

**Marks**  
**8**

- Hydrochloric acid in a healthy human stomach leads to a pH in the range 1-2. What is the concentration of hydrochloric acid in the stomach?

Answer:

The stomach also contains considerable amounts of chloride ions, the conjugate base of hydrochloric acid, in the form of dissolved KCl and NaCl. Is this solution a buffer? Explain your answer.

Milk of magnesia is often taken to reduce the discomfort of acid stomach. A teaspoon of milk of magnesia, containing 0.400 g of  $\text{Mg}(\text{OH})_2$ , is added to a 0.300 L stomach solution with a pH of 1.3. What is the final pH of the solution?

Answer: