DECONGEL®
A PRODUCT OF CBI POLYMERS

TITLE: Surface Decontamination of Aldehydes (Glutaraldehyde) by DeconGel™ 1101

ABSTRACT

Surface decontamination efficacy determination of DeconGel™ 1101 on stainless steel, aluminum, and concrete surfaces contaminated with aldehydes (glutaraldehyde) was performed using GC/MS (Gas Chromatography/Mass Spectrometry) according to Environmental Protection Agency (EPA) SW-846 Methods: 3500C (Sampling) and 8270C (Analysis).

HAZARDOUS MATERIALS RELEVANCE

Glutaraldehyde is a volatile liquid aldehyde used as a disinfectant, fixative, and plastics crosslinker. Glutaraldehyde is a strong and toxic disinfectant and can cause severe mucosal membrane irritation. Glutaraldehyde was chosen as a representative aldehyde; DeconGel is expected to have similar efficacy towards the wide range of aldehydes.

SUMMARY RESULTS

- Excellent surface decontamination was achieved by applying DeconGel 1101 onto surfaces contaminated with aldehydes (glutaraldehyde) resulting in encapsulation of contaminants by DeconGel's active components. Decontamination efficacies of DeconGel 1101 were 100% (on concrete) to 100% (on stainless steel) to 100% (on aluminum) for Glutaraldehyde determined by residual swipe analysis.
- Optimized experimental and analytical methods were successfully developed following standardized EPA sampling and analysis methods as guidelines for determination of organic compounds dissolved in a suitable solvent able to completely solvate aniline as well as DeconGel components. When necessary, experimental methods were customized to afford complete dissolution of organic contaminants. Additionally, analytical methods and associated equipment—GC column, GC temperature gradient program, MS sample ionization parameters—were appropriately developed to ensure accurate decontamination efficacy determination of DeconGel.

RESULTS

Table 1 shows the decontamination efficacies of DeconGel 1101 on stainless steel, aluminum, and concrete surfaces contaminated with aldehydes (glutaraldehyde) as determined by residual swipe testing.