SIXLOG™
AN ASTRO PAK COMPANY

On-Site Disinfection & Sterilization Services Using iHP® Technology

Bio-Pharmaceutical

Hospital/ Healthcare

Life Sciences

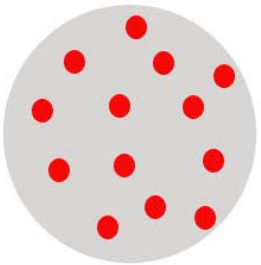
First Responder

Transportation

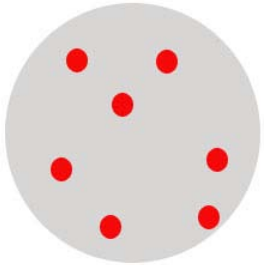
Who We Are

- SixLog provides disinfection and sterilization services to hospitals and healthcare facilities. Applications include: patient rooms, operating rooms, emergency departments, entire wards/wings including the nurses station, GI, cardiac, and dialysis labs
- Subsidiary of Astro Pak Corporation
  - Supported by five decades of experience and extensive resources
- Headquartered in Santa Ana, CA
- 11 locations nationwide

Levels of Biological Decontamination



SANITIZATION
Two log – 10^{-2}



DISINFECTION
Five log – 10^{-5}

STERILIZATION
Six log – 10^{-6}

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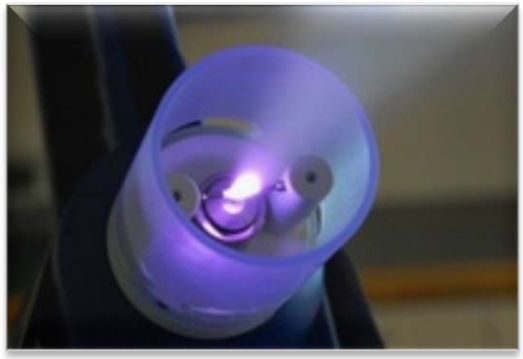
What We Do For You

- Our sterilization service complements current HAI reduction programs for the elimination of:
    - C. difficile, MRSA, VRE, Acinetobacter, H1N1, mold, and other bacteria, spores and viruses
- Reduce HAI risk with minimal investment
- Create a safer environment for patients, staff and visitors
- Reduce un-reimbursed hospital expenses due to HAIs

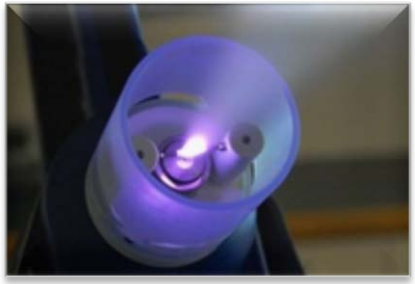
Our iHP® Sterilization Equipment

iHP® System

iHP® Pod



iHP® Defined



- iHP® (ionized Hydrogen Peroxide) was originally developed in 1999 for the Department of Defense for biological warfare applications
- Proprietary chemistry
  - Utilizes 7.5 % hydrogen peroxide compared to 35% for alternative processes
    - EPA registered chemical
- Liquid solution is forced through a nozzle, creating a mist, which is then passed through a 17,000 volt arc that quickly disperses throughout the space killing microorganisms on contact

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iHP® In Action

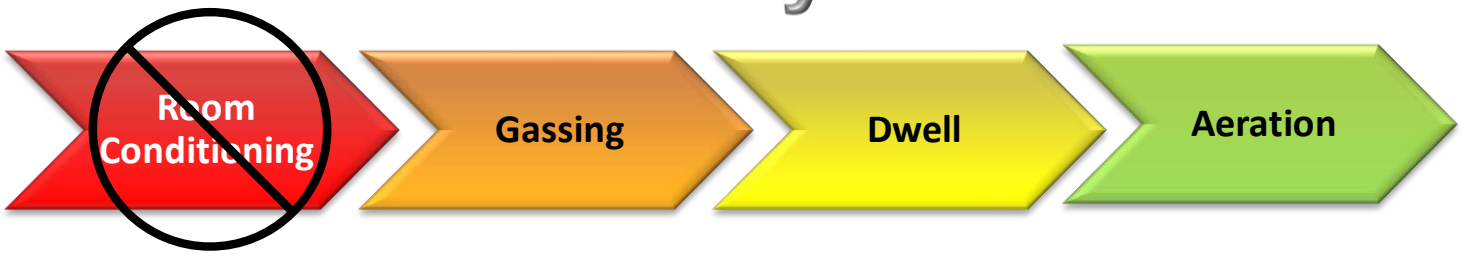
Pre-Misting

In Process

The Science Behind iHP®

- iHP® is a process of ionization that refers to two characteristics imparted by passing a mist through an ionized plasma field
  1. Electrostatic charge imparted on the mist – acts like a gas due to mutually repulsive positively charged particles
     - Positively charged particles are attracted to negatively charged surfaces in a room or space
  2. Disassociation of the liquid solution produces hydroxyl radicals, ROS, O3, RNS, Plasma, UV and heat activation providing synergistic effects of multiple antimicrobials
- Leaves no residue behind and breaks down to oxygen and water with no clean up required
- **This process is done after terminal cleaning resulting in a completely sterilized environment.**

iHP® Cycles



- No room conditioning required
  - Many other technologies have temperature and humidity requirements
- Gas cycle time is typically 15-20 minutes
  - Much faster than most alternative technologies
- Dwell cycle time is typically 10-15 minutes
  - Many other technologies must reach micro condensation before going into dwell
- Aeration is dependent upon HVAC system or use of SixLog scrubbers

Mechanical Controls

- iHP® is very easy to contain
- If unable to shut down HVAC, plastic covers will be installed over supply/return registers
- iHP® will not migrate to adjacent areas or rooms

Safety

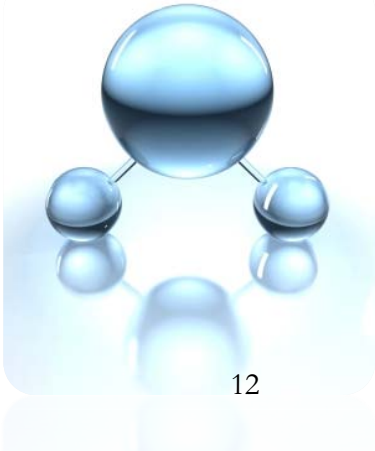
- We monitor both inside the space as well as exterior areas
- Concentration levels are monitored frequently
  - In patient environments, every 5 minutes during gassing
- Hydrogen peroxide safety limits:
  - PEL (Permissible Exposure Limit): 1 ppm
  - IDLH (Immediate Danger to Life and Health Limit): 75 ppm

Used for external room monitoring (0-20 ppm)

Used for internal room monitoring (0-2,000 ppm)

Materials Compatibility

- Extensive 3rd party and manufacturer testing performed on many materials without negative effects
- Materials tested include: medical and patient monitoring electronics, glass, wood, fabrics, carpeting, and many metals including stainless steel
- iHP® decomposes to oxygen and water, leaving no lasting oxidizer on any surfaces



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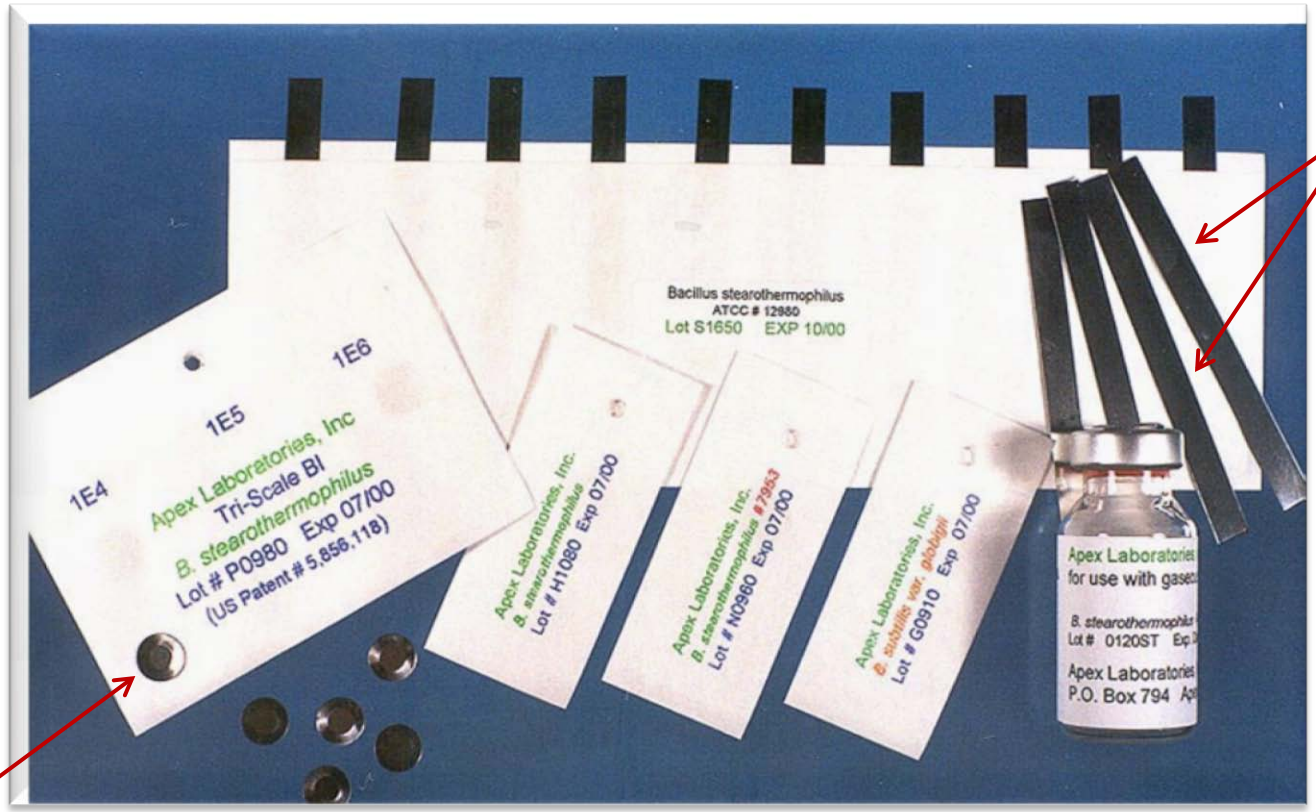
Comparison To Other Methods

Features	iHP®	VHP™	Bleach
Works independently of temperature & humidity	✓	✗	✓
Has a short process time	✓	✗	✓
Excellent materials compatibility	✓	✓	✗
Outstanding distribution properties	✓	✗	✗
Easy to contain & control	✓	✓	✓
Superior biological efficacy	✓	✓	✗
Reliable	✓	✓	✗
Easy cleanup with no precipitate	✓	✓	✗
Considered environmentally friendly	✓	✓	✗

iHP® Biological Efficacy

- Destroys proteins, carbohydrates and lipids on contact (via oxidation), killing microorganisms, including:
  - C. difficile and its spores
  - MRSA
  - VRE
  - Acinetobacter
  - H1N1
- Reacts with chemical bonds in chemical agents destroying their activity
- Hydrogen peroxide has a proven track record
  - Tested by both the manufacturer and 3rd party laboratories
  - Clinical papers have supported H_2O_2 effects in reduction of HAIs
- Process verified with *G. Stearothermophilus* biological indicators

Biological Indicators



SS Ribbons

SS Discs

Inoculum shown here

G. stearothermophilus is used as the biological indicator to verify the efficacy of the iHP® decontamination process

Biological Indicator Results

Incubate at 55-60 degrees C

Positive Result:
Growth

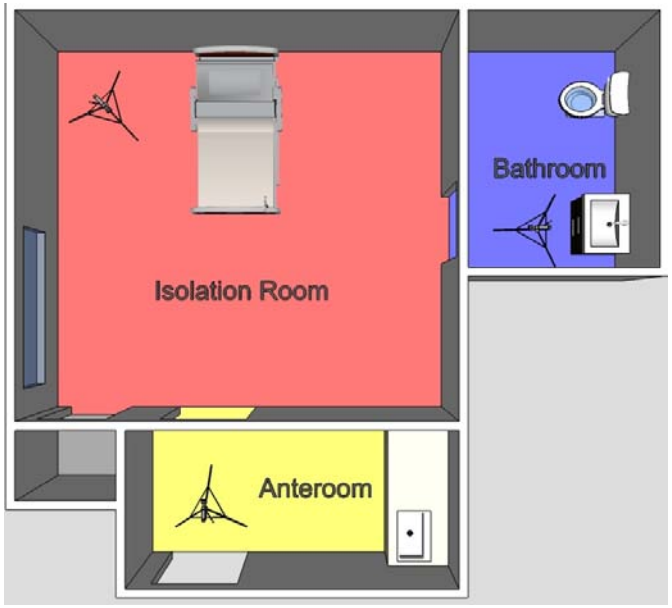
Negative Result:
No Growth

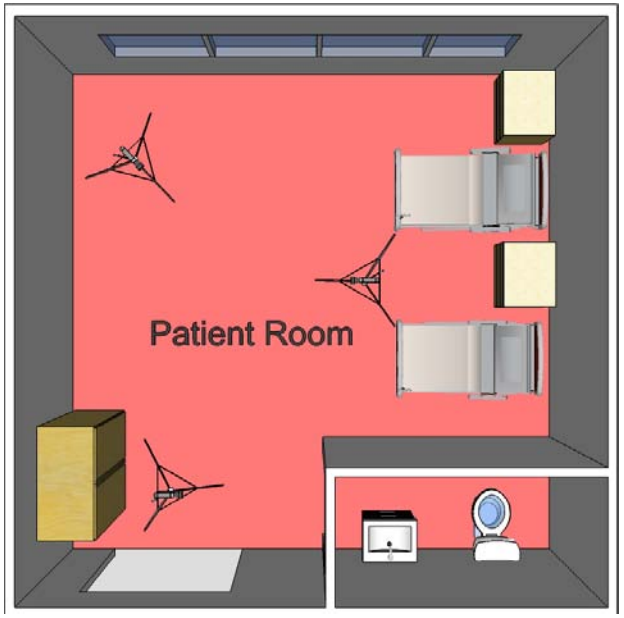
Trypticase Soy Broth (TSB) solution

Fully Documented Efficacy Report

SixLog provides:

- Preliminary 24-hour report via email
- Final report after 7 days with three dimensional layout drawings





- Pod

The SixLog Advantage

- ✓ Short cycle times offer minimal downtime
- ✓ Superior efficacy
- ✓ Excellent materials compatibility
- ✓ Environmentally-friendly (“green”) and non-corrosive
- ✓ Rapid response
- ✓ Cost-effective pricing
- ✓ Nationwide support of trained personnel
- ✓ Supported by 50 years of experience and extensive resources from SixLog’s parent company, Astro Pak Corporation

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Technical Papers

For technical papers, please visit our Resource Center at **sixlog.com**

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Questions?

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