STERIS
Life Sciences

Biodecontamination Project: Chemical Processing Rooms

Case Study

Project:

Chemical Processing Rooms

Location:

Chicago, IL – USA

Requirements:

6-log Biodecontamination of 8400+ft^3, multiple room chemical processing area and biological safety cabinets.

Products:

VHP® *VICTORY-PRO*™ Biodecontamination Unit

Vaprox® Hydrogen Peroxide Sterilant

Steraffirm® PCC051 Process Indicator

Spordex® NA114 Biological Indicator Media

The Challenge:

Fungal contamination is a common problem faced by many facilities. Generally, a manual cleaning method using either a detergent or an antimicrobial product is performed. When fungal contamination continues to reoccur, other biodecontamination methods need to be evaluated. Facing this challenge, a prominent manufacturing facility in Chicago, IL turned to STERIS Life Sciences Biodecontamination Services to help with their biodecontamination needs.

The Solution:

The STERIS Life Sciences Biodecontamination Services Team worked together with the Customer's safety, scientific, and engineering teams to put together a comprehensive biodecontamination process for the chemical processing rooms using a combination of STERIS Life Sciences products including a single *VHP VICTORY-PRO* Biodecontamination Unit, Vaprox Hydrogen Peroxide Sterilant, Steraffirm PCC051 Process Indicators, and Spordex NA114 Biological Indicator Media.

The Result:

In less than 24 hours, the chemical processing rooms (8,400+ft^3) and biological safety cabinets were biodecontaminated, achieving a 6-log kill throughout the cycle. By using STERIS Life Sciences Biodecontamination Services, the manufacturing facility was able to create an effective biodecontamination cycle and fumigation management plan for proof of biodecontamination and confirmation of adequate safety standards in support of regulatory compliance.

STERIS Life Sciences Biodecontamination Technologies:

STERIS's patented, world renown VHP Process Technology was introduced in 1991 by AMSCO® and utilizes hydrogen peroxide vapor sterilant, which is highly effective against a wide range of microorganisms and compatible with a wide range of materials including sensitive electronics and other lab equipment often found in laboratory environments. The process is non-carcinogenic and environmentally friendly, breaking down into water vapor and oxygen.

STERIS's Vaprox Hydrogen Peroxide Sterilant is a United States Environmental Protection Agency registered product (EPA. Reg. No. 58779-4) compatible with STERIS VHP Biodecontamination Units.

STERIS's VHP *VICTORY-PRO* Biodecontamination Unit with its high output, shortened cycle time, and easy operation, establishes a new standard for room and facility decontamination.

The Biodecontamination Process

After an evaluation of the chemical processing rooms and equipment, a project proposal was presented and agreed upon.

Upon arrival, a STERIS Life Sciences Biodecontamination Services Representative assessed the area and began preparing the room for successful biodecontamination by ensuring that all surfaces were dry and clean; all items within the room were set-up for biodecontamination; and potential hazardous materials were removed from the room. The VHP Unit, 6-log *Geobacillus stearothermophilus* biological indicators and Steraffirm PCC051 process indicators were placed throughout the room in accordance with the Customer's fumigation management plan. Vaprox Hydrogen Peroxide Sterilant was loaded into the *VICTORY-PRO* Biodecontamination Unit. A last walk-through was conducted before sealing the room and performing the biodecontamination cycle.

The biodecontamination cycle for the chemical processing rooms was performed in a single pass manner. The *VICTORY-PRO* Biodecontamination Unit was operated remotely, utilizing RealVNC® software via a laptop with the biological safety cabinets blowers running so that the cabinets and HEPA filters of the cabinets were biodecontaminated. The biodecontamination phase was monitored throughout the cycle utilizing the internal tri-scale sensor's inputs (measuring temperature, percent relative humidity and hydrogen peroxide vapor concentration) to ensure a minimum of a 6-log kill. The room was conditioned to a minimum of 250ppm and held for a minimum of 90 minutes in accordance with EPA labeling. Aeration was conducted utilizing the facility's air handling system overnight down to a hydrogen peroxide vapor concentration of ≤ 1 ppm.

The room was unsealed and checked with a Dräeger® hydrogen peroxide sensor for ≤ 1ppm hydrogen peroxide vapor concentration, biological and process indicators were collected and all equipment was removed. The rooms were then released to the Customer pending results from biological indicators.

Biological indicators were checked for growth analysis using STERIS's Spordex NA114 Biological Indicator Media with all reporting negative for growth after 7 days.

A final report and Certificate of Successful Biodecontamination was prepared and presented to the Customer.

About STERIS Corporation

STERIS Corporation is a leading provider of infection prevention and surgical products and services, focused primarily on critical healthcare, pharmaceutical and research markets around the world. The Company supplies a broad array of equipment, consumable and service solutions that help assure productivity and quality. STERIS is listed on the New York Stock Exchange under the symbol STE. For more information, visit www.steris.com.

STERIS has a comprehensive offering of detergents, disinfectants, skin care products and sterility assurance products that support your needs. We also have world class technical support to design the most effective cleaning program for your facility.

STERIS Corporation
5960 Heisley Road
Mentor, OH 44060
USA

T +1 800 444 9009

STERIS Offices Worldwide

Asia Pacific	+65 (0) 68 41 7677
Canada	+1 800 444 9009
Finland	+358 9 25851
France	+33 (0)2 38 84 85 40
Germany	+49 (0) 221 466120
Italy	+39 (0) 2 21303 424
Latin America	+1 800 444 9009
Spain	+34 (0) 916 585 920
United Kingdom	+44 (0) 1256 840400

www.STERISLifeSciences.com

LSEP-CS4029-EN-E March 2013