

advanced food safety sanitation systems

# WHEN CLEAN IS CRITICAL

DEL Ozone Advanced Food Safety Systems provide safe, sustainable, and effective sanitation that saves time, energy and money.

- ▶ **DIRECT FOOD CONTACT**
- ▶ **SURFACE SANITATION**
- ▶ **CLEAN IN PLACE (CIP)**

# approved antimicrobial food safety technology

DEL Ozone Advanced Food Safety systems provide proven cost-effective antimicrobial efficacy for applications specific to every stage of food processing. From hard surface sanitation and CIP, to direct food contact applications, DEL's powerful ozone disinfection technology can supplement, enhance or replace traditional chemical-based or thermal-based techniques while lowering costs.

DEL Ozone systems are in compliance with EPA, FDA and USDA, and are NSF third-party validated for antimicrobial efficacy and safety. Ozone leaves no chemical residual and can be safely used for automated continuous sanitation during all phases of processing.



## OZONE APPLICATIONS

### DIRECT FOOD CONTACT



Integrated into any aqueous operation, dissolved ozone can be used for direct contact sanitation on fruits, vegetables, raw and ready-to-eat (RTE) meat, poultry, fish, & eggs. Benefits include:

- Longer shelf life
- Improved product color, appearance and taste
- Reduced product spoilage
- No additive labeling required

### SURFACE SANITATION



Ozone-enriched cold water can sanitize both food contact and non-food contact surfaces via mobile, skid-mounted or centralized systems with handheld or continuous flow low-pressure sprayers. Continuous use will reduce fats, oils & grease on surfaces, and regular use will break down microorganism and biofilm build-up in floor drains with no adverse effect on waste water treatment systems.

### CLEAN IN PLACE (CIP)



For CIP applications ozone sanitation can replace, supplement or enhance chemical and thermal sanitation steps. Ozone's powerful antimicrobial action can increase microbial kill of foodborne pathogens in CIP systems. At the same time, it can reduce water usage, chemicals, energy, labor & time by consolidating or eliminating sanitation steps to reduce downtime.



## What is Ozone?

Ozone (O<sub>3</sub>) is a gas derived from oxygen that is readily dissolved in water. Ozone is generated on site, is a powerful antimicrobial oxidizer & sanitizer that quickly converts back to oxygen after oxidizing contaminants; it leaves no residual or harmful chemical byproducts.

Ozone is effective against all food pathogens including:

<i>Escherichia coli</i>	<i>Listeria monocytogenes</i>
<i>Salmonella choleraesuis</i>	<i>Staphylococcus aureus</i>
<i>Campylobacter jejuni</i>	<i>Pseudomonas aeruginosa</i>
<i>Cryptosporidium parvum</i>	<i>Bacillus subtilis</i>
<i>Aspergillus flavus</i>	

Ozone is very effective at breaking down biofilm.

## DEL Experience

DEL is an ozone engineering design and manufacturing firm based in San Luis Obispo, CA. Since 1997, DEL has supplied food safety ozone technology to food processors in the US and locations around the world.

Advanced Food Safety Systems from DEL Ozone share in the 35+ year engineering heritage that has created DEL's superior sanitation products. Backed by DEL's commitment to customer service, DEL Ozone systems offer food processors a cost-effective, antimicrobial alternative to traditional food safety approaches.

# ADVANTAGES OF OZONE

Ozone technology is the clear choice when sanitation is critical, sustainability is required and cost savings are essential.

### SAFE & EFFECTIVE OXIDIZER

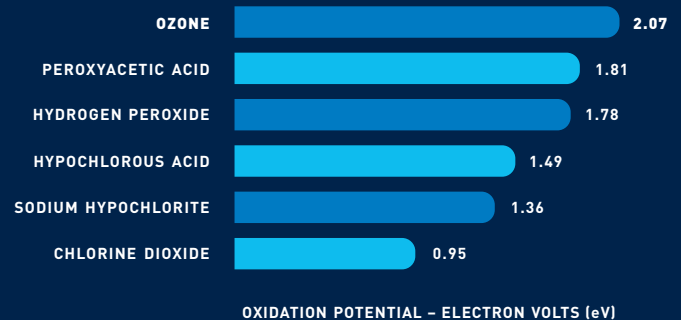
Ozone is a strong antimicrobial oxidizer that can be safely applied wherever traditional chemical or thermal methods are used. Ozone kills all known microorganisms, and it eliminates the need to rotate sanitizers because microorganisms cannot build a tolerance to it. Ozone has been in use commercially for over 100 years. It is generated and used on site and leaves no residual. It is well understood and easily managed, providing effective sanitation that is safe for operators, equipment and food products.

### APPROVED

Ozone is an FDA, USDA and USDA Organic approved antimicrobial food additive. These agencies recognize its efficacy for surface sanitation in all areas of food processing. In addition, third-party studies and hundreds of food processors have further validated its efficacy as equal or superior to traditional sanitation.

### REDUCE COST

Ozone is used in cold water, requires no rinsing, and is a powerful antimicrobial oxidizer. Sanitation steps can be improved/reduced, saving money on energy, water, disposal, labor, and time.



► Surface Sanitation





## DEL SYSTEMS

DEL Professional Engineering Design Service Group will work with your plant to provide a seamlessly integrated system into your plant's current architecture. We provide a turnkey solution to all of your control and process integration challenges and will work with your engineering staff to provide the design and installation support needed to work within the parameters of your facility. Big or small, DEL Professional Engineering Design Service Group will provide a system that works for your facility and within your budget.

We understand that service and support is critical when designing and installing any system in a processing facility, this is why we work directly with your maintenance staff during the design process to be sure that we provide a product that will not interfere with current plant challenges. In addition, we have a full staff of field service technicians available to keep your system running smoothly. All DEL systems are designed and manufactured in the US to the highest quality standards, you can be sure that your DEL system will provide impeccable results as long as your plant is in operation.

### DEL PROFESSIONAL ENGINEERING DESIGN SERVICES

- > System Design
- > Regulatory Compliance Consultation
- > Equipment Installation & Integration
- > Facility Control Integration
- > Operator Training
- > Staff Safety Training
- > On-Site Service



Skid-mount System



Mobile System



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