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EMBALMING COMPOSITION

Hilton Ira Jones, Wilmette, Ill., assignor to Hizone Products, Wilmette, Ill., a partnership comprising Hilton Ira Jones, Blanche P. Jones, Hoydn Jones, and Llewellyn Jones

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4 Claims. (Cl. 27—21)

The present invention relates to the embalming art, and more particularly to improved embalming compositions.

The principal object of the present invention is to provide improved embalming compositions.

A more specific object of the present invention is to provide improved fluids for use in the preservation of dead bodies.

Other objects of the present invention will be apparent as the detailed description hereinafter proceeds.

Compositions employed in the embalming art comprise generally aqueous solutions of germicides, penetrants and humectants. The use of formaldehyde as the basic material has been considered essential and its use in substantial amounts is required by State laws in certain States. It has been recognized for a long time, however, that embalming compositions containing formaldehyde and particularly compositions containing relatively large proportions of formaldehyde, were not completely satisfactory and possessed certain distinct disadvantages. It has been found, for example, that formaldehyde (which boils at −21° C.) hardens the flesh in a relatively rapid manner and that the hardening reaction, as it tends to constrict the capillaries before the embalming operation is completed, is of the type which does not permit optimum embalming. In addition, it has been found difficult in practice to control the toxic irritating vapors which escape from composition containing relatively large amounts of the low boiling formaldehyde.

I discovered after a detailed research investigation that glyoxal may be used to advantage in place of or in conjunction with formaldehyde in embalming compositions. I also discovered that glyoxal (which boils at +50.5° C.), is practically odorless in embalming compositions. Of utmost importance, I discovered that glyoxal (even in relatively low concentrations), acts at a relatively slow rate to give an increased hardening of the protein tissues in dead bodies, and that the resulting hardening reaction is of the type which permits higher fluid penetration during embalming. Investigations have not only demonstrated that glyoxal compositions are adaptable for use in the embalming art, but in addition, that their use makes possible improved embalming operations.

The following examples will serve to illustrate the present invention:

Example I

	Per cent
Water	37
Glyoxal (40%)	30
Methanol	20

With or without other materials, such as

	Per cent
Glycerine	6
Sodium nitrate	5
Borax	2

Example II

	Per cent
Water	27
Glyoxal (40%)	20
Formalin (40%)	20
Methanol	20
Borax	2
Glycerine	6
Sodium nitrate	5

The ingredients in the above illustrative examples may be mixed with the water as desired, in accordance with standard practices. The glyoxal, like the formaldehyde solutions, is ordinarily added in aqueous solution of 40 per cent concentration. Additional germicides may be included, if desired, along with various types of penetrants, humectants, etc. The methyl alcohol, the glycerine and the salts may be replaced with other materials, or omitted, if desired, although their use with glyoxal has been found to give certain desired effects. The amounts of glyoxal employed may also be varied, although its use in about 3–17 per cent is ordinarily preferred. The optimum amount of glyoxal to be used (which usually runs around 10–15 per cent when no formaldehyde is used, and about 5–10 per cent when 14–4 per cent formaldehyde is used), may be ascertained by preliminary test.

Investigations have demonstrated that the glyoxal embalming compositions of the present invention have the desired germicidal properties, and that they may readily be handled in practice. Investigations have also demonstrated that the controlled hardening reactions coupled with the increased hardening of the protein tissues, obtainable by use of glyoxal, make possible improved embalming operations.

It will be understood that the present invention is not limited by the above examples which are only illustrative. All modifications of the present invention are intended to be covered by the following claims.

I claim:

1. An embalming composition containing about 3–17 per cent glyoxal.

2. An embalming composition containing as an essential ingredient, at least about 5 per cent glyoxal.

3. An embalming composition comprising an aqueous methanol mixture containing about 10–15 per cent glyoxal and small amounts of glycerine, sodium nitrate and borax.

4. An embalming composition comprising an aqueous methanol mixture containing about 8 per cent glyoxal and 8 per cent formaldehyde and small amounts of glycerine, sodium nitrate and borax.

HILTON IRA JONES.