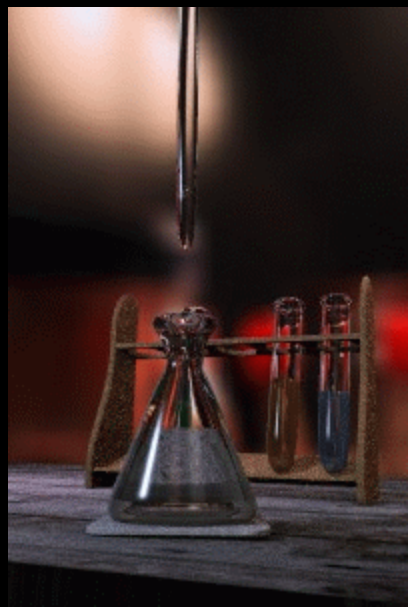
ACIDS AND BASES

Buffers



Buffered Solutions

– For humans to survive, the pH of the blood must be maintained between 7.35 and 7.45.
  - This narrow range is maintained by several different buffering systems.

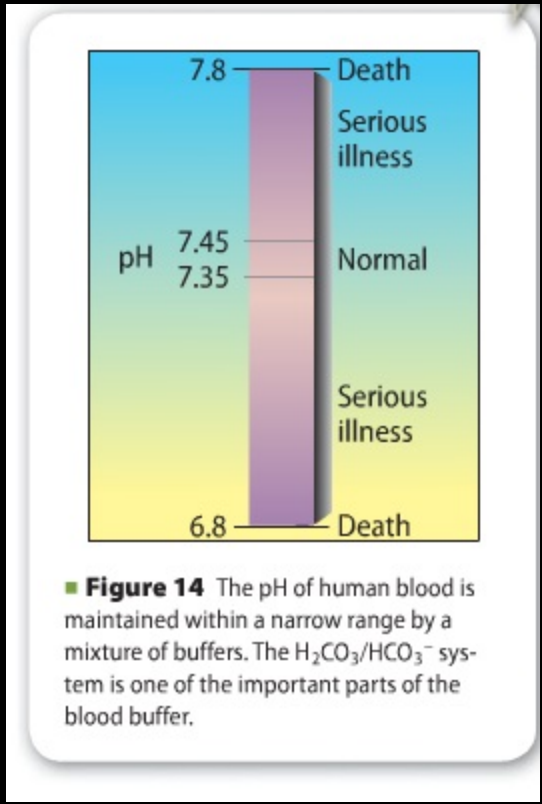


Figure 14 The pH of human blood is maintained within a narrow range by a mixture of buffers. The H_2CO_3/HCO_3^- system is one of the important parts of the blood buffer.

Buffered Solutions

- Buffered solutions are vitally important to living organisms whose cells can survive only in a very narrow pH range.
  - Many goldfish have died because their owners did not realize the importance of buffering the aquarium water at an approximate pH.

Buffered Solutions

- A **buffered solution** is one that resists a change in its pH even when a strong acid or base is added to it.
- Buffers contain ions or molecules that react with the OH^- or H^+ if one of these ions is introduced into the solution so that these ions do not accumulate.

- The End