



FOOD AND
BEVERAGE
SOLUTIONS



Providing Creative Solutions

Food & Beverage Solutions



Food and beverage manufacturing presents a unique set of challenges. You may need to increase production while maintaining a safe and wholesome product. Utilities and water usage are becoming more costly and sustainability is becoming more important to your customers and to your profitability. Profit margins can be tight so increasing your production time and maximizing shelf life are critical.

Hydrite can help. We distinguish ourselves from other chemical manufacturers and distributors by our ability to be your “one-stop-shop” for all things chemical; one company, one shipment, one point of contact, one purchase order, and just one invoice to process. You will benefit through our:

- Sanitation Chemistry
- Processing Aids
- Food Ingredients
- Intervention Chemistry
- Ingredients for Plant-Based Foods
- Production Chemicals
- Commodity Chemicals
- Foam Control
- Wastewater Treatment
- Membrane Technology
- Food Safety Solutions
- Equipment Technology Solutions

Our knowledgeable and customer-centric team of professionals have the industry experience paired with innovative equipment to help you achieve your financial goals and food safety.

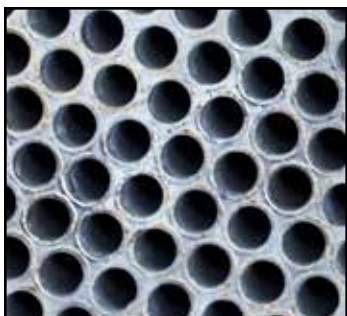
SANITATION CHEMISTRY

The plant sanitation process is essential to the safe production of foods and beverages. This process is designed to remove soil, microorganisms, and other contaminants from the manufacturing environment. As such, it plays a crucial role in the manufacturing of food and beverages for our customers.

We offer a full range of products—including CIP cleaners, sanitizers, and processing aids—used in the food and beverage industry for a variety of cleaning and sanitization applications.

PROCESSING AIDS

We supply products to assist with increased production throughput and improving operational efficiencies. Processing Aids help control unwanted scale formation and lead to longer and more efficient product runs. At Hydrite our patented processing aids are the result of years of research and field testing to create the best product options for the dairy industry.



FOOD INGREDIENTS

We are a single source provider of distributed dry and liquid ingredients, bulk and packaged products, and manufactured liquid chemical additives to food companies. We will work with your company to come up with the best fit solutions, and then deliver these ingredients ready to use at a value. Hydrite's ingredient offering goes through a rigorous approval process and is backed by Hydrite's reputation for consistent quality.

- Liquid sodium benzoate
- Liquid bisulfites
- Gluconic acid and gluconates
- Aqua ammonia
- Food grade caustics
- Liquid calcium chloride
- Sodium and potassium chloride
- Citric acid and citrates
- Phosphoric acid and phosphates
- Lactic acid
- Malic acid
- Fumaric acid
- Acetic acid and acetates
- Liquid potassium sorbate

When it comes to food ingredients, Hydrite is your one-stop-shop thanks to our extensive R&D capabilities, ability to bundle products for logistical cost improvements, strong raw material purchasing power, privately-owned fleet for on-time delivery, products manufactured under cGMPs and quality management systems.

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INTERVENTION CHEMISTRY

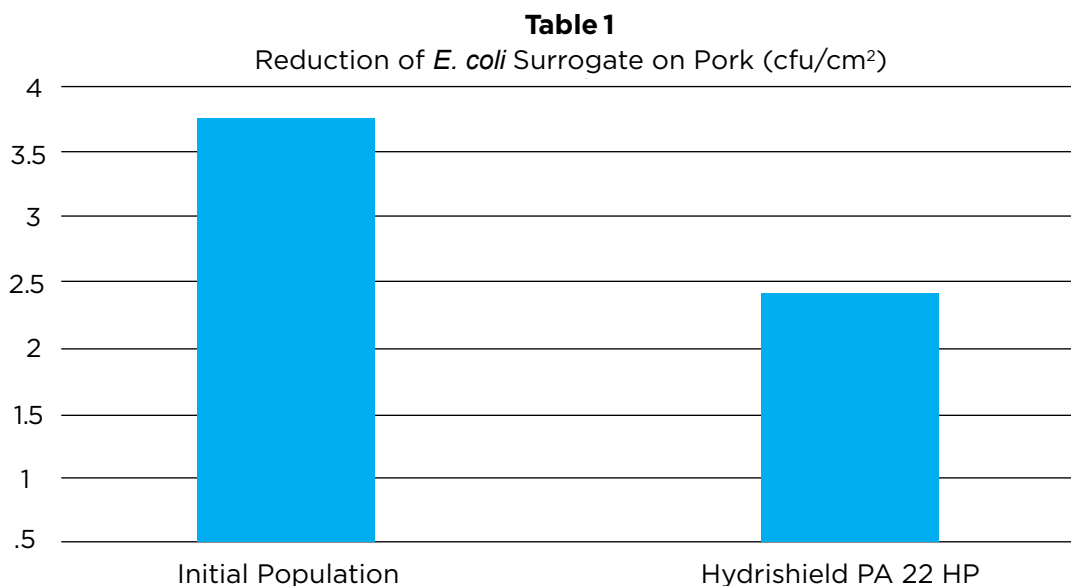
Conditions that encourage bacteria growth increase the possibility of toxins in food, risking food borne pathogens and the potential outbreak of food borne illness such as *E. coli*, *Listeria*, *Salmonella*, and *Campylobacter*. To decrease your risk and improve consumer safety, Hydrite has the expertise in meat intervention chemistry you need. Hydrite's Intervention Chemistry Program can help to reduce bacteria growth and food safety risk, and can help to improve shelf life. Hydrite provides producers and processors access to a full line of cutting-edge intervention techniques with FDA and USDA approvals. Common intervention chemistries include:

- Acetic Acid
- Citric Acid
- Lactic Acid
- Lactic/Citric Acid Blends
- Peracetic Acid (PAA)



EFFICACY STUDY - HYDRISHIELD PA 22 HP

Study was conducted to test the effect of Hydrite Hydrishield PA 22 HP treatments on non-pathogenic *E. coli* surrogate inoculum on pig carcasses. After inoculation and treatment with Hydrishield PA 22 HP and repeating the experiment three times, it was found that Hydrite Hydrishield PA 22 HP reduced the *E. coli* population by an average of 1.32 logs (Table 1).



Research conducted at Iowa State University under the direction of Dr. James Dickson, Professor, Department of Animal Science.

Full study available upon request

INGREDIENTS FOR PLANT-BASED FOODS

With the popularity of plant-based foods growing worldwide, there is an increased need for ingredients that fortify, control pH, emulsify and stabilize. Hydrite is able to provide many products in this area, including:

- Dipotassium phosphate (liquid and dry)
- Tripotassium citrate (liquid and dry)
- Tricalcium phosphate
- Sodium hexametaphosphate
- Citric acid
- Lecithin (sunflower)

COMMODITY CHEMICALS

With over 7 million gallons of bulk storage and locations throughout the country, we are able to offer our customers commodity chemicals when they need them at the best price. In addition to manufacturing plant sanitation chemicals, we are one of North America's largest chemical distributors and can supply a wide range of commodities including:

- Caustic soda
- Caustic potash (KOH)
- Magnesium hydroxide
- Muriatic acid
- Sulfuric acid
- Nitric acid
- Phosphoric acid
- Sulfuric acid
- Sodium percarbonate
- Hydrogen peroxide
- Aqua Ammonia

FOAM CONTROL

We offer application solutions in fermentation, wet-corn milling, potato processing, dairy production, protein extraction and candy processing. Hydrite manufactures a full line of defoamers for the food and beverage manufacturing industries. We offer silicone and non-silicone based food grade defoamers for use in processing, CIP and wastewater, along with the associated feed and control equipment to manage your defoaming costs.

WASTEWATER TREATMENT

Most food and beverage manufacturing plants are required to meet stringent wastewater treatment discharge regulations. Hydrite has the chemistry and expertise to help you meet your specific regulations. As your partner, we will analyze your current chemistry and process, and implement cost reduction strategies.

- Acids and caustic for pH adjustment
- Coagulants for clarification
- Polymers and flocculants for liquid/solid separation
- Phosphorous reduction compounds
- Odor control compounds
- BOD/Solids reduction



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FOOD SAFETY



Hydrite offers customized food safety programs designed to increase your food safety and protect your brand. We assess the specific needs of your company to create solutions that work effectively while delivering the greatest value.

Our extensive line of sanitation products, coupled with our technical support, has gained the trust of some of the world's top manufacturers for their plant sanitation needs.

Beyond our customized solutions, we offer a full range of products including CIP cleaners, manual detergents, sanitizers, ingredients, and processing aids. Sustainable food safety is not only achieved through policies and procedures but through actions that raise awareness and lead to food safety behavior changes in the workplace. Our employees share in the belief unsafe food should never enter commerce and are committed to a core value of food safety culture.

Every plant is unique and cleaning protocols must be customized for each location and application. Our team of professionals help food and beverage plants develop customized, cost-effective programs that improve efficiency, reduce operating expenses, and focus on compliance to industry standards and regulations.

MEMBRANE TECHNOLOGY

The membrane sanitation program at Hydrite represents the culmination of 30 years of research and development. We've listened to our customer's concerns regarding membrane sanitation, and understand the impact your membrane processes have on throughput and productivity. Our objective is to clean the membrane effectively and quickly, to keep your process running smoothly.

Our program includes not only a family of detergent products which provide superior performance and cost effective cleaning, but also technical support, in-plant service, training, and dispensing equipment.

Hydrite Membrane SLM is an informed method for analyzing your current membrane CIP program to provide insight into procedural changes for reduction in time, chemistry, energy, or water. By investigating a membrane system's unique Soil Load Map, recommendations can be made for optimizing the current program or investigating the impact of program changes while minimizing risks to production schedules and elements.



Hydrite Academy

MICROBIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

Hydrite's environmental monitoring program workshop equip key food manufacturing employees with up-to-date information and best practices to bring back to the plant.

FSPCA PCHF AND HACCP TRAINING

Food Safety Preventive Controls Alliance (FSPCA) Preventive Controls for Human Foods (PCHF) is a two-and-a-half-day course that will provide the tools necessary to complete the requirements for the FSMA Preventive Controls rule. This course, developed by the FSPCA, is the "standardized curriculum" recognized by the FDA. Successful completion of this course meets the requirements for a Preventive Controls Qualified Individual (PCQI). Following the PCHF/PCQI training is a half day training for Introduction to Hazard Analysis Critical Control Point (HACCP). This course is designed for individuals who have completed the PCHF/PCQI course and provides the tools necessary to complete HACCP plans. Individual certificates are provided for successful completion of these training courses.

FOOD SAFETY TRAINING

Training is an important aspect of food safety. Many managers in the food industry support continuous education because of the many food safety concerns and increased regulatory oversight. Hydrite's food safety and sanitation workshop is designed to provide all levels of employees up-to-date information and best practices surrounding the topics of food safety and sanitation. The courses are tailored to give attendees the tools needed to bring information back to the plant, and help spread this valuable information throughout their teams.

MEMBRANE TECHNOLOGY TRAINING

We offer a comprehensive training program that covers membrane applications, systems, cleaning, and separation processes. By training your supervisors in such techniques, you ensure that your membranes are treated appropriately, extending their working life and performance.

Providing Creative Solutions

Equipment Technology Solutions

HYDRI-VISION & HYDRI-VISION DLX

Patent pending technology for collecting, analyzing and documenting concentrations of cleaning and intervention chemistries, including sanitizers. It is modularly built to accommodate up to twelve (12) sample inputs. Assurance of premium finished product quality as well as food safety and regulatory compliance are foundational to this creative solution. Automate your titrations today! Our DLX model includes pH measurement and is generally meant for membrane filtration systems.

APPLICATIONS & FEATURES

- Stand alone CIP or COP
- Membrane filtration
- Water treatment
- Chillers
- Soak or dip tanks
- Allen Bradley platform + Factory Talk SE or Wonderware 2020 R2 HMI software
- UL approved
- Detailed reporting structure
- Operational alarms and safeguards
- Robust service life and simple user interface



HYDRI-PRO & HYDRI-PRO LITE

Best in class technology for allocating, dispensing and documenting cleaners, sanitizers, additives and intervention chemistries. It is modularly built by twelve (12) per to accommodate up to thirty-six (36) point of use locations or destinations. Assurance of accurate and timely allocation and dispensing as well as exceptional service life are foundational to this creative solution. Clean up your chemical room today! Our Lite model is built to accommodate six (6) point of use locations or destinations and can be wall mounted.

APPLICATIONS & FEATURES

- Ability to deliver directly from bulk
- Storage and back up delivery control option
- Simple user interface and robust service life
- Stand alone CIP or COP
- Membrane filtration or batch tank
- Allen Bradley platform + Factory Talk SE or Wonderware 2020 R2 HMI software
- UL approved
- Detailed reporting structure
- Operational alarms and safeguards
- Back up delivery control option
- Two modes of operation based upon volume to be delivered
- Simple user interface
- Maintenance and status screens to aid with repairs and troubleshooting
- Drum empty feature to aid in priming of pumps
- Ability to deliver directly from bulk storage and robust service life



FMS+

A chemical flow measurer and recorder that is the next generation offering to our FMS-6. It is modularly built to accommodate up to sixteen (16) locations or destinations with varying combinations of pulse or analog flowmeters. Simplicity of its design and the flexibility to simultaneously manage multiple locations or destinations are foundational to this creative solution.

APPLICATIONS

- Plant wide usage monitoring
- Sustainability or utilities audit or plant wide survey



FEATURES

- SST OR fiberglass enclosure
- 10" JSmart HMI, 4GLTE router with WAN/LAN
- 24VDC power supply
- 5 port POE ethernet switch
- Keyence IO link module or Pulse IO NEMA4X panel
- Keyence FD-H flowmeters or SPX Seametrics flowmeters
- 10m power and ethernet cables to connect the HMI panel to remote IO
- UL approved
- Detailed reporting structure
- Operational alarms and safeguards
- Robust service life and simple user interface

FEED+

FEED+ is a chemical allocation and dispensing system as well as a next generation offering to Hydriter 6 Button Feed. Simplicity of its design as well as the flexibility to set control with either time or a recycle timer are foundational to this creative solution.

APPLICATIONS

- Chemical transfers
- Tunnel, form, case or egg washers
- Portable or secondary Container filling

FEATURES

- Time and date stamp for each output activated
- Time stamp for how long each output is activated
- Quick install and commission process
- Robust and flexible technology
- Capable to control and deliver to 16 locations individually

OPTIMAX FBA

The FBA is a flow based, recipe-based delivery system that can deliver ten cleaning chemicals to four locations. The delivery header and lines are water flushed after every delivery. The FBA has proven itself in the field to be a rugged, user friendly and accurate chemical delivery system.

APPLICATIONS

- HTSTs
- Evaporators
- Dryers
- Separators
- COP tanks
- Tunnel, form, case or egg washers
- Membrane

FEATURES

- Local reporting with time and date stamp
- Ability to deliver by flow or time
- Deliver to up to 4 locations
- Deliver up to 10 chemicals
- Economical
- Header can be mounted vertically or horizontally to conform to space constraint

Providing Creative Solutions

Hydrite Product Offering

Product Name	Type	Meat & Poultry	Egg	Dairy	Fruit & Vegetable	Beverage	Pet Food
ACIDOX CP NO. 147	Acid CIP Single Phase			X	X	X	
CLING NO. 153	Acid Foaming	X	X	X	X	X	X
VIGILANT NO. 163	Acid Foaming & Floor Treatment	X		X	X	X	X
SHINE NO. 166	Acid Powdered CIP	X	X	X	X	X	
MPA NO. 168	Acid CIP	X	X	X	X	X	X
VIBRANT NO. 173	Acid Foaming	X	X	X	X	X	X
LFA RED NO. 189	Acid CIP	X	X	X	X	X	X
CHELATED CAUSTIC MG	Alkaline CIP	X		X	X	X	X
CAUSTIC CLEANER NO. 202	Alkaline Powdered CIP	X		X	X	X	X
KETTLE CLEANER NO. 214	Alkaline Powdered Chlorinated CIP	X		X	X	X	X
MILLENNIUM NO. 254	Alkaline CIP, Low Temp		X	X	X	X	X
RESOLVE NO. 260	Alkaline Foaming, Chlorinated, Non-Phosphated	X	X	X	X	X	X
CHLOROCLEAN NO. 269	Alkaline Chlorinated CIP	X	X	X	X	X	X
SUPER QUEST NO. 278	Alkaline H.D. Foaming Non-Chlorinated	X		X	X	X	X
ECLIPSE NO. 285	Alkaline CIP, Single Phase Cleaner	X	X	X	X	X	X
ENRICH NO. 299	Alkaline Foaming, Chlorinated	X	X	X	X	X	X
IMMENSE NO. 361	Neutral Foaming General Purpose	X	X	X	X	X	X
GREASE-X NO. 367	General Purpose Cleaner	X	X	X	X	X	X
HYDRILUBE HD NO. 675	Lubricant	X		X		X	
HYDRISOAK NO. 180	Membrane - Preservative	X	X	X	X	X	X

Hydrite Product Offering

Product Name	Type	Meat & Poultry	Egg	Dairy	Fruit & Vegetable	Beverage	Pet Food
HYDRIFLUX NP NO. 366	Membrane Alkaline	X	X	X			X
REFLUX NO. 193	Membrane Acid	X	X	X	X	X	X
APOLLO NO. 327	Membrane Surfactant	X	X	X		X	X
DETBUILD NO. 394	Membrane Surfactant	X	X	X		X	X
ENZYTERGE NO. 400	Membrane Enzyme	X	X	X		X	X
SAN-I-KING NO. 451	Sanitizer Sodium Hypochlorite	X	X	X	X	X	X
HYDRISHIELD PA 22 HP	Processing Aid FDA PAA Antimicrobial	X	X		X	X	
DELTA NO. 594	Processing Aid			X		X	
SUPPRESSOR 3110	Defoamer	X	X	X	X	X	X
MULTIQUAT NO. 455	Sanitizer - Quat	X	X	X	X	X	X
HYDRI-SAN NO. 468	Sanitizer - Acid	X		X	X	X	X
HYDROXYSAN + NO. 494	Sanitizer - PAA	X	X	X	X	X	X
ALPET D2	Sanitizer - Disinfectant	X	X	X	X	X	X
STERILEX ULTRA DISINFECTANT	Disinfectant Cleaner PerQuat	X	X	X	X	X	X
FRUIT WASH SK NO. 3352	Special Application Produce Wash				X		
HYDRITE 610 LIQ TRIPE WASH	Special Application Tripe Wash	X					
HY-DRI EGG CLEANER NO. 253	Special Application Egg Wash		X				
DRY GLIDE NO. 661	Lubricant	X	X	X		X	
HYDRI-CHILL FG	Propylene Glycol	X	X	X	X	X	X

Multiple outgoing logistics and packaging options

- Bulk, totes, drums
- Returnable totes for cost reduction and low carbon footprint/sustainability
- Hydrite fleet and common carrier

RITE Team

Hydrite's RITE Team™ is a group of experienced professionals tasked to enhance the technical support in the field to introduce innovative solutions that help address critical issues in the Food industry.



RITE is an acronym for Real-time, Innovative, Technical, Expertise. The RITE Team is a group of twelve Hydrite technical representatives who collectively have 300+ years of knowledge and field experience.

The RITE Team consists of a network of individuals strong in microbiology, membranes, CIP performance, product selection and troubleshooting. This collaborative team supports our customers and our field to provide technical training, program development, and adjacent technology.

ABOUT HYDRITE

We offer expertise in chemical distribution, food and dairy sanitation, food ingredients, organic processing, liquid sulfur salts, water treatment, foam control, and compliance management. We make and supply the ingredients that make your food and beverages more flavorful, the fluoride to treat water and prevent tooth decay, the chemicals to improve water quality, and the cleaners and sanitizers used in the food industry to enhance the quality of our food supply.

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