



Our Humble Mission:

To replace bleach as the world's most common disinfectant.

(And while we're at it, all other disinfectants, decontaminants, moldicides, and deodorizers.)



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Why?

- Other disinfectants are either: A) ineffective or B) unsafe
- *Bleach – the most common disinfectant – is both!*
 - Bleach is dangerous 
 - Bleach is not effective
- The worldwide market for disinfectants, in all of their forms, is MASSIVE.



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How Will We Do It?

- The old-fashioned way... we have come up with something much better.



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The DepHyze Revolution

- Based on a breakthrough development created by the U.S. government Sandia National Laboratory, Tionicon has recently announced its commercialization of the U.S. government's highest-strength, military-grade disinfectant and chemical decontaminant, now available for commercial and consumer use for the first time ever.

"Introducing the world's safest and most effective antimicrobial and chemical decontaminant ever created. Kill bacteria, viruses, spores, molds and fungus to 99.99999% and neutralize toxic or deadly chemicals immediately, with something totally biodegradable and safe enough for household use."



Sandia National Laboratory
Albuquerque, New Mexico



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DepHyze's History

- Prior to 1999, the U.S. military decontaminated personnel and equipment against chemical and biological agents with... bleach.

- Not only was the bleach relatively ineffective, but it destroyed vehicles, equipment, and made soldiers sick.



- The Department of Defense asked Sandia to come up with something better.



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Sandia's Breakthrough

- Sandia's researchers developed a 2-part disinfectant and chemical decontaminant formulation that is so tough, it kills even *anthrax spores*, but is safe enough for everyday household use. Nothing else like this exists in the world.
- Several hours after use, the formulation breaks down, becoming totally inert. It is non-toxic, harmless, 100% biodegradable, and can be safely rinsed down the drain.



A Sandia researcher demonstrating the formulation's effectiveness against anthrax.

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Commercializing the Invention

- Through a license agreement with Intelagard (official Sandia licensee) Tionicon will manufacture their breakthrough formulation and make it available to the world.
- Our trademarks for the commercialized formulations:
(Consumer & Commercial) (Military & First Responders)



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Products

- DepHyze™ 2-part Liquid
 - DepHyze™ (liquid) – Our 2-part all-purpose disinfectant, decontaminant, and deodorizer.
 - DepHyze™ Aerosol – An aerosolized form of DepHyze for top-to-bottom disinfection, de-molding, and mold prevention of commercial buildings and homes.
 - DepHyze™ Carpet Sanitizer (liquid) – DepHyze formulated for use in carpet steam-cleaning equipment. Disinfects, decontaminates, deodorizes, de-molds, and prevents future mold infestation.
 - DepHyze™ Laundry Detergent (powder) – DepHyze formulated as a powder for disinfecting and decontaminating laundry, even in cold water.
- DepHyze™ Foam Hand Sanitizer
 - More effective, safer, and non-irritating, as compared to alcohol-based hand sanitizers.



DepHyze Foam Hand Sanitizer



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What Do These Products Kill or Neutralize?

- Basically everything you want them to:
 - Biological pathogens
 - Up to "Log-Kill 7" – or 99.99999%... this is unheard of!
 - Bacteria
 - Viruses
 - Spores
 - Molds
 - Fungi
 - Chemical contaminants
 - Weapons of Mass Destruction
 - Foul odors
 - Not just a mask; oxidant literally chemically cleaves the molecules, rendering them totally inert
 - 100% effective against even skunk and feline spray/urine



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Log-Kill 7 Effectiveness

- What is "Log-Kill 7"?
 - Killing seven 9's, or 99.99999% of microbes
 - This is unheard of in the antiseptic/decontamination industry
 - Most antiseptics kill only 99.9% or 99.99%
 - These may sound like a lot, but in the world of germ eradication, 99.9% amounts to washing with soap-and-water.
 - This is nowhere near sterile!
 - At 99.99%, thousands of microbes survive and repopulate their environment, often stronger than before because the most resistant germs have reproduced resistant, robust offspring
 - To truly sterilize a surface or environment, you must kill ALL of the microbes. This is essentially what you get with "Log-Kill 7" – no microbes, no regrowth, and no breeding of antiseptic-resistant super-bugs



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Industries & Applications

- DepHyze/Symagin have applications in *dozens* of different markets
- A sample list of industries that can benefit is very long...



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Medical

- Disinfection of all surfaces
 - Floors
 - Walls
 - Countertops
 - Fixtures
 - Equipment
- Laundry
 - Bedding
 - Uniforms



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Hospitality

- Rooms
- Bathrooms
- Kitchens
- Restaurants
- Convention Rooms
 - Tablecloths, Napkins, etc.
- Laundry
 - Towels
 - Bedding
 - Uniforms



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Food Service

- Kitchens
- Bathrooms
- Tables
- Equipment
- Floors
- Linens

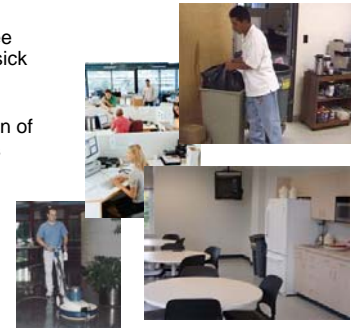


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Office & Janitorial

- Reducing employee absenteeism and sick days
- Regular disinfection of
 - Desks/workspaces
 - Floors
 - Walls
 - Handrails
 - Bathrooms
 - Break rooms
 - Common areas



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Household Cleaning, Carpet, De-molding, Deodorizing

- Kitchen
- Bathroom
- Laundry
- Floors
- Baby areas
- Pet areas
- Pool tile/plaster



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New Construction (Mold Prevention) & Mold Remediation

- Mold is a problem on any surface exposed to water or damp air
- Until now, mold has been virtually impossible to kill permanently
- Causes serious health risks, structural damage, and is a nightmare to homeowners and landlords



Toxic Black Mold (Stachybotrys)



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Marine/Boating

- De-molding
 - Fiberglass
 - Wood
 - Carpet
- Mold Prevention
 - In our tests, prevents re-growth for 3 years (and counting)
- Disinfection



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Cruise Ships

- Kills Norovirus to 99.99999% in 30 seconds
- "Food Poisoning"
 - In 2002, the cruise industry was hit hard when a highly publicized outbreak occurred on Disney's cruise ship, "Magic," in which 172 passengers and 23 crew members became ill. Norovirus was named as the culprit, earning it celebrity infamy in the mainstream media.



Murine Norovirus



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Transportation

- Product lines address dual need:
 - Antiseptic sanitization to prevent spread of disease pathogens
 - Viruses
 - Bacteria
 - Transit systems' need to be ready against possible terrorist attack using chemical or biological WMD
 - Anthrax
 - Nerve gas
 - Etc.

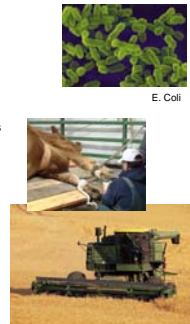


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Agriculture

- DepHyze neutralizes and prevents the spread of food-borne illnesses caused by bacteria such as
 - E. coli strain O157:H7
 - Pathogenic plant fungus (such as corn smut)
 - Other fungal, mold, and soil-borne bacteria diseases that affect soybean, corn, and wheat crops
 - Highly infectious fusobacterium necrophorum and bacteroides melaninogenicus, which cause infectious pododermatitis (foot rot) in cattle, goat, and sheep.
- Disinfect rented combine and equipment, a leading cause of cross-contamination of plant disease in crops
- Neutralize pesticides on food and in pesticide storage tanks.



E. Coli



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Petroleum Industry

- Offshore oil platforms are highly susceptible to mold infestation
- Hydrogen Sulfide Neutralization
 - H2S is occurs naturally in natural gas, crude petroleum, and as a refinery byproduct.
 - Causes some steels to become brittle, leading to sulphide stress cracking. This is of particular concern for the oil industry.
 - Introducing oxygen breaks H2S down into sulfur and water, but these then begin to form sulfuric acid. DepHyze can control the pH problem and neutralize the hydrogen sulfide.

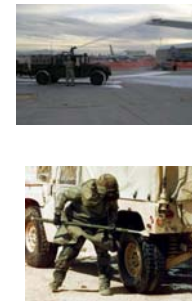


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Military

- Fast and easy to deploy
- Spray or foam
- Available in powdered form for economical transport of large quantities
- Does not corrode equipment or harm electronics
- Non-toxic, safe to rinse into sewage or ground



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First Responders & Federal Disaster Teams

- Police
- Fire
- FEMA
- CDC
- Etc.



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Homeland Security/ WMD

- Because Symagin is not harmful to people, it can be dispensed on the scene immediately, even before casualties are evacuated.
- Begins neutralizing both chemical and biological agents, even before you know what agent you're dealing with.
- Destroys the most worrisome chemical agents, including VX, Mustard Gas, Soman, and Anthrax – the toughest known biological agent (to log kill 7, which is unmatched in the decontamination industry).
- Easy to transport, use, and clean up.
- Can be dispersed in a variety of ways, from a fine misting spray in aerosol cans to a foam solution dispersed through large-scale decontamination equipment.
- Non-corrosive and harmless to plants and animals



Anthrax Spores



Anthrax-infected letters sent in the mail shortly after 9/11



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Tionicon's Strategy

- There are too many industries and opportunities for our company to address alone
- We are forming strategic partnerships
 - We can manufacture to your specifications
 - We can co-develop new formulations for products and applications for almost anything, even as yet unimagined
 - OEM/private-label options:
 - Include our formulation in your branded product, or
 - Co-brand your product, such as *Product Name "with DepHyze"*
 - Bissell Partnership



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All Ideas Welcome

- We encourage all inquiries (even just exploratory) from serious potential partners
 - We particularly seek partners with established track records and channels of distribution
- For more information:
 - Visit Tionicon.com
 - Contact info@tionicon.com



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