Indoor Air & Surface Treatment for Food & Beverage Industries

Zero Chlorine
Increases Productivity
Reduces Rejections & Spoilage
Increases Shelf life
USDA | FDA | GRAS Compliance
Plug & Play | Simple Retrofitting

Any industry which uses water as a part of its process or raw material needs to disinfect water to the highest level possible. When it comes to food and beverage industries water is an integral part of the process. At each and every stage disinfected water is required. The quality of the end product greatly depends upon the quality of process water.

In food & beverage industry water is mainly used in two places- one as part of product & second for rinsing & cleaning. To achieve good level of disinfection chlorine & its derivatives were being used in food & beverage industry. In the nineties chlorine was the only effective disinfectant available. Due to unavailability of any other technique or disinfectant chlorine was very popular. Unfortunately chlorine has many side effects in the process, product, people & environment. Since no other option was available in spite of following side effect chlorine was used as the only source of disinfection

Side effects of chlorine

1. Requires careful handling & storage ransportation
2. Slow in action & require longer process time.
3. Post disinfection/sanitization, rinsing is required.
4. Rinsed water has to be disinfectant free, giving rise to recontamination.
5. Disinfection comes in contact with product, generating Disinfectant By-Product(DBPs)
6. Some of these DBPs are carcinogenic ie it can cause cancer
7. Rinsed waste water needs further treatment before releasing it to receiving environment.

Advantages of ozone in food & beverages industry:

In Modern day industries, chlorine is completely replaced by ozone. Ozone has many great advantages as listed below :

1. Much faster than any other disinfectant.
2. Ozonated water is used both as disinfection & rinse water, operational stages of rinse cycle in completely eliminated saving lot of process, every time
3. It not only disinfects but also reduces organics, colour and odour.
4. Implementation process is simple & most effective.
5. It oxidizes to such a level that DBPS are below detectable levels.
6. Ozone has shorter half life so naturally reverts back to harmless oxygen post disinfection.
7. It works on wider pH range & at ambient temperature.
8. 8.Before disposing in to environment no rinsing on sanitized water is require

Food & Beverages experts, scientist & process engineers have started using ozone as a comprehensive disinfectant & sanitizer. Since the last 3 decades ozone is being used by almost all food & beverage industries as an undisputed disinfectant.
Ozone has diversified uses in food & beverage industry

Application of ozone in food & beverages industry

OZONE IS EXTENSIVLY USED FOR DISINFECTION & SANITIZATION

1. Raw process water
2. Reverse Osmosis feed water disinfection.
3. Product water disinfection & Sterilization.
4. Clean in place (CIP) for pipes, tanks, vessels, etc.
5. Sanitization of work place, converges, storage & holding trays, trawlers, walls & floors, all equipments used for production & storage.
6. Uniform, hand & face wash water
7. During the production, packaging & storage contact dose of ozone is used in air as a disinfectant.

8. Making ozone ice
9. Fruits & vegetable washing & rinsing surface to disinfect & remove pesticides.
10. Sea food, fresh fish, cleaning, rinsing & disinfection.
11. Beef, pork, mutton, washing & surface sanitization.
12. Air disinfectant in cold storages.
13. Cooling tower water treatment.
14. Waste water recycling & treatment.
15. Approved to FDA

Due to reduction in process, cleaning, reversing time, a typical ozone disinfection & sanitization increases production between 5-15%. With great aseptic condition using ozone, a typical rejection/spoilage can reduce by 5-8%. Sanitization, disinfection & air Ozonation in process packing & storage, increases shelf life by 200-1000% .
Since ozone has a shorter shelf life in cannot be stored & transported, in fact ozone has to be generated on site where it is required. These properties completely eliminate the cost & hazards of transportation storage & handling.

Wine & Liquor

Raw Water Disinfection
Flume wash & Rinse water ozonation for disinfection
Barrel Cleaning & Sanitization
CIP ? Tanks, Pipelines, Pumps, Valves, etc.
Surface sanitization ? Equipments, furniture, floor, stores, vehicles
Product water disinfection
Bottle rinsing & sanitization
Testing & R & D

Bathing, hand wash sanitization
Ozone Laundry System
STP Tertiary Treatment & ETPs
Cooling Tower Ozonation
Air Disinfection

- Raw material storage
- Process & production area
- Packing & Storage
- Transport

Fruits and vegetables

Raw Water Disinfection

Flume wash & rinse water ozonation for disinfection

CIP ? Tanks, Pipelines, Pumps, Valves, etc.

Surface sanitization ? Equipments, furniture, floor, stores, vehicles

Product water disinfection

Bottle / container rinsing & sanitization

Testing & R & D

Cooling Tower Ozonation

Air Disinfection

- Raw material storage
- Process & production area
- Packing & Storage
- Transport

Dairy, Milk, Chocolate, Ice-cream Industry

Raw Water Disinfection
CIP - Tanks, Pipelines, Pumps, Valves, etc.
Surface sanitization Equipments, furniture, floor, stores, vehicles
Product water disinfection
Bottle / container rinsing & sanitization
Testing & R & D
Cooling Tower Ozonation
Air Disinfection
- Raw material storage
- Process & production area
- Packing & Storage
- Transport

Fruits Jam & Tomato Catch-up Industry

Raw Water Disinfection
Flume wash & rinse water ozonation for disinfection
CIP ? Tanks, Pipelines, Pumps, Valves, etc.
Surface sanitization ? Equipments, furniture, floor, stores, vehicles
Product water disinfection
Bottle / container rinsing & sanitization
Testing & R & D
Cooling Tower Ozonation
Air Disinfection
- Raw material storage
- Process & production area
- Packing & Storage
- Transport

Potato Wafers & Chips

Raw Water Disinfection
Flume wash & rinse water ozonation for disinfection
CIP ? Tanks, Pipelines, Pumps, Valves, etc.
Surface sanitization ? Equipments, furniture, floor, stores, vehicles
Testing & R & D
Air Disinfection
- Raw material storage
- Process & production area
- Packing & Storage
- Transport

Sea Food

Raw Water Disinfection
Flume wash & rinse water ozonation for disinfection
Ozonated Ice for storage & transport
CIP ? Tanks, Pipelines, Pumps, Valves, etc.
Surface sanitization ? Equipments, furniture, floor, stores, vehicles
Testing & R & D
Air Disinfection
- Raw material storage
- Process & production area
- Packing & Storage
- Transport

Pork

Raw Water Disinfection

Flume wash & rinse water ozonation for disinfection
Ozonated Ice for storage & transport
CIP ? Tanks, Pipelines, Pumps, Valves, etc.
Surface sanitization ? Equipments, furniture, floor, stores, vehicles
Testing & R & D
Air Disinfection
- Raw material storage
- Process & production area
- Packing & Storage
- Transport

Beef Processing

Raw Water Disinfection
Flume wash & rinse water ozonation for disinfection
Ozonated Ice for storage & transport
CIP ? Tanks, Pipelines, Pumps, Valves, etc.
Surface sanitization ? Equipments, furniture, floor, stores, vehicles
Testing & R & D
Air Disinfection
- Raw material storage
- Process & production area
- Packing & Storage
- Transport

Poultry

Raw Water Disinfection
Flume wash & rinse water ozonation for disinfection
Ozonated Ice for storage & transport
CIP ? Tanks, Pipelines, Pumps, Valves, etc.
Surface sanitization ? Equipments, furniture, floor, stores, vehicles
Testing & R & D
Air Disinfection
- Raw material storage
- Process & production area
- Packing & Storage
- Transport