



ZIMEK SYSTEMS

Room & Vehicle

DISINFECTING • DECONTAMINATING • SANITIZING

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RED is often a sign of infection, and is also the primary color of the Zimek® Micro-Mist® Generator



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Healthcare associated infections remain a patient & healthcare worker safety issue

- Affecting ~ 250,000 patients annually
- The 4th leading cause of death in Canada (RICH Study – 2003)
- Resulting in 8,000 to 12,000 deaths annually
- Resulting in higher labor and other costs
- Resulting in increased liability and class action lawsuits

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ZIMEK IS THE ANSWER!

- ◆ Nearly **three quarters** of patients' rooms are contaminated with MRSA and VRE.



- ◆ More than **half** the objects in hospital rooms that should be disinfected are overlooked by cleaners.

Source: Unnecessary Deaths: The Human and Financial Costs of Hospital Infections, 2nd Edition, Betsy McCaughey, Ph.D., RID, www.hospitalinfection.org

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Zimek® System – What It's NOT

- IT IS NOT A CLEANING SYSTEM
- IT IS NOT A FOGGER
- IT DOES NOT USE HYDROGEN PEROXIDE
- IT DOES NOT USE CHLORINE

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Zimek® System – What It IS

A patented technology that generates a micro-mist of non-toxic and non-corrosive disinfecting particles that can eliminate airborne and surface borne infectious contaminants in an enclosed area, providing a much more cost effective disinfecting and decontaminating process that also provides a residual killing effect against future surface contamination.

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ZIMEK® - Safely Goes Where No Other Decontamination Treatment Can Go!

•A number of studies have demonstrated that the human factor, which includes poor training, errors and neglect, result in poor cleaning and disinfecting of surfaces

•A recent project by Hamilton Health Sciences showed that the overall cleaning rate was poor; less than half of target areas were cleaned

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The Province

Cleaning mix blamed in deadly Nanaimo hospital C. difficile outbreak

BY GUY SPENCER, NANAIMO DAILY NEWS, APRIL 25, 2016, 10:56 AM (PT) [C. difficile] ... The health cleaning solution used by housekeeping staff at Nanaimo Regional General Hospital ...

Problems associated with improper dilution of cleaning/disinfecting reagents are common, and could lead to deadly consequences, even when using automated dilution control systems

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Spray and wipe cleaning & disinfecting procedures cannot effectively disinfect many surfaces due to a lack of direct contact, particularly on porous surfaces, and procedures limiting the height at which cleaning and disinfecting occurs

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Conventional Spray & Wipe Cleaning Particles



Large Disinfectant Particles are Substantially Limited By Surface Tension!

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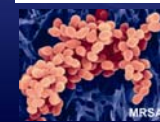
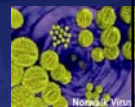
ZIMEK® - Safely Goes Where No Other Decontamination Treatment Can Go!



Many surfaces are not cleaned or disinfected, including curtain tracks, under furnishings, hard to access areas under beds, electronic equipment. The use of wipes are not as effective, and are only good for the direct contact areas.


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White is associated with the good guy, cleanliness and is the color of the Zimek® Z-VAC Particle Evacuation Unit



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HOW IT WORKS



Infectious agents have no boundaries, and can adhere to all types of surfaces in a hospital environment, even HVAC systems

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HOW IT WORKS: Dri-Mist Cycle



- The Micro-Mist Generator converts Zimek's Health Canada approved disinfectant into sub-micron sized and negatively charged Micro-Mist particles (0.3 to 0.5 microns).
- Micro-Mist can fill any enclosed air-volume and access virtually every surface exposed to free-airflow.
- Average total treatment time per hospital room is 30 minutes

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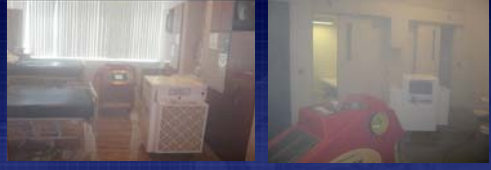
HOW IT WORKS: Dwell Cycle



- During the Dwell Cycle, the Micro-Mist disinfecting micro-particles transmigrate to all exposed surfaces within the treated environment, wherever free air flows.
- The negative charge eliminates surface tension issues, allowing them to cover and adhere to all exposed surfaces, even in areas not accessible, including micro-increments on surfaces, both porous and non-porous.

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HOW IT WORKS: Dwell Cycle



- Hard to reach and inaccessible areas that even the most dutiful cleaning staff can miss are disinfected.
- The micro-particles are safe and leave no toxic or visible residue, allowing you to leave porous materials and electronic and other equipment in the room to be treated (beds, IV pumps, etc.), ensuring they are disinfected.

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HOW IT WORKS: Z-VAC Cycle




Z-vac® Micro-Particle Evacuator

- The Z-Vac® Micro-Particle Evacuator enables the rapid re-occupation of rooms.
- The Z-Vac® removes particulate matter as small as 0.1 microns, and aids in the rapid adhesion of Micro-Mist micro-particles to all surfaces contained within a treatment space and exposed to free airflow.
- It will leave the air significantly cleaner than prior to treatment.

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HOW IT WORKS: Residual Kill

ZIMEK® - Safely Goes Where No Other Decontamination Treatment Can!

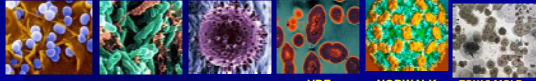


Zimek's Dri-Mist® Treatment leaves a continuing veil of protection to help prevent re-growth of environmental contaminants.

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ZIMEK QD – Quaternary Ammonium Chloride Based Disinfectant, Cleaner, Sanitizer, Fungicide, Mildewstat & Deodorizer

Proven effective against MRSA, Influenza (including Avian Flu Virus), H1N1, Hepatitis, HIV-1, SARS, Streptococcus, E. Coli, Pseudomonas, Legionella, Pneumophila, Human Coronavirus, Norwalk Virus (Norovirus), Enterococcus, Acinetobacter, VRE, Staph, Salmonella, C. Diff, Toxic Mold, and many more.....



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Zimek's Premier Disinfectants



Initially formulated in 1962, QD is one of the most respected time-proven disinfectants in the world.

Zimek QD is formulated for use in hospitals, institutional, industrial, and residential facilities.



A disinfectant formula which additionally contains an "all-natural" insecticide extracted from the chrysanthemum flower.

Zimek D&I Plus is effective against mosts Gram Positive and Gram Negative bacteria, influenza, toxic mold and numerous insect pests, including fleas, ticks, bed bugs, lice, cockroaches, carpet beetles, ants....

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Micro-Mist® Micro-Particle Generator: Main Features



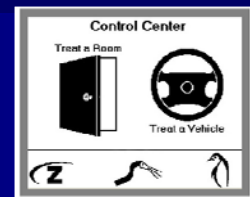
- Very portable, easy to move and maneuver
- Requires no human intervention during treatment
- Eliminates human error and neglect
- Reduces exposure to personal injury

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Micro-Mist® Micro-Particle Generator: Main Features

(1) Touch Screen Operator Interface

- Allows the operator to quickly and automatically calibrate the Micro-Mist® Treatment time: Micro-Mist®, Dwell, and Z-vac® Cycle time periods.
- Calibration of the Micro-Mist® Treatment time can be initiated manually or by remote control.
- Enables the operator to alphanumericly describe the treatment locations (room or vehicle).



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Micro-Mist® Micro-Particle Generator: Other Features

- Remote Z-Vac. Operations Terminal
- Liquid Tank Sensor with Visual Display.
- Manual & Automatic System Diagnostics.
- Heavy-Duty "Hospital Grade" (Green Dot) Electricity Supply Cord
- UL 508-A Listed Control Panel with Circuit Protection (All Electric Components are UL Rated).
- Locking Casters with Non-Marking Wheels.



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Micro-Mist® Micro-Particle Generator: Other Features

- Red Strobe Light Status Alert during Micro-Mist® Cycle and Z-vac® Cycle.
- Mass Circulation Blower for Large Rooms.
- Audible Status Alert during Micro-Mist®, Dwell, and Z-vac® Cycles.
- Rugged Roto-Molded HDPE Construction with Stainless Steel Covers.



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**Micro-Mist® Micro-Particle Generator:
Main Features**

(2) Treatment Status Software®

- ▶ Records and archives to a separate PC all Micro-Mist® Treatment reports performed by the Micro-Particle Generator.
- ▶ Tracks up to 4,000 Micro-Mist® Treatment applications by assigning a job number and location designation to each Micro-Mist™ Treatment.

Reports			
Job Number	Job # 1001	Loc: ICU R1	Location Designation
Treatment Type	Room Treatment		
Date	10.01 2000	09:25	Result
Start Date / Time	10.01 2000	09:25	Treatment Successful
Treatment Duration	Total	Dri-Mist	Dwell
	47 min	12 min	10 min
			Z-vac
			25 min
	Dri-Mist®, Dwell, and Z-vac® Cycle Time Periods		
	Report Selector Functions		

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Zimek's Z-vac® Micro Particle Evacuator

- ▶ Activation of the Z-vac® is controlled automatically by the Micro-Mist® Micro-Particle Generator via an umbilical control cord.
- ▶ When attached, the Micro-Particle Generator automatically acknowledges the presence of the Z-vac® and enables it to be quickly and automatically programmed.

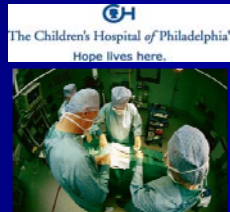


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Dri-Mist® Treatment of an Operating Room

"The Zimek System performed effectively and efficiently. Your quick response to our emergency gave us the ability to completely disinfect the operating room and return it to service in a timely manner."

Department Supervisor, The Children's Hospital of Philadelphia



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As used at Kennedy Space Center

After using ZIMEK's treatment, our customer thanked us on the air quality in their buildings."



"Thank you for your help and continued service to our company."

Branch Manager, Resun Leasing Corporation
Orlando, Florida

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Recent Results From Durham EMS/Durham Public Health Labs Testing

Recent testing of an ambulance from Durham EMS conducted with Durham Public Health Labs involved the placement of discs in open and hard to reach areas, contaminated with both *Acinetobacter cloacae* - AC (> 1.9 million CFU control) and *Geobacillus stearothermophilus* - GS (> 2.5 million CFU control)

Testing after treatment demonstrated kill rates of > 99.4% for all AC samples (average > 99.735%)

From > 71.6667% to > 99.99% (average > 94.712%) for the GS samples

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GREEN is the color of money, as well as associated with environmentally friendly products

Zimek is both cost effective, and environmentally friendly

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Additional Costs of Treating Hospital Acquired Infection Patients

- Average cost of hospital stay in Canada is \$1,000 per day (Canadian Institute of Health Research)
- Additional costs of lost income, productivity
- Occupied bed means another patient is not being treated
- Costs of additional cleaning staff
- Workers compensation and liability insurance costs
- Increased union grievances
- Personal injury and wrongful death lawsuits

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Cost Savings and Environmental Enhancements

- Reduced hospital stays due to hospital acquired infections
- Free up beds for other treatments
- Reduced time-off/compensation claims by healthcare workers
- Reduced staff time to EFFECTIVELY disinfect a hospital room
- Micro-Mist treatment utilizes one thirtieth to one fiftieth of the volume of disinfectant solutions when compared to spray and wipe procedures
- Non-toxic, non-corrosive disinfectant solution with Micro-Mist
- Reduced risk of class action lawsuits and personal injury claims

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The Power of ZIMEK®



ZIMEK®:
The Power to
Generate a Clean
Bill of Health!
The new best
practices for
environmental
disinfection
Are YOU protected
by ZIMEK® yet?

Visit us at www.optimumsciences.com