

**Sub Name: FOOD BEVERAGE TECHNOLOGY**

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## **SOFT DRINK PROCESSING**

### **Application**

As a soft drink producer, one of the challenges you face is preventing contamination in your process and, ultimately, your product. Undetected microorganisms can not only ruin the taste of beverages, but cause illness as well. Soft drinks include all drinks made from water or mineral water, sugar, aromas, and essences, and usually contain carbon dioxide. Other beverage products such as flavored water, sports and energy drinks, and ice teas use a similar manufacturing process. Because of their pH level, high sugar level, low preservative content and production processes, these types of drinks are extremely susceptible to yeast and mold development. Microbial management is critical in order to prevent contamination. Merck helps you meet your challenges, providing the tools, technologies, and expertise you need to make your process safer and more efficient every step of the way. While soft drink production processes differ by product type and application, the basic process is the same.

### **SOFT DRINK PROCESSING STEPS**

#### ***Sugar Syrup Clarification***

The mixture of sugar, flavorings, essences, and water is called syrup. Syrup clarification will retain particles and crystals from your syrup.

#### ***Water Microbial Stabilization***

Water accounts for the largest portion of your beverage and needs to be safe. The prefiltration phase plays a key role in your process -- protecting the final filter, ensuring the long life and good economics of your filter train, and reducing the initial bioburden. Final filtration removes microorganisms such as bacteria, mold, yeast, and protozoa to achieve the required contaminant-free water quality.

#### ***Carbonation***

Carbonation is the step of adding carbon dioxide to a drink. The CO<sub>2</sub> that you inject into your beverage must be free of particles and microorganisms. Non-carbonated drinks do not include the carbonization step.

#### ***Bottle Blower and Bottle Washer***

The air used in the bottle blower to turn the pre-forms into the final PET bottle must be free of contaminants; its filtration ensures a bottle with low bioburden is produced. Bottle blowing can be done in any beverage process using PET bottles.

Just as the air used in the bottle blower must be free of contaminants, the water used to rinse the bottles must also be free of contaminants; its filtration ensures good quality of the bottles prior to filling. A safe and reliable container is essential to maintain the quality and shelf life of your drink.

#### ***Bottle Filler***

Gas filtration can also be used during the filling process of carbonated drinks. In order for the filling to be possible, the filler bowl must be pressurized and the gas used must be microbiologically stable.