

# USE OF BENZYL BENZOATE TO OBTAIN INJECTION SOLUTIONS OF HORMONE PREPARATIONS

L. P. Volkovinskaya, T. I. Fabrichnaya  
and A. M. Pozharskaya

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Injection solutions in peach oil are widely used in medicinal practice. However, as experiment has shown, some materials, especially of the steroid class, are either extremely sparingly soluble in the oil or gradually crystallize out from the solution during storage, forming fairly coarse crystals which cannot be redissolved even on heating.

On the basis of literature information [1, 2], to obtain stable solutions of hormone preparations in oil we have used benzyl benzoate ( $C_6H_5CO_2 \cdot CH_2C_6H_5$ ) as a cosolvent. This is a clear colorless liquid, odorless or with a faint balsam-like smell, which does not dissolve in water or glycerol but mixes with alcohol, chloroform, ether, and fatty oils.

The following injection solutions were prepared: 5% of androstenediol dipropionate with 30% of benzyl benzoate; 12.5% of hydroxyprogesterone caproate with 30% of benzyl benzoate; and 5% of testosterone propionate with 20% of benzyl benzoate. The amount of benzyl benzoate in each individual case was established by experiment.

These solutions were kept in tubes at  $-26^\circ C$  for one year, during which time no crystals deposited from the solutions, and it was established that mixtures of benzyl benzoate with peach oil in concentrations of from 10 to 50% are completely nontoxic.

## CONCLUSIONS

1. To obtain stable solutions of preparations of limited solubility in oils, benzyl benzoate can be used as a cosolvent.
2. The amount of benzyl benzoate in each concrete case is established by experiment.

## LITERATURE CITED

1. A. J. Spiegel and M. M. Noseworthy, *J. Pharm. Sci.*, **52**, 917 (1963).
2. U. S. Patent No. 3,164,520 (1965).
3. *British Pharmacopoeia*, London (1963), p. 93.

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S. Ordzhonikidze All-Union Pharmaceutical Chemistry Scientific Research Institute, Moscow. Translated from *Khimiko-Farmatsevticheskii Zhurnal*, No. 11, November, 1968. Original article submitted February 16, 1968.