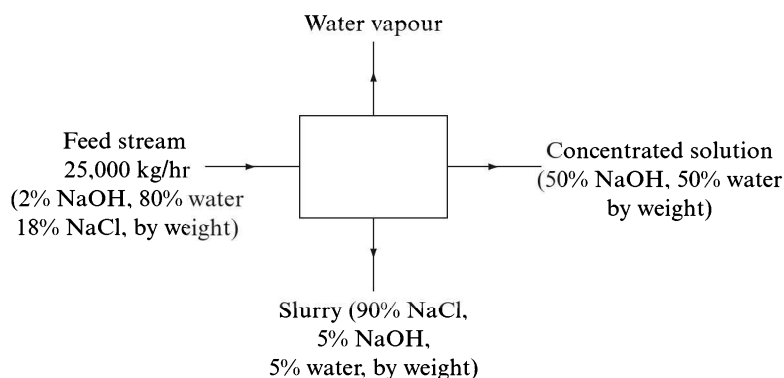


Comprehension VI

Figure shows a scheme, for concentrating a dilute solution of NaOH.



16. How much water is evaporated per hour?
(a) 5000 kg (b) 500 kg
(c) 19,500 kg (d) 20,000 kg
17. How much concentrated solution obtained per hour?
(a) 5000 kg (b) 500 kg
(c) 19,500 kg (d) 20,000 kg
18. How much slurry obtained per hour?
(a) 5000 kg
(b) 500 kg
(c) 19,500 kg
(d) 20,000 kg
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Comprehension VII

A fuel mixture used in the early days of rocketry is composed of two liquids, hydrazine (N_2H_4) and dinitrogen tetraoxide (N_2O_4), which ignite on contact to form nitrogen gas and water vapour. The yield of N_2 gas is found to be less than its expected yield because some nitric oxide (NO) is also formed by a parallel reaction between the reactants. In an experiment 96 g N_2H_4 and 184 g N_2O_4 are taken. It is found that 18 g NO is formed.

19. The limiting reagent is
(a) N_2H_4
(b) N_2O_4
(c) both the reactants will be used up completely
(d) cannot predict, because the reactants are giving more than one reaction
20. What is the highest percentage yield of N_2 that can be expected? The theoretical yield is the quantity of N_2 formed in the absence of parallel reaction.
(a) 96.67% (b) 90%
(c) 85.7% (d) 100%
21. What is the total mass of water vapour formed?
(a) 262 g
(b) 140.2 g
(c) 108 g
(d) 72 g
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