

Overview of calcium carbonate compound



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Calcium carbonate is chemical compound which its formula is known to be as “ CaCO_3 ”. It is also known to be one of the most common compounds on Earth in addition to that, it makes up about 7% of Earth’s crust. It occurs in a wide range of mineral forms, for example: limestone, marble, travertine, and chalk, additionally calcium carbonate also occurs combined with magnesium as the mineral “dolomite” and its formula which is known as “ $\text{CaMg}(\text{CO}_3)_2$ ”.

Caves are made of calcium carbonate as in the spikes that are located in the ceiling are stalactites and stalagmites. A variety of animal products are also made primarily of calcium carbonate, such as coral, sea shells, egg shells, and pearls. The reaction of an acid with calcium carbonate is an example of an acid-base reaction. In these reactions, an acid will react with a base to form a salt and water. The acid was neutralized by the base.

There are just two steps in the reaction of a carbonate (or a bicarbonate) with an acid. The first step is the acid-base reaction, which forms carbonic acid as a product. Carbonic acid is unstable and tends to form carbon dioxide and water. That is one of the reasons that the lowering of the pH in rainwater by dissolved carbon dioxide is not very significant. The reason why its basic salt is due to the fact that the anion in the salt is the conjugate base of a weak acid. The buffered water resists changes to pH from additional acid or base. The reason is that calcium carbonate, a salt of metal and all carbonate chemical compound with the formula. In these reactions, an acid will react with a base to form salt and water. The acid was neutralized by the base. Acids in acid rain promote the dissolution of calcium carbonate by reacting with examples Arrhenius bases are sodium hydroxide.

Additionally, when Calcium carbonate is dissolved in water then it is a salt that yields an alkaline solution. Calcium a base is substance which tastes bitter and turns red litmus into blue. Acids react with carbonates to give carbon dioxide, a salt and water. It is the salt of calcium ion a strong base and carbonic acid very weak.

In the case of calcium carbonate reacting with hydrochloric acid, the balanced chemical equation is: $\text{CaCO}_3 + 2 \text{HCl} \rightarrow \text{CaCl}_2 + \text{CO}_2 + \text{H}_2\text{O}$ Two important reminders about the word equation given above, twice as many molecules of hydrochloric acid are required to react with any given number of calcium carbonate molecules. A given number of calcium carbonate molecules will produce an equal number of calcium chloride, carbon dioxide and water molecules.