

STEP 4 If Step 3 occurs in an air-filled cave, dissolved CO_2 is released. The reaction then reverses itself and calcite (CaCO_3) is precipitated as a solid crystal. This occurs because the release of CO_2 reduces the acidity of the solution and the calcium and bicarbonate ions cannot remain in solution.

Sulfuric Acid Breakdown of Calcite



Ca may combine with SO_4^- , if concentrated enough, to form $\text{CaSO}_4 - 2\text{H}_2\text{O}$ (gypsum)

SPELEOTHEMS

- A. Crystal linings
- B. flowstone – formed as water runs in thin film down the walls
- C. hydromagnesite – calcite, aragonite, magnesium
 1. coats walls as a milky substance or may become inflated to form bubble
 2. found in only 2 or 3 other caves in world
- D. helictites: erratic finger-like growths formed by capillary movement of water
- E. Cave Pearls
 1. Pebbles/sand grains become coated with calcite
 2. dripping water causes coated grains to roll around; don't attach to each other or cave floor
- F. Cave popcorn
 1. Water seeps from/splashes onto walls and forms small, rounded knobs of calcite or aragonite
- G. Soda straws
- H. Gypsum: deposited as long thin needles or "flowers"
- I. Stalagmites and stalactites – when meet form column
- J. Frostwork: aragonite needles in area of high evaporation
- K. Boxwork
 1. veins of calcite fill in cracks in bedrock
 2. more resistant to erosion (because of larger crystals) than surrounding bedrock and therefore project into cave when walls weather
 3. intersecting cross-pattern