



RESPONDER WIPES

Your packaging states "Alcohol Free" but your ingredients include Benzyl Alcohol

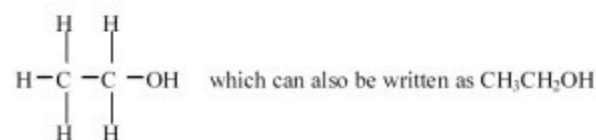
Many personal care products today are marketed using the claim "alcohol-free." This can be an important claim for people who wish to avoid the drying effects alcohol has on the skin.

Many alcohol-free products would appear to non-scientists to actually contain alcohols, as close examination of the ingredient list may reveal compounds such as phenoxyethanol, cetyl alcohol, benzyl alcohol or many other variations. Strictly speaking, the products are "ethanol-free." The old term for ethanol was ethyl alcohol - hence the use of the word "alcohol."

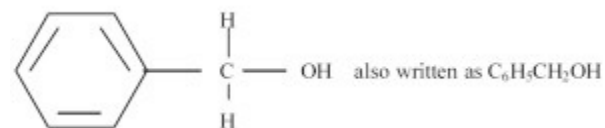
These products are still "alcohol-free." The reason for the apparent confusion is the difference between the terms used by scientists and those used by the general public. To the layman, beer, wines, and spirits, etc. contain alcohol; to the scientist, they contain ethanol. To the layman, alcohol is a single substance, but scientifically speaking the term describes a whole group of substances with differing properties.

Simple alcohols, like ethanol, are defined as having a general chemical formula of $C_nH_{2n+1}OH$, where n equals any number from 1 upwards. If $n=1$, the compound is CH_3OH - methanol, or methyl alcohol. In the case of "alcohol" (ethanol), $n=2$ and the formula is C_2H_5OH . Methanol is not permitted in cosmetics, and most other alcohols used in personal care are more complex in structure than ethanol and do not conform to the same general formula. They also have very different properties:

Ethanol has the chemical structure -



Benzyl alcohol has the following structure -



In summary, the layman's "alcohol" means "ethanol," and products that are "alcohol-free" are actually "ethanol-free." In cosmetics, ethanol must be listed on the label as "alcohol," or "alcohol denat" and any other "alcohols" are different and may be used in alcohol-free products.