

Food Contamination

Ozone Answers Concerns

Ozone water treatment systems should become the next biggest sales category for water professionals. With ever-increasing media attention being focused on water quality and food contamination issues, consumers are more concerned than ever about water and food safety. People are always looking for more answers to how they can protect themselves and their families in everyday exposure to germs. The big advantage of an ozone system is that it not only kills bacteria and cysts in water, it also has been shown to kill bacteria on food.

A recent case involved a hepatitis A outbreak that killed three people and sickened nearly 600 others who ate at a Chi-Chi's Mexican restaurant. The outbreak was traced to green onions coming in from Mexico. This case highlighted the fact that more of our food is coming from foreign countries with less

stringent sanitary standards. Consumers want more fresh produce, and they want it year round, resulting in more imported food. Also, there seems to be a sharp rise of food-borne illness from fruits and vegetables. In 2000, there were almost as many reported cases of food poisoning from produce as there were from beef, poultry, fish and eggs combined, according to an advocacy group's compilation of government data. Until recently, produce was the last place investigators looked for food-borne illness. According to the U.S. Food and Drug Administration (FDA), less than 2 percent of produce that crosses the border is inspected for disease-causing bacteria. There is a real need to find better ways to combat food-borne germs that can lead to illness.

Water Treatment

More and more homeowners are looking for treatment of their tap water at home.

Ozone is one of the common types of point-of use water treatment. Standard filtration can allow microorganisms to pass through. Super fine micron filtration may filter out cysts but can contaminate downstream when filters are changed. Reverse osmosis produces a limited amount of water per day and many systems may waste significant amounts of water flushing out contaminants. Reverse osmosis also can allow bacteria and viruses to pass into the drinking water and can produce a flat, "dead" tasting water. Ultraviolet light eliminates some bacteria only as long as the bulb is at full strength and does not provide residual disinfection protection downstream. None of the common water treatment systems offer the benefits of corona discharge ozone, which produces more ozone than ultraviolet light.

Ozone is recognized as the most potent bactericide and oxidant available for



In 2000, there were almost as many cases of food poisoning from produce as there were from beef, poultry, fish and eggs combined.

water treatment. Although ozone has been used in water treatment for more than 100 years in Europe, it has only gained acceptance in the United States in the past 10 or 15 years because chlorine has been more widely used. The fact that ozone has been used instead of chlorine in Europe for nearly a century reinforces that it is not new nor is it an unproven technology. Recent research has shown that ozone treatment has many advantages over chlorine and other available anti-microbial agents. A key advantage of ozone over chlorine is that it not only kills bacteria, but it also destroys viruses and waterborne parasites. Ozone also has been proven to kill germs up to 3,200 times faster than chlorine—with absolutely no chemical residue. Chlorine can produce a carcinogenic byproduct called trihalomethanes (THMs) when combined with organic matter found mostly in surface waters. Chlorine also leaves a taste and an objectionable odor when used in water treatment. That's important to consumers who increasingly are becoming concerned about all the chemicals that are used in food and water supplies. Another advantage of ozone is that all the water a customer uses for drinking, cooking, bathing and laundry can be treated.

Ozone Benefits

Ozone is considered to be nature's own purifier and sterilizer. Ozone is a con-

INTRODUCING THE

BWF-2

semi-automatic bottle washing & filling system

This machine has been engineered from the ground up to meet the demands of the smaller capacity water bottling operation. The BWF-2's design is far superior compared to any other entry level washer/filler. We guarantee it!

- Wash, sterilize and fill up to 60 five gal bottles per hour.
- Simple one man operation.
- Durable stainless steel construction.
- Meets or exceeds health department requirements.
- Best value on the market.

MOBETTA
M&W
WATER

MoBetta Water 780-349-2503
Visit www.mobettawater.com for more info.



About the Author

Ed Jones is president and CEO for Tru-Pure Ozone Technologies, Green Bay, Wis. He can be reached by phone at 920-863-2444; ejones@trupure.com; www.trupure.com.

densed form of oxygen that is created by electricity such as when lightning leaps through the air. Oxygen molecules are split apart and condensed with three atoms instead of the normal two. When introduced into water, the extra atom attacks the impurities and pathogens leaving pure, fresh oxygen behind. Ozone must be generated on site to have active bacteria fighting benefits. Then the ozone reverts back to oxygen within minutes. Those using home or commercial ozone water treatment units can enjoy the delicious, refreshing taste of “pure” FDA-quality water with a sanitizing power to kill germs on contact.

An ozone system allows the user to rinse foods to kill microbiological germs and oxidize chemical contaminants on fruit, vegetables, meat, fish and poultry, as well as extend the shelf life of these products. Cold-water rinsing of sinks, dishes, cutting boards, meat storage trays and other food preparation areas kills bacteria such as *E. coli* and *Salmonella*.

When ozone is still in it’s active form, it will eliminate bacteria, viruses, yeast, molds and mildew on exposed surfaces and can even be used as a mouth rinse to kill harmful germs and bacteria.

The use of ozone as an antimicrobial agent for food treatment, storage and processing has been approved as safe by the FDA for several years. The FDA’s review of data shows that ozone represents a safe and effective agent to prevent microbial contamination of food. There is increasing use of ozone in the food processing industry.

Today, many systems are designed and available for residential use as well as for the restaurant, food service and related industries, and for use with commercial ice machines. There also are units available for recreational vehicles, campers or boats.

Ozone systems are easy to install and easy to maintain. There is no hassle or



Cold-water rinsing of dishes, cutting boards and other food preparation areas kills bacteria such as *E. coli* and *Salmonella*. The units fit under or on top of a counter with a simple connection to the water source.

cost of adding replacement chemicals. The units fit under or on top of a counter with a simple connection to the water source and are capable of producing up to one gallon per minute. The units run on a high-output, 15-volt DC, low temperature ozone generator.

The market for ozone water treatment is sure to expand throughout all categories. Particularly among better

educated, more affluent customers, the chemical-free nature of an ozone system holds significant appeal. Maintenance is low, and there is no expense for chemicals. There are some potential customers to whom ozone appeals simply because it is state-of-the-art. But the overriding fact for the future of ozone is that it will help safeguard the health of consumers by preventing food contamination.

RO UltraTec-USA[®]
INCORPORATED

Pure Water Solutions

Residential Reverse Osmosis and Filtration Systems

The *Ultra* Solution ...

The quality you're looking for ...
All of our residential systems are thoroughly tested and sanitized to meet the highest quality standards. They have a compact design which offers cost and space savings. With over 30 years of experience in the water treatment industry, our systems are leaders in quality and performance.

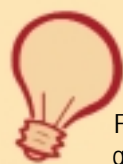
The selection you need ...
We carry a wide selection of residential systems ranging from 12 GPD to 100 GPD. We have a quick turnaround time and are able to expedite orders quickly.

The value you depend on ...
We strive to offer the most competitive prices on all of our products. We offer various services such as private labeling, drop shipping, and product customization. We look forward to working with you.

RO UltraTec-USA, Inc.
760.723.5417
sales@roultratec.com
http://www.roultratec.com
541 Industrial Way, Suite 1
Fallbrook, CA 92028

©2004 R.O. UltraTec USA, Inc.

For more information on this subject, write in 1014 on the reader service card.



LearnMore!

For more information related to this article, go to www.wqpmag.com/lm.cfm/wq020404

Ozone really will be the wave of the future for home and commercial water treatment, especially because it is a chemical-free process. It should become the treatment of choice among both water treatment professionals and their customers.

With the growing concern for pure drinking water and safer food products, an ozone water treatment unit promises

to become a staple kitchen appliance. It will quickly join other necessities such as garbage disposals, microwaves, smoke alarms and security systems that all have become commonplace.

The need for effective water purification and sterilization will perhaps be even more critical. Unlike a security system that protects just in case of a break-in, germs invade our homes continuously.

With an ozone water treatment system, consumers can protect themselves from germs and enjoy great-tasting water at the same time.

Ozone treatment offers an outstanding sales opportunity for the water treatment specialist simply because it allows you to offer so much more to your customer: nothing less than peace of mind. **WQP**



Water Treatment Equipment

Duff Company Online offers a wide selection of information on DWC products for commercial and residential water treatment equipment, as well as plumbing and heating, industrial supplies, pumps and steam specialties. Plus, the site offers 49 pages of equipment and treatment facts, data and charts. Files available in easily downloadable pdf format puts all literature and information within easy reach.

Duff Co.
www.duffcompany.com



Water Industry News and Information Source

Water Quality Products' website, wqpmag.com, features daily water industry news; article archives; product spotlights; calendar of events; water treatment companies' success stories; a bookstore that includes such topics as water treatment, management/training and more; and an online buyer's guide that brings the user supplier listings for specific products. The user also can subscribe to the magazine and weekly e-mail newsletter. *Wqpmag.com's* most recent feature is the Zones. The Zones bring together information, experts, products, suppliers and articles for a specific topic all in one place to answer your questions and get your business what it needs. Check out the latest Ultraviolet, Bottled Water and Arsenic Zones.

Water Quality Products
www.wqpmag.com

Water Purity Monitoring

HM Digital's website provides a variety of ways to test and monitor the purity of water, offering an assortment of TDS meters for use in sales or quality control of water treatment systems. It explains in detail why it is important to regulate the amount of total dissolved solids in water. Site vendors can learn how TDS effects taste, health, machinery and filter performance.

HM Digital
www.tdsmeter.com



Testing and Analysis

Hanna Instruments introduces a newly redesigned corporate website. Every product listed in the company's catalog can be easily accessed and printed from any computer, 24 hours a day. Product information, instructions, MSDS forms and applications-specific literature may be displayed. This site is continuously updated with the company's latest innovations, new products and applications and the latest industry tips. The company's product line includes handheld and in-line process control instrumentation, chemical metering pumps, colorimeters, test kits, reagents and accessories.

Hanna Instruments, Water
 Analysis and Control Division
www.hannainst.com



Online Quoting System

R.O. UltraTec USA, Inc., presents its new website, which features an online quoting system. This feature allows customers to select the products they are interested in and submit their potential orders to the sales representatives. The representatives will reply within 24 hours and are always available to offer assistance.

R.O. UltraTec USA, Inc.
www.roultratec.com



PRO PRODUCTS, LLC

Water Treatment Products

Pro Products LLC manufactures and supplies numerous products to the water treatment professional. The company's product line includes water treatment chemicals, cleaning products, test kits and household soaps and cleaners. With the acquisition of Spectrum Labs, the company now carries the Spectrum Products line of water treatment chemicals as well as LanoSoft® soap products and Spectrum Labs Test Kits. The website features details about all of the company's product lines as well as information about material safety data sheets, marketing support and contact information.

Pro Products, LLC
www.proproducts.com

Drinking Water

OASIS Corp. is a manufacturer and seller of bottled water, point of use, and pressure water coolers, drinking fountains and dehumidifiers. Known for many innovative firsts, the 94-year old corporation operates manufacturing facilities in Ohio, California, Mexico, Ireland and Poland. OASIS concluded 2003 with a major announcement—the acquisition of Sunroc Corporation, Dover, Del., another industry leader in the manufacturing of water quality-related products.

OASIS Corp.
www.oasiswatercoolers.com



Water Treatment Fundamentals Seminar

as presented by Joseph F. Harrison, P.E., CWS-VI,
 Technical Director, Water Quality Association

Order Now!*

On CD or Cassette for only:

\$100.00 (WQA Members)

\$200.00 (Nonmembers)

The Series Includes:

- ★ Introduction
- ★ Water Chemistry
- ★ Reverse Osmosis
- ★ Water Hardness
- ★ Distillation, Filtration, Activated Carbon
- ★ Radon, Iron, Manganese, Hydrogen Sulfide, Ozone, Corrosion
- ★ Questions and Answers: Review, Typical Questions for WQA CWS Test

A convenient way to learn the fundamentals of water treatment. At home, in the car, at the office - any time you want to do it. You can refer to it again and again, learn at your own pace, and save training costs as well. It's perfect if you can't attend the seminar in person, or just need a review.

*Contact WQA for more information.



Water Quality Association
 International Headquarters and Laboratory
 4161 Naperville Road
 Suite 1100 • Naperville, IL 60563-1000
 Phone: 630.686.0100
 Fax: 630.686.0687
 Web site: www.wqa.org
 A not-for-profit organization