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**Glass cleaning preparation.**

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A glass cleaning preparation comprises a light abrasive, finely divided silica, water and alcohol in proportions suitable to produce a cream and a wetting agent.

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## GLASS CLEANING PREPARATION

This invention relates to a glass cleaning preparation and more particularly to a preparation for cleaning the windscreens of motor or like vehicles.

In motor vehicles, the ability to see clearly through the windscreen is critical not only for the safety of the driver and his passengers but also for the safety of other road users. For this reason, all motor vehicles travelling on public highways are fitted with windscreen wipers whose job is to clear the windscreen of any rain thereon and, to a limited extent, with the help of washers, to remove mud and grime from the windscreen.

However, for the windscreen wipers to work satisfactorily, it is essential that grease and other matter which sticks to the windscreen be removed at regular intervals as otherwise the wipe becomes streaky and visibility is impaired.

There are a number of glass cleaning preparations on the market with generally non specialised application. However, they are far from satisfactory for a number of reasons. For example, many glass cleaning compositions are good at cleaning glass such as house windows, but they leave a surface coating on the glass which interferes with the correct operation of the windscreen wipers. Other preparations require to be washed off after use or dry in such a way as to leave smears on the glass.

This invention seeks to provide a glass cleaning preparation in which some or all of the above disadvantages are removed or substantially reduced and which is eminently suitable for cleaning the windscreens of motor and like vehicles.

According to the invention, a glass cleaning preparation comprises a light abrasive, finely divided silica, water and alcohol in proportions suitable to produce a cream and a wetting agent.

The finely divided silica may be fumed, precipitated or in colloidal form.

Preferably, the light abrasive comprises calcium carbonate in precipitated form suitably in the form known commercially as "light calcium carbonate". The alcohol is preferably ethanol but may suitably include methanol and isopropanol. The wetting agent may be propylene glycol-ethylene glycol fatty alcohol polymer.

In a particular formulation of the glass cleaning preparation in accordance with the invention, the preparation comprises, by weight, 4 - 17% precipitated calcium carbonate, 1.7 - 6% fumed silica, 47 - 77% water, 8 - 38% ethanol and 0.5 - 4% wetting agent.

The invention will now be described in greater detail by way of example.

In a particular example of a batch of glass cleaning preparation, the preparation comprised:-

100 gm. calcium carbonate (light)

50 gm. fumed silica

800 cc. water

250 cc. ethanol

5 24 cc. propylene glycol-ethylene glycol fatty alcohol polymer

To formulate the preparation, 50 gm. fumed silica powder was placed in a mixing vessel to which 800 cc. water was then added. The contents of the mixing vessel were stirred to a smooth creamy consistency. Then the calcium carbonate powder was added to the mixing vessel and the contents were again stirred to a smooth creamy consistency.

15 At this point, 250 cc. ethanol and 24 cc. propylene glycol-ethylene glycol fatty alcohol polymer were added as a mixture and the final preparation was again stirred to a smooth consistency. The preparation was then ready for bottling.

20 The proportions used could suitably be varied in the ranges:-

50-200 gm. calcium carbonate

20-70 gm. fumed silica

25 6 -48 cc. propylene glycol-ethylene glycol fatty alcohol polymer

The amount of water and ethanol used would depend on the amount of powder present, the liquid being in sufficient quantities to provide a creamy smooth substance. While it is desirable that the ratio of ethanol to water should be of the order of 5 : 16 parts by volume, this ratio could be varied over a wide range, e. g. between 1 : 8 and 1 : 1.

35 Other alcohols may be used instead of ethanol, for example methanol and isopropanol. The finely divided silica could be obtained by precipitation or used in colloidal form. Other forms of calcium carbonate, such as heavy chalk, could be used. Talc, Kaolin or other suitable light abrasives may be used instead of the calcium carbonate. Other wetting agents could be used, but these should all be low foaming.

45 In use, the glass cleaning preparation above described may suitably be dispensed directly onto the windscreen to be cleaned from a squeeze bottle. The preparation is rubbed into the glass with a tissue or soft cloth and allowed to dry. After a short time a residual dry powder is left and this can be removed by wiping with a soft dry cloth leaving a clean dry windscreen.

50 In the action of the material, the calcium carbonate and the fumed silica provide a light abrasive action. The fumed silica, which is a thixotropic material, acts to adhere the preparation to the glass and prevent it from running off before it has been

rubbed in. The water and ethanol enable the ingredients to be emulsified into a smooth cream, the ratio of the two determining the drying time required after application. The use of a wetting agent ensures that no residue of the preparation is left adhered to the screen. 5

While the above preparation has been particularly formulated for windscreen cleaning, it will be understood that it is equally suitable for cleaning other glass surfaces. 10

## Claims

1. A glass cleaning preparation characterised in that the preparation comprises a light abrasive, finely divided silica, water and alcohol in proportions suitable to produce a cream and a wetting agent. 15

2. A preparation as claimed in claim 1, characterised in that the finely divided silica is fumed. 20

3. A preparation as claimed in claim 1, characterised in that the finely divided silica comprises precipitated silica or colloidal silica.

4. A preparation as claimed in any one of claims 1 to 4, characterised in that the light abrasive comprises precipitated calcium carbonate. 25

5. A preparation as claimed in claim 4, characterised in that the calcium carbonate comprises the material known commercially as "light calcium carbonate". 30

6. A preparation as claimed in any one of claims 1 to 5, characterised in that the alcohol comprises ethanol.

7. A preparation as claimed in any one of claims 1 to 5, characterised in that the alcohol includes methanol and/or isopropanol. 35

8. A preparation as claimed in any preceding claim, characterised in that the wetting agent comprises propylene glycolethylene glycol fatty alcohol polymer. 40

9. A preparation as claimed in claim 1, characterised in that the preparation comprises, by weight, 4 - 17% precipitated calcium carbonate, 1.7 - 6% fumed silica, 47 - 77% water, 8 - 38% ethanol and 0.5 - 4% wetting agent. 45

10. A preparation as claimed in claim 1, characterised in that the preparation has the following proportionate values:- 50  
100 gm. calcium carbonate (light)  
50 gm. fumed silica  
800 cc. water  
250 cc. ethanol  
24 cc. propylene glycol-ethylene glycol fatty alcohol polymer 55