

$(S - 1, S)$   
**Policy for Two-Commodity Stochastic  
Inventory System**

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**Abstract**

This paper deals with two commodity continuous review inventory system with base stock policy. The maximum inventory level for the  $i$ -th commodity is  $S_i$  ( $i = 1, 2$ ) units. The demands occur for either one unit of first commodity or one unit of second commodity or one unit of each commodity and the demand time points form independent Poisson process. A one-for-one ordering policy is adopted. According to this policy, orders are placed for one unit of  $i$ -th commodity, as and when the inventory level of  $i$ -th commodity drops by one unit due to a demand ( $i = 1, 2$ ). The lead times are assumed to be negative exponential. The joint inventory level for both commodities is obtained in the steady state. Various system performance measures in the steady state are derived. The results are illustrated numerically.

*Keywords:* Two-commodity, base stock policy, continuous review, inventory system.