

From: Mike VonPlinsky, Owner, BIZolutions Consulting, LLC

Subject: What's in Your Ice?

Ice is considered a "food" by the FDA and it can be a source of contamination and illness if not handled properly. Commercial Ice Machines, used to produce and store ice in various settings (such as restaurants, bars, hospitals, hotels and convenience stores), can harbor bacteria, viruses, mold, mildew, biofilm, slime, and other harmful substances that can affect the quality and safety of the ice. Let's evaluate some of the common sanitation issues with ice machines and how to prevent them.

One of the main sanitation issues with ice machines is the formation of "Biofilms", which are collections of microorganisms / bacteria that grow on surfaces and secrete a slimy substance that protects them from disinfectants and environmental stress. Biofilms can cause objectionable flavors and odors in ice as well as pose a health risk to consumers who ingest them. Biofilms can be formed by various factors, such as dirty water, poor maintenance, inadequate cleaning, improper drainage and human contact.

Some of the microorganisms that can be found in Biofilms include e.Coli, Salmonella, Listeria, Coliform Bacteria, and Noroviruses (COVID is a Norovirus). These pathogens can cause gastrointestinal illnesses, blood stream infections, pulmonary infections, and other pseudo-infections. For example, six patients in a hospital in Texas developed bloodstream infections caused by *Serratia Marcescens*, a bacterium that was traced back to contaminated ice machines. In another more recent case, a restaurant in Central Florida in the area of *The Villages* was ordered to stop using an ice machine until properly cleaned after an Inspector found a moldy, slime-like substance (Biofilm) in contact with the ice.

According to the Centers for Disease Control and Prevention (CDC), most common water filters are not designed to remove germs or bacteria from your water. They typically use a carbon filter to remove particulate impurities, like lead and other minerals, or to improve the taste of your water. Activated carbon filters **will NOT remove** microbial contaminants & Biofilm, such as bacteria and viruses.

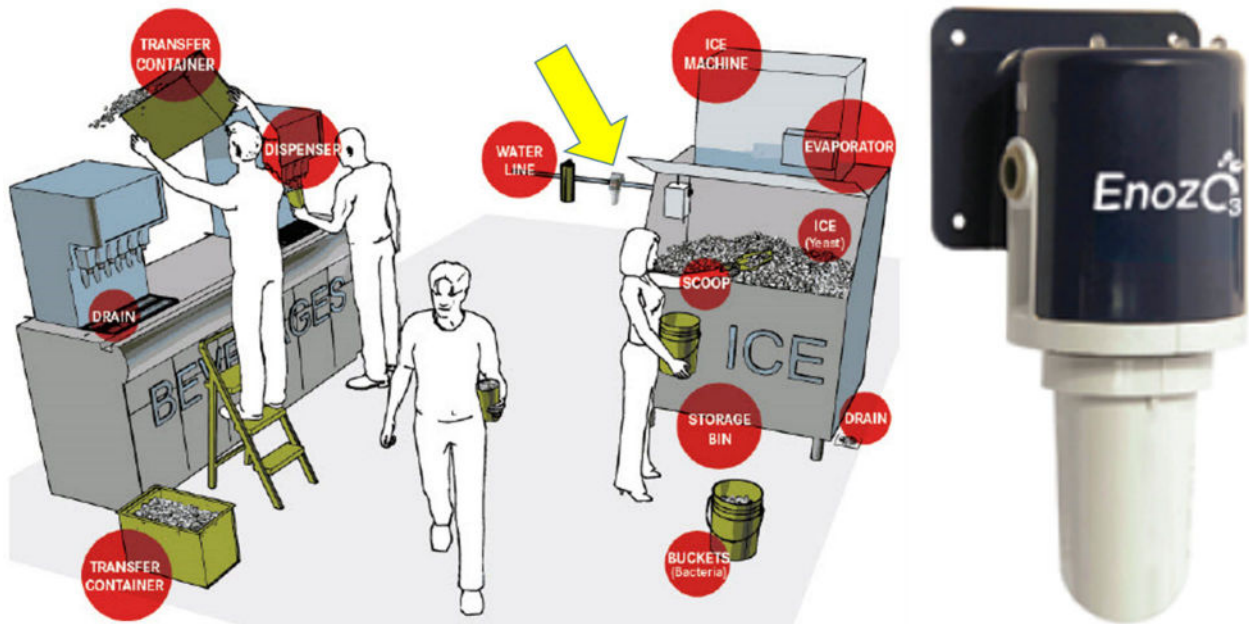
To prevent biofilm formation and contamination in ice machines, it is essential to follow proper cleaning and maintenance procedures. Some of the most often recommended practices include:

- Cleaning and sanitizing the ice machine at least every six months or more frequently, if needed
- Following the manufacturer's instructions for cleaning and sanitizing
- Removing and discarding any ice that has been in contact with biofilm or other contaminants

- Testing the water quality and installing filters or treatment systems, when necessary
- Ensuring proper drainage and ventilation of the ice machine
- Minimizing human contact with the ice and using scoops or dispensers ... NOT hands! (NOTE: even using scoops, hands often come in contact with the ice)
- Disinfecting high-use areas such as handles, buttons and doors plus regularly replacing any worn or damaged parts that may affect the operation or sanitation of the ice machine

But even following these common guidelines, bacteria and viral contamination is not fully addressed! **Ice is food** (so classified by the FDA) and it should be treated with the same care and attention as any other food product.

In our tri-County area here in Central FL, several establishments have been recently cited during health inspections for ice machine-related sanitation and cleanliness violations. This is not a new issue. But, now there is a new device to battle bacterial and viral ice machine contamination while significantly reducing, if not eliminating, mold & mildew buildup between cleanings! **ENOZO Inc.** offers a suite of **NON-TOXIC, water-based** sanitation, cleaning and deodorizing products using “**Aqueous Ozone**” (**AO**). Ozone, nature’s sanitizer, is infused into water using their proprietary and patented electrolysis process at FDA/EPA-approved levels generally regarded as safe for human exposure and consumption. Their unique **ECO₃ICE** device attaches to the external water inlet line of a commercial ice machine, usually downline from the common carbon filter. It works “on-demand” with each ice making cycle to add AO to the inlet water, which **kills 99.9% + of ALL bacteria, microbes and biofilm** in the machine, the ice produced, and throughout the ice making and handling “chain”! It even kills a wide variety of viruses, too!



It not only continuously sanitizes the machine, bin, ice, etc. with each ice making cycle, but extends time between machine cleanings and the life of the machine, literally paying for itself within a year or so ... **great ROI!** Every year or so, depending on the use cycles of the machine, the electrolytic cell is unscrewed and replaced, at less than ½ the cost of the integrated device!

And, they have a **hand-sprayer (EnozoPRO)**, again using non-toxic AO, to disinfect and clean food prep. and serving surfaces ... literally any exposed area where bacterial or viral decontamination and protection is needed. Also works to sanitize FOOD directly, like spraying chicken to be sure of no lurking Salmonella! FDA & EPA approved.



Next time you are at your favorite restaurant(s), ask them if they protect their Patrons by further sanitizing their ice and machine with **ECO₃ICE**. After all, **Ice is food too!!**

For more info. on our suite of Ozone products for business or home, contact Mike at mvp@help4ur.biz.

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