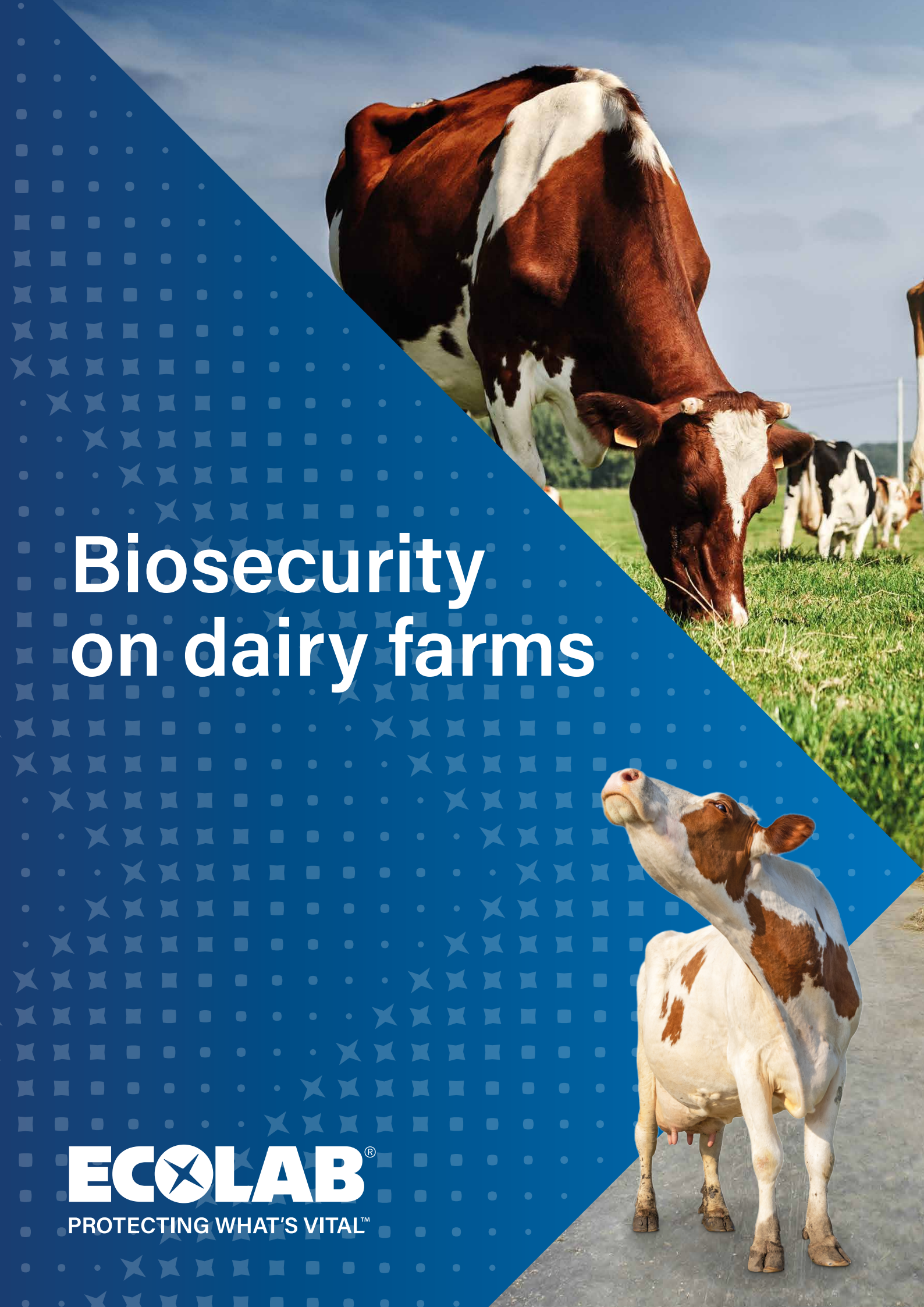
Biosecurity on dairy farms



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Prevention Works: Safeguarding Your Dairy Farm's Profitability

In the dairy industry, we don't always think about the financial impacts of a disease outbreak. Have you ever considered that biosecurity serves as a protective shield against outbreaks, much like a safety net or safeguard for your livestock?

The Potential Loss: When an outbreak strikes, the dairy industry could face significant financial losses. Just like an insurance policy, implementing biosecurity measures is crucial to protect your livestock and the profitability of your business.

Be in Control: By investing in preventive solutions, you take control and reduce the risk of the unpredictable, empowering yourself to protect your animals and maintain your profitability.

A Sound Investment: While complete risk elimination isn't guaranteed, managing every aspect of your farm journey, from water and feed to transport, significantly strengthens your biosecurity defences, positively impacting the profit of your farm. Our solutions are an investment in safeguarding your livestock and securing economic stability, much like an insurance policy safeguards your assets.

Protect what's vital!

At Ecolab, we are dedicated to the proactive approach of preventing disease and ensuring the health and resilience of farm animals. We protect animal health through hygiene and biosecurity programs to deliver a safer food supply while helping businesses to thrive consistently and respecting the planet.

Discover Why Prevention Works: Join us in implementing biosecurity practices and see the positive impact on your farm's profitability. As your trusted partner, Ecolab provides comprehensive guidance, support, and expertise to protect the well-being of your animals and the prosperity of your business.

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Biosecurity on Dairy Farms

- What is Biosecurity?
- How do new infections happen?
- Infection routes
  - External biosecurity (outside to inside)
  - Internal biosecurity (inside to inside)
- Our program and preventive measures
- Product overview

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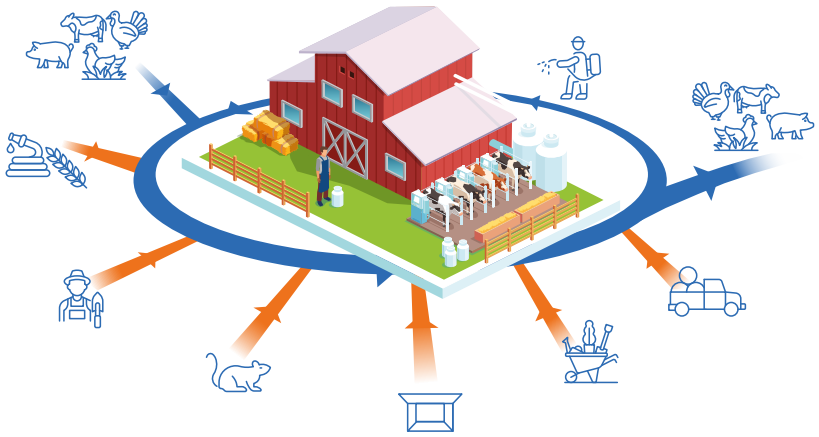
Biosecurity on Dairy Farms

Overview

- Unlike pig and poultry farms, dairy farms generally have open barns, presenting a big biosecurity challenge.
- These farms receive different visitors daily (milk trucks, feed trucks, visitors, employees, vets, etc.), and all these people may also visit several farms per day.
- Wild birds, rodents, and pets have easy access to much of the dairy farm facility.
- Dairy farmers usually think about issues caused by pathogens that are present on the farm: mastitis, diarrhea of the calves, lameness, etc. and aren't considering pathogens from outside of the operation.
- Recent outbreaks of Foot and Mouth Disease in some countries that were "clean" from this disease, as well as Highly Pathogenic Avian Influenza in the U.S. have are challenging the industry's conventional approach.



This is the right time to re-think biosecurity on dairy farms.

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Biosecurity on Dairy Farms

What is Biosecurity?

The combination of all measures taken to reduce the risk of introduction and spread of infectious diseases at farm level, throughout the region, country or even worldwide.

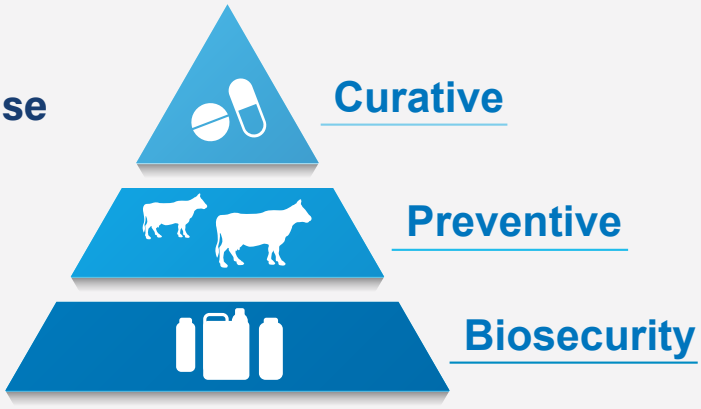
Prevention

- Of new diseases
- Outside/Inside

Control

- Of existing diseases
- Inside/Outside

Biosecurity is the basis of any disease control program



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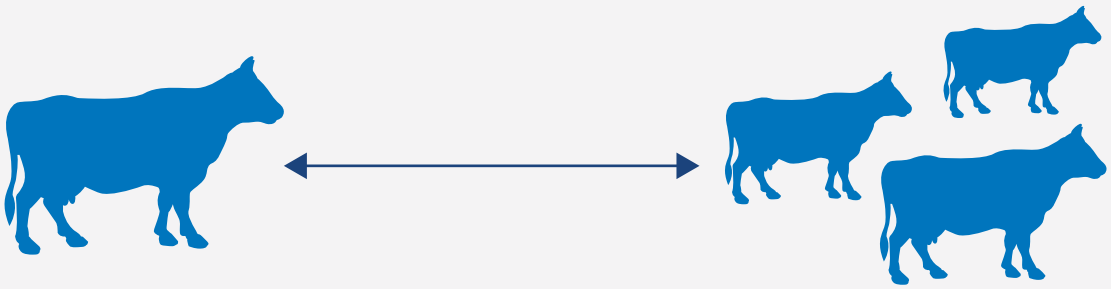
Biosecurity on Dairy Farms

How do new infections happen?

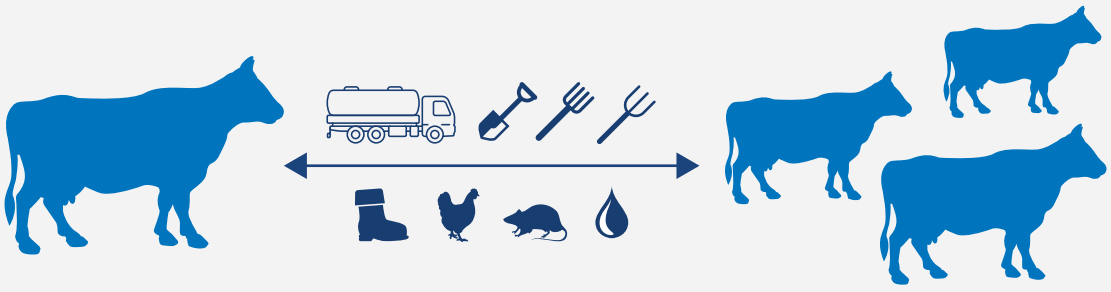
Direct Contact



Infected Animals

Uninfected Animals

Indirect Contact



Infected Animals

Uninfected Animals

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Biosecurity on Dairy Farms

Infection routes

EXTERNAL BIOSECURITY

The infection risk/route comes from outside of the farm:

- Contact with humans, trucks/vehicles, equipment & tools
- Movement of infected animals
- Contact with wild birds, dogs, cats and rodents
- Water sources
- Contaminated feed/hay/straw

Where the Dairy farmers assume higher risks

INTERNAL BIOSECURITY

The infection risk/route comes from inside the farm:

- Contact with humans, vehicles, equipment & tools
- Milking machine (CIP & external parts)
- Calves and calving area
- Dirty bedding/barn/alleys
- Barn and alleys with high level of humidity/water
- Movement of infected animals that were already on the farm
- Contact with wild birds, dogs, cats and rodents
- Contaminated feed/hay/straw
- Protocol compliance issues or lack of protocols

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Biosecurity on Dairy Farms

Our program & preventive measures

EXTERNAL BIOSECURITY OUTSIDE TO INSIDE

- Vehicles/trucks coming into the farm should pass by the wheels bath or the wheels mat – containing a solution of 0.78% of Virocid (this solution should be checked using Virocid test strips, if below 0.78%, solution should be changed) **(Special attention should be given to vehicles that visited several farms: milk/feed trucks, veterinarians, hoof trimmers, AI Technicians, carcass removal trucks, and cattle trucks. Only essential personnel should contact the animals).**
- If there are no wheels bath/mat, clean wheels/lower part of vehicle with Virocid foam. To disinfect, directly spray liquid Virocid at 0.78% on the wheels/lower part of the vehicle.

- The cabins of the trucks should also be disinfected with Virocid at 0.78%, especially the floor and the pedals.
- All the shoes/boots of people that enter the farm should be disinfected using Virocid at 0.78% or other product approved for this use. Renew the solution when it is dirty or when test strips show the solution is below 0.78%. If possible, wear farm specific clothing and shoes.

BOOT HYGIENE

STEP 1	STEP 2	STEP 3	STEP 4
			
Dry cleaning (brush)	Rinse with water	**Disinfect** Follow the use directions for proper contact time	**Renew** Renew the solution regulary: When dirty or when below 0.78%

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Virocid (EPA Reg. No. 71355-1) is registered with the US EPA. State registrations are in progress.
For a list of current approved state registrations, please contact your local Ecolab representative.

Biosecurity on Dairy Farms

Our program & preventive measures

EXTERNAL BIOSECURITY OUTSIDE TO INSIDE (CONTINUED)

- Check-in for visitors. All visitors should also wash & disinfect their hands **(special attention to vets and trimmers clothes, if not internal). Keep the number of people with access to farm and animal facilities to a minimum.**
- All the equipment & tools that come from outside the farm should be disinfected using Virocid at minimum 0.5% **(special attention to vets and trimmers equipment, if not internal).**
- If farms buy/bring animals from outside, the farmer should have a guaranty that the truck was cleaned and disinfected before coming to their farm. The animals should also be tested, to ensure they are "clean", even so, they should stay in quarantine after arriving to the farm.
- The same is true if the farmer sells animals to other farms.
- The farm should have an effective pest control plan to avoid problems caused by rodents.
- Wild birds/pigeons are a big problem on dairy farms, as they leave feces everywhere, which is a big contamination problem, especially in the barns/feed corridor/silos/straw/hay. Sound systems, netting, or other bird mitigation tools should be used.
- Pay attention to dogs and cats circulating on the farm, they are also a vector of infection.
- Water quality is very important for an animal's health/immunity, but also to preventing disease outbreaks. If something goes wrong with water quality, it can go wrong very fast. Consult your Ecolab rep for drinking water protocols.
- Protect feed/silos/hay/straw as much as possible from the birds or other animals, to avoid feed and TMR contaminations.

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Biosecurity on Dairy Farms

E.P.A. registered products featuring *Avian Influenza* claims

Product	Benefit Highlights
Whisper™ V **EPA Reg. No. 1677-198** 	Effective against organisms listed on product typically encountered on dairy and poultry farms. ▪ Effective sanitizer and disinfectant on hard, non-porous surfaces on dairy and farm premises when used as directed. ▪ EPA registered as a no-rinse sanitizer for use on hard, non-porous food contact surfaces at a concentration of 150-400 ppm active quaternary. ▪ The non-corrosive use solution enables its use on virtually any hard non-porous surface in meat and poultry processing plants. ▪ Useful for a wide variety of applications including sanitizing equipment, hard surfaces, non-porous gloved hands, shell eggs intended for food, and entryway and boot sanitizing systems.
Oxonia Active™ **EPA Reg. No. 1677-129** 	Effective against environmental microorganisms that can adversely affect farms, livestock quarters, and animal care facilities when used as directed. See product label for list of organisms. ▪ Helps reduce biosecurity risk when used in a total Ecolab product and professional services program, since it provides kill against pathogenic organisms, even spore-forming microorganisms. ▪ pH range tolerant - effective sanitizing activity at acidic to neutral pH. ▪ Helps protect processing equipment investment - use solutions non-corrosive to 304, 316 stainless steel and aluminium surfaces when used at concentrations listed on the product label. ▪ Compatible with most plastic and rubber materials used in processing operations.
Vortexx™ **EPA Reg. No. 1677-158** 	Vortexx disinfects as it cleans in one operation. Vortexx can be used to disinfect floors, walls, and other hard, non-porous surfaces in animal care facilities, veterinary facilities, farms, livestock quarters, poultry premises, and poultry hatcheries. Delivers antimicrobial activity in a variety of applications and conditions. ▪ Vortexx is a peracetic acid/organic acid sanitizer and disinfectant when used as directed on the product label. This system enables Vortexx to be used at lower concentrations than peracetic acid alone, with yeast, mold and bacteria antimicrobial; see product label for list of organisms. ▪ Useful for CIP, spray, soak or foam sanitizing applications with an approved foaming agent such as Liquid K™. ▪ Suitable for use in bottle rinse applications. ▪ Sanitizer for continuous treatment of conveyors to help reduce the incidence of undesirable microorganisms on critical conveyor surfaces during processing.
Exspor™ Base Concentrate **and** **Exspor™ Activator Concentrate** **EPA Reg. No. 1677-216** 	Saves Time. ▪ 3-minute disinfection against *Psuedomonas aeruginosa* and *Staphylococcus aureus.* ▪ 5-minute disinfection against bacteria and virus; see product label for list of organisms. Effective on a wide variety of; see product label for list of organisms.
Octave™ FS **EPA Reg. No. 1677-209** 	Disinfectant for Farms, Livestock Quarters, Veterinary Clinics, Animal Life Science Laboratories, and Animal Care Facilities when used as directed. ▪ Approved for use in shoe baths and entryway foaming applications when used as directed. ▪ Enhances finished product quality when used in a total Ecolab product and professional services program, with kill against pathogenic organisms. For a list of organisms, see product label for list of organisms. ▪ Leaves stainless steel surfaces bright and shiny; low pH cleaning solution aids in mineral, hard-water and milk soil removal. ▪ Formulated for rapid soil penetration and its ability to stand up to heavy organic loads as a cleaner. Effective sanitizer and disinfectant when used as directed on the product label.

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