

Transepidermal Water Loss

Ryan and Mezei¹ recently reported interesting and important data on the effect of polysorbate 85 on the transepidermal water loss from human skin. They found that the transepidermal water loss was increased by repeated treatments with a 10% blend of polysorbate 85 in petrolatum USP above that resulting from a control utilizing only petrolatum USP. The data failed to disclose whether or not the transepidermal water loss was reduced by repeated inunction with petrolatum USP, an effect that may obscure the significance of the data presented.

The significance of their findings is further complicated by the fact that the skin of the subjects was washed with "soap and water" prior to the measurement, because the degree of removal of petrolatum by soap and water may be influenced by the presence (or absence) of the nonionic surfactant. The fact that cosmetic emulsions have a tendency to increase the transepidermal water loss was reported as early as 1957 by Powers and Fox², and an

explanation of this finding has been a problem for many years.

We recently attempted to explain³ why a preparation that increases the transepidermal water loss *in vitro* relieves the drying-chapping syndrome during clinical testing. Until a valid explanation of these paradoxical findings is available, it appears premature to conclude that "... increased water loss through the skin ..." may result in "... dry skin ..."

Martin M. Rieger
Consumer Products Research
Warner-Lambert Research Institute
Morris Plains, NJ 07950

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¹ K. J. Ryan and M. Mezei, *J. Pharm. Sci.*, **64**, 671(1975).

² D. H. Powers and C. Fox, *Proc. Sci. Sect., TGA*, **28**, 21(1957).

³ M. M. Rieger and D. E. Deem, *J. Soc. Cosmet. Chem.*, **25**, 253(1974).

Assistant Professor of Medicinal Chemistry

Position available Fall 1975. Ph.D. required. Research interest in enzyme inhibition, biotransformations related to drugs (qualitative aspects), or immunochemistry is preferred but other areas may be considered.

Send resume and three letters of reference by July 1, 1975, to:

Dr. A. J. Solo
Department of Medicinal Chemistry
School of Pharmacy
State University of New York at Buffalo
Buffalo, New York 14214

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POSITION AVAILABLE

A small aggressive pharmaceutical company with a line of parenteral products is in the process of establishing a R & D department and is looking for a recent graduate (Ph.D.) in Pharmaceutics, Physical Pharmacy or Pharmaceutical Chemistry. The work would mainly involve dosage development. This position offers an excellent opportunity to gain broad experience. Interested candidates should please send your resume to **Box LLC65, Journal of Pharmaceutical Sciences, 2215 Constitution Ave. N. W., Washington, DC 20037**