carbon tetrachloride about 15%, each of the last two ingredients representing not

less than 1% and the dichloroethyl ether from 3 to 5% of the resulting composition.

2. A composition useful for cleaning fabrics, clothing and the like comprising the following ingredients in approximately the indicated proportions:

	Percent
Tetrachlorethane	1
Dichloroethyl ether	3 to 5
Carbon tetrachloride	4 to 6
Stoddard solvent	90

3. A new composition of matter useful for cleaning fabrics, clothing and the like comprising the following ingredients in approximately the indicated proportions:

	Percent
Tetrachlorethane	1
Dichloroethyl ether	3 to 5
Carbon tetrachloride	4 to 6
Petroleum hydrocarbon	90

4. A dry cleaning composition useful for dry cleaning fabrics, clothing and the like comprising at least 85% of a dry cleaning hydrocarbon base selected from the group consisting of benzine, naphtha, gasoline and Stoddard solvent, and dichloroethyl ether in an amount of at least three per cent which serves to increase the flash-point of the dry cleaning hydrocarbon base approximately seven degrees Fahrenheit and substantially increases the detergent effect thereof.

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