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References

1. Committee on Nutrition of the preterm infant. European Society of Paediatric Gastroenterology and Nutrition. Nutrition and feeding of preterm infants. Oxford: Blackwell, 1987.
2. ESPGAN Committee on Nutrition of the Preterm Infant. *Scand. J. Clin. Lab. Invest.* 1987 Suppl 336: 1-14.
3. Salle, B., Putet G., Service de Neonatologie de l'Hopital Edouard Herriot, Lyon, France. Senterre J., Rigot J., Neonatologie de L'Hopital Universitaire de Baviere, L...

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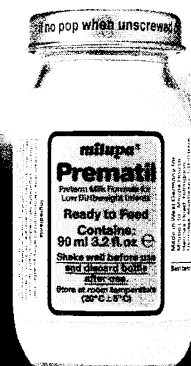
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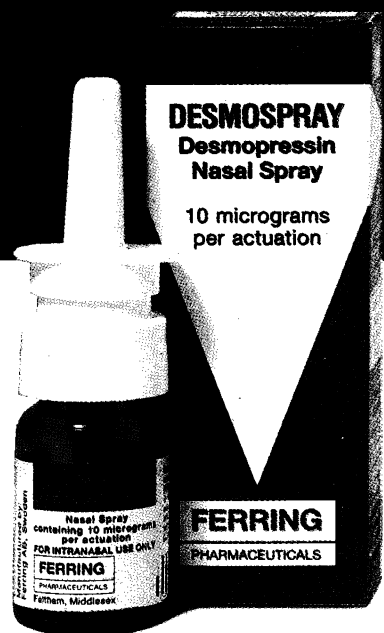
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Further information available from:
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P.O. Box 79, Saunderton,
High Wycombe, Bucks. HP14 4HJ

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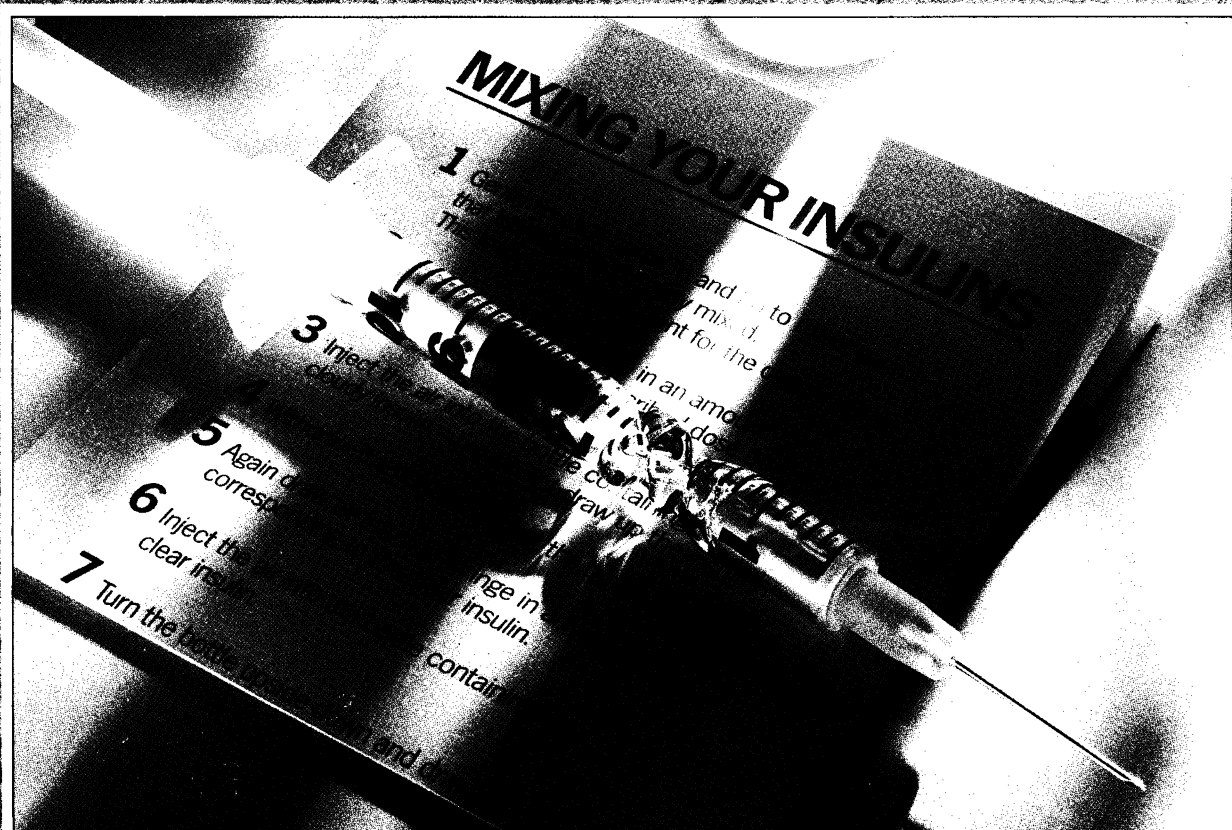
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