

# Solubility of Dozuril® 25 mg/ml in drinking water



# Solubility of Dozuril® 25 mg/ml in drinking water

**The product Dozuril® 25 mg/ml has a pH ranging from 8 to 10. An alkaline environment is a necessary precondition to dissolve the active ingredient toltrazuril.**

When dissolving Dozuril® 25 mg/ml in normal drinking water precipitation might occur. The main cause of precipitation lies in the drop in pH that occurs when the product is diluted in drinking water. There are however also other possible causes that could explain the occurrence of precipitation:

- A high concentration of calcium and/or magnesium in the drinking water (hard water). The use of Dozuril® 25 mg/ml will result in an increased pH of the solution. This increase can cause precipitation of the already present ions, which can block the lines.
- A large buffer capacity of the water, caused by a high concentration of bicarbonate, other anions or organic material. This can result in a decreased pH of the solution (<8) and thus precipitation of toltrazuril.

Precipitation can be prevented by using Dozuril® 25 mg/ml Diluent. This diluent contains EDTA and sodium hydroxide. The EDTA will bind to cations such as calcium and magnesium preventing them to precipitate. The sodium hydroxide will increase the pH of the solution to the desired range.

A pre-solution can be prepared by dissolving one liter of Dozuril® 25 mg/ml with 20 ml Dozuril® 25 mg/ml Diluent in up to 4 liter of water. The diluent is added to the water first. When the diluent is fully dissolved in the water the veterinary medicine Dozuril® 25 mg/ml can be added.

The recommended amount of Dozuril® 25 mg/ml Diluent should not be exceeded. A rise in pH is desirable, but the pH should not rise above the desired level of 10. A pH higher than 10 can result in the inactivation of the active ingredient toltrazuril.

The pre-solution containing water, Dozuril® 25 mg/ml Diluent and Dozuril® 25 mg/ml is only usable for 24 hours and should be made freshly every day.

