**Section 740.70 Processes and Controls**

a) Raw Material Inspection, Storage and Preparation

1) Source and Inspection. All ingredients used in the preparation of syrups and beverages shall be in compliance with the Illinois Food, Drug and Cosmetic Act and its regulations, and shall have been protected from contamination and spoilage during subsequent handling, packaging and storage and while in transit. The operator must maintain a quality assurance program acceptable to the Department of Public Health.

2) Storage. All ingredients and raw materials shall be stored in such a manner as to protect them from contamination by dust, flies, rodents, and other vermin, unclean equipment, unnecessary handling, employees, or any other source of contamination. This shall include, but not be limited to, the storage on pallets or other devices to keep the materials off the floor and to permit cleaning. Ingredients and finished product must be segregated from toxic materials, animals feed, and any other items that are not human food or required in the manufacturing operation of the firm.

3) Preparation. Syrups shall be prepared in a sanitary manner and shall be protected from contamination throughout the preparation procedures. This shall include, but not be limited to, the use of equipment designed and constructed in accordance with Section 740.40 (b).

b) Raw Material Carrier Inspection. All carriers delivering raw materials and/or ingredients in mixed lots shall be visually inspected prior to acceptance of the materials to check for the presence of insects and rodents or toxic contaminants which may be caused by the carrier and render the materials unfit for human consumption or for their intended use.

c) Potable Ice. If ice is used for any purpose in a beverage manufacturing plant, it shall be manufactured from an approved water supply in an ice-making machine which is located, installed, operated and maintained so as to prevent contamination of the ice; or shall be obtained from an approved source. The ice shall be handled, transported, and stored in such a manner as to be protected against contamination. Block ice must have all outer surfaces thoroughly flushed with potable water before being used. Any ice crusher used shall be maintained in a clean condition and shall be covered when not in use. Ice handling utensils and equipment shall comply with Section 740.40 (b).

d) Multiple Use Equipment. None of the equipment used for handling beverages, beverage ingredients, bottles or single service articles shall be used for non-food products. No area of the plant shall be used to process or store non-food products unless it is so isolated and on a separate ventilation system so that there is no possibility of cross-contamination.

e) Equipment Cleaning. All product contact surface of equipment and utensils used in handling, processing, storing, or transporting of beverages or beverage ingredients within the plant shall be thoroughly cleaned after use. They shall be subjected effectively to an approved bactericidal process prior to each usage. The methods used shall be such that soft drinks and their ingredients shall not be contaminated or adulterated. Chemicals used for cleaning and bactericidal treatments shall have labels which identify the contents. All syrup pipelines, apparatus, and containers used in the manufacturing processes shall be thoroughly sanitized at adequate intervals. Apparatus shall be washed and rinsed before sanitization. Tanks and lines containing syrup between periods of processing operations shall be cleaned and sanitized when they are emptied, as scheduled by the plant. A schedule and record of cleaning and sanitizing of syrup tanks and lines must be maintained. After scheduled cleaning and sanitation, the syrup tanks and lines shall be flushed with potable water before beginning processing operations. Chlorine or equally effective bactericidal agents are permissable for sanitization.

f) Proper Processing

1) Methods. Manufacturing plant operations shall be performed in such a manner as to prevent contamination, adulteration or deterioration of the product or its ingredients. This shall include, but not be limited to, the prevention of the operator or his clothing from coming in contact with beverages, beverage ingredients or sanitized product contact surfaces.

2) Bottle Washing

A) All reusable glass containers shall be thoroughly cleaned and sanitized, immediately before filling, by means of a suitable automatic mechanical washing machine. No bottles shall be washed by hand except as a preliminary to mechanical washing. Mechanical washing machines shall be in compliance with Section 740.40 (b)(1) and where recording thermometers are used the recording charts shall be kept on file for two years. The pre-rinse section shall be cleaned on a daily basis.

B) Proper mechanical washing of reusable glass containers means the exposure of returned containers to a 3% alkali solution of which not less than 60% is caustic (sodium hydroxide) at a temperature of at least 130~ F for at least 5 minutes, or to an equivalent cleansing and sanitizing process, followed by the removal of the washing solution by rinsing with potable water.

C) Single service containers may be cleaned by air or water rinsing machines or sanitized by a method approved by the Illinois Department of Public Health so as to assure clean containers.

D) All returnable bottles shall be inspected immediately before filling to remove all improperly cleaned and/or defective containers. If manual inspection is being done, the persons inspecting shall have no other duties while they are inspecting on the line. Manual inspectors shall be changed at least once every half hour with other employees who have not been inspecting during that time. If electric equipment is being used for the inspection, it shall be checked at least once every hour to determine that it is functioning properly. Containers having different degrees of contamination in them shall be used in making this test. Records should be kept to show the time and initials of the persons conducting these tests on the mechanical inspection schedule and change of inspectors. These records, if kept, shall be available to the Department representative at the time he makes an inspection or any other request for the records.

3) Distilled or Purified Water. All processes shall be properly set up and operated to obtain a distilled or purified water and to prevent contamination of the product. Distillation equipment and deionizing beds shall be cleaned and backwashed at intervals which are frequent enough to guarantee their functioning properly.

g) Testing Procedures

1) Washing Solution. All manufacturing plants using returned bottles shall have the necessary testing equipment to determine the strength of the alkali solution, and shall check the solution at least twice a day when in operation. The results of these tests shall be kept as a quality control record for a period of at least two years and shall be made available to a representative of the Department upon his request. These records shall show at least the strength of the solution determined and the person making the determination as well as the time and date of the test.

2) Standardized Beverages. Standardized beverages shall comply with the standard designated in the Code of Federal Regulations for that product.

h) Packaging. Containers shall be filled and sealed by means of automatic machinery and neither the operator nor his clothes shall come in contact with any part of the bottle or machinery that might result in contamination of the product. Removal of the closure of imperfectly closed bottles and resealing shall not be permitted. Closures which have been touched on the inner side by the operator, as may occur while adjusting the closing machine shall be discarded. Imperfectly sealed containers shall be discarded.

i) Products Coded and Records Retained

1) Container Code. All containers shall be coded with a meaningful code to designate a production period. The production period, preferably should be daily but shall be limited to not more than two weeks with the same code. The code must be such as to enable positive identification of a lot or of individual bottles of a lot as necessary to effect recalls to protect the public health.

2) Records Retained. Code records shall be retained for a period of time exceeding the shelf life of the product or for one year which is considered to be a normal shelf life.

j) Product Storage and Carriers

1) Storage. Storage of the finished product shall comply with the requirements of raw material storage as designated in Section 740.70 (a)(2).

2) Delivery Vehicles. Finished product carriers shall not carry any toxic materials and shall be maintained in a clean condition. The vehicles shall be inspected prior to their loading to determine compliance.