



(800) Hazardous Drugs - Handling in Healthcare Settings (2015)

Abstract

Accelerated Hydrogen Peroxide® (AHP®) is a Health Canada and EPA registered disinfectant which continues to gain popularity as one of the most effective and safest disinfectant chemistries in the market. AHP is highlighted in the United States Pharmacopeia (USP) as the product with a perfect balance between efficacy, safety and compatibility, revealing the technologies potential within compound pharmacy. In the latest revision of <800> Hazardous Drugs - Handling in Healthcare Settings, hydrogen peroxide was frequently mentioned as an effective chemistry for the deactivation of hazardous drugs (HDs), which reinforces AHP as an accepted disinfectant in the Pharmaceutical Industry.

Background

The United States Pharmacopeia (USP) is the official public standards-setting authority for all prescriptions and over-the-counter medicines, dietary supplements, and other healthcare products manufactured and sold in the United States. However, many other countries (including Canada) require the use of high-quality standards such as USP's to assure the quality of medicines and related products. Therefore, the USP disseminates standards to pharmaceutical manufacturers, pharmacists, and other users worldwide through its various publications.

This document deals with the practice and quality standards for handling hazardous drugs to promote patient, workers and environmental safety. The focus of this document is on deactivation/decontamination, cleaning and disinfection of hazardous drugs as we have seen an influx of inquiries regarding AHPs efficacy against HDs.

Deactivation/Decontamination, Cleaning and Disinfection

All areas where HDs are handled, reusable equipment and devices must be routinely deactivated/decontaminated and cleaned. Additionally, sterile compounding areas and devices must be subsequently disinfected. The deactivating, decontaminating, cleaning and disinfecting agents selected must be appropriate for the type of HD contaminant(s), location, and surface materials. The products used must not contaminate the surfaces with substances that are toxic, volatile, corrosive, or otherwise harmful to the surface material. Chemical deactivation of HD residue is preferred, but **no single process has been found to deactivate all currently available HDs.** However, studies have examined oxidizing agents, including hydrogen peroxide and found them to be effective in degrading and

deactivating HDs. A secondary study which looked at the effect that pH had on degradation of HDs found that low (acidic) pH (such as AHP) was very effective. Listed in the chart below are the USP recommended agents for the deactivation, decontamination and disinfection of HDs.

Table 1: Summary of Cleaning Steps

| Cleaning Step | Purpose | Agents |
|-----------------|---------------------------------------|--|
| Deactivation | Render compound inert or inactive | As listed in the HD labeling or if no specific information available, sodium hypochlorite or other EPA registered oxidizer |
| Decontamination | Remove inactivated residue | Sterile alcohol, peroxide or sodium hypochlorite |
| Cleaning | Remove organic and inorganic material | Germicidal detergent and sterile water |
| Disinfection | Destroy Microorganism | Sterile alcohol or other EPA-registered disinfectant appropriate for use |

Conclusions

The USP's guidelines for choosing a disinfectant technology that has the ability to deactivate HDs emphasizes the importance of a well rounded product. Based on studies that have demonstrated the ability of oxidizers such as hydrogen peroxide, and products with a low pH to deactivate HDs combined with the known ability of AHP® to have superior cleaning properties and germicidal efficacy, AHP® would be an excellent choice for the use in healthcare settings that deal with the preparation and use of HDs. As demonstrated, AHP® provides the perfect balance between microbicidal effectiveness and safety. Most disinfectant technologies are inherently toxic, however, AHP®'s unique synergy provides superior broad spectrum performance, without sacrificing the user's health.

Implications for Accelerated Hydrogen Peroxide® Technology

AHP® has mass potential in sterile compounding areas as it gains stronger recognition and credibility. Further, AHP®'s unique synergy makes it an ideal product to be used for the decontamination,

PTSMPO162.0(11/2015)



(800) Hazardous Drugs - Handling in Healthcare Settings (2015)

cleaning and disinfection steps as outlined in USP <800>. AHP®'s 5 pillars of strength have helped support its reputation and use in this market.

AHP® Disinfectants are One-Step Disinfectant Cleaners

- AHP® has proven cleaning efficiency resulting in added confidence that disinfection can occur which results in lower costs and faster results

AHP® Disinfectants provide the perfect balance between safety and efficacy

- AHP® is designed to be easier on employees and occupants resulting in protocol compliance
- AHP® is VOC Free

AHP® Disinfectants are compatible

- AHP® formulations are tested to ensure compatibility that preserve your investments in equipment, furniture and building surfaces by reducing corrosion and wear

AHP® Disinfectants are environmentally sustainable

- AHP®'s active ingredient, hydrogen peroxide, breaks down into water and oxygen leaving no active residues
- AHP® is formulated to ensure that it will not negatively impact indoor air quality

AHP® Disinfectants have realistic contact times

- Short contact times ensure surfaces remain wet for the required contact time, providing comfort and confidence that disinfection has occurred

PTSMP0162.0(11/2015)