

suspended in the first solvent or solvent mixture are insoluble or only slightly soluble and separating and drying the granules formed.

Disclosure of the Invention

In accordance with one broad form the invention there is provided a stable organic iodophor composition comprising an iodophor containing at least 10% by weight of iodide (I^-) calculated on the basis of iodine in the iodophor and wherein the ratio of organic iodine solubilizing compound to iodine is less than 5:1 preferably containing between 10 and 60% by weight of an iodine liberating substance.

The organic iodine solubilizing compounds suitable for this invention can be selected from cationic surfactants, non-ionic surfactants, polymers such as PVP, and copolymers. Suitable cationic surfactants are quaternary ammonium salts. Suitable non-ionic surfactants have the general formula $RO(CH_2CH_2O)_nOH$ where R is nonylphenol, a fatty acid or fatty alcohol residue and where n is an integer greater than 3. The most preferred form of PVP is PVP K30.

Suitable iodine liberating substances include hydroiodic acid, and alkali metal iodides preferably potassium iodide.

In accordance with another broad form of the invention there is provided a process for the production of an iodophor of improved stability comprising the steps of dissolving an organic iodine solubilizing compound and an iodine liberating substance and an oxidising compound in water, adjusting the pH value for example by adding sufficient nonorganic or organic acid such as phosphoric-, sulphuric-, hydrochloric-, sulphamic- or oxalic-, citric- or lactic acid so that the pH after all the iodine has been complexed is below 7.0. The pH may be then adjusted with alkali or acid to the desired pH level preferably if PVP is the complexing substance, between 3.5 - 5.5 and in the case of a non-ionic below 2.5, depending on the application, and adding an oxidising agent.

Examples of suitable oxidising compounds are peroxides, such as hydrogen peroxide; iodates; and persulfates such as sodium, potassium or ammonium persulfates. It is preferred that hydrogen is used as an oxidising agent and that is used at a concentration of between 22.5% and 30%.

The invention is characterized by forming an iodophor through liberation of iodine from an iodine liberating substance by an oxidising agent in the presence of an organic iodine solubilising compound in the proportion of 5:1 or less and leaving an excess iodide. The iodophor, thus obtained, shows improved stability when the proportion of iodine to the

The claims defining the invention are as follows:

1. A stable organic iodophor composition comprising an iodophor containing at least 10% by weight of iodide (I⁻) calculated on the basis of iodine in the iodophor and wherein the ratio of organic iodine solubilizing compound to iodine is less than 5:1 by weight.
2. The composition as claimed in Claim 1 further comprising between 10 and 60% by weight of an iodine liberating substance.
3. The composition as claimed in Claim 1 or Claim 2 wherein the organic iodine solubilizing compound is selected from the group comprising cationic surfactants, non-ionic surfactants, polymers and copolymers.
4. The composition as claimed in Claim 3 wherein the polymer is PVP.
5. The composition as claimed in Claim 3 or Claim 4 wherein the cationic surfactants are quaternary ammonium salts.
6. The composition as claimed in any one of Claims 3 to 5 wherein the non-ionic surfactants have the general formula $RO(CH_2CH_2O)_nH$ where R is nonylphenol, a fatty acid or fatty alcohol residue and where n is an integer greater than 3.
7. The composition as claimed in any one of Claims 1 to 6 wherein the iodine liberating substance is hydroiodic acid or an alkali metal iodide.
8. The composition as claimed in Claim 7 wherein the alkali metal iodide is potassium iodide.
9. A stable organic iodophor composition substantially as hereinbefore described with reference to any one of the Examples but excluding the comparative Examples.
10. A method for the antiseptic and disinfecting treatment of organic and inorganic surfaces requiring such treatment, which method comprises treating said surface with an effective amount of the composition of any one of Claims 1 to 9 for a period of time sufficient to effect desired asepsis.

BIOCIDAL COMPOSITION

ABSTRACT

The present invention provides a stable organic iodophor composition comprising an iodophor wherein the ratio of organic iodine solubilizing compound to iodine is less than 5:1 and containing between 10 and 60% by weight of an iodine liberating substance. The invention also provides a process for the production of an iodophor composition which process comprises dissolving an organic iodine solubilizing compound and iodine or an iodine liberating substance in water in amounts such that the ratio of iodine liberating substance to iodine is less than 5:1 by weight and optionally adjusting the pH, adding an oxidizing agent and readjusting the pH following oxidation.

Refer to single figure.