

Precipitation of Zinc Carbonate

Equipment:

goblet (conical glass cup)
glass rod
beaker

Chemicals:

zinc chloride solution (0.2 kmol m^{-3})
sodium carbonate solution (0.2 kmol m^{-3})

Safety:

zinc chloride (ZnCl_2):

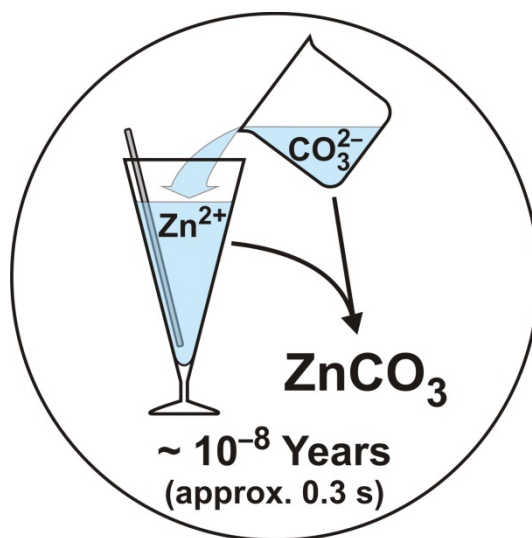


H302, H314, H410
P273, P280, P301+330+331, P305+351+338, P308+310

sodium carbonate (Na_2CO_3):



H319
P260, P305+351+338



Since zinc chloride can cause severe skin burns and severe eye damage, and sodium carbonate can cause severe eye irritation, it is necessary to wear appropriate protective gloves and safety goggles when preparing the solutions.

Procedure:

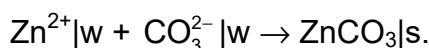
Equal amounts of the Zn^{2+} -containing and the CO_3^{2-} -containing solutions are added successively to the goblet while stirring.

Observation:

A white precipitate is immediately formed.

Explanation:

Zn^{2+} ions react with CO_3^{2-} ions to form solid zinc carbonate:



The white zinc carbonate precipitates immediately; the reaction proceeds very fast and is finished after a very short time (a period of maybe 0.3 s, i.e. 10^{-8} years).

Disposal:

The suspension is disposed of in the container for inorganic solutions containing heavy metals.