

## Answer on Question #53303 – Chemistry – Inorganic Chemistry

### Question:

CaCl<sub>2</sub> will introduce Schottky defect when CaCl<sub>2</sub> added to AgCl crystal. Explain.

### Answer:

When mixing AgCl and CaCl<sub>2</sub>, each added ion of Ca<sup>2+</sup> replaces Ag<sup>+</sup> as they have similar radii. Since the charge of Ca and Ag is of +2 and +1, respectively, it leads to the formation of positive vacancies (Schottky defect) according to the reaction:



It means that one mole of CaCl<sub>2</sub> provides one mole of Ag vacancies in crystal structure.