Environmental Protection Agency

§ 761.392 Preparing validation study samples.

(a)(1) To validate a procedure to decontaminate a surface contaminated with a spill from liquid of a known concentration, contaminate (spike) the surface to be used in the validation study as follows:

(i) Use a spiking solution made of PCBs mixed with a solvent to contaminate clean surfaces. Clean surfaces are surfaces having PCB surface concentrations <1 μg/100 cm² before intentionally contaminating the surface.

(ii) Prior to contaminating a surface for the validation study, mark the surface sampling area to assure that it is completely covered with the spiking solution.

(iii) Deliver the spiking solution onto the surface, covering all of the sampling area. Contain any liquids which spill or flow off the surface. Allow the spiking solution to drip drain off into a container and then evaporate the spiking solution off the contaminated surface prior to beginning the validation study. Contaminate a minimum of eight surfaces for a complete validation study.

(iv) As a quality control step, test at least one contaminated surface to determine the PCB concentration to verify that there are measurable surface levels of PCBs resulting from the contamination before soaking the surface in the decontamination solvent. The surface levels of PCBs on the contaminated surfaces must be ≥20 μg/100 cm².

(2) To validate a procedure to decontaminate a specified surface concentrations of PCBs as measured by a standard wipe sample, contaminate a minimum of 10 surfaces. Contaminate all the surfaces identically following the procedures in paragraph (a)(1) of this section and measure the PCB surface concentrations of at least three of the surfaces using a standard wipe test to establish a surface concentration to be included in the standard operating procedure. The surface levels of PCBs on the contaminated surfaces must be ≥20 μg/100 cm².

(b) [Reserved]

to validate the decontamination under the desired conditions.

(a) The study apparatus is not standardized. Critical components of the study are the PCB material (for example MODEF or some other spiking solution), the volume of the soaking solvent, and the area of the contaminated surface. The EPA study used beakers and shallow dishes as the experimental vessels to contain the surface and solvent during the soaking process. In order to minimize surface-to-volume ratios, it is convenient to utilize flat contaminated surfaces and shallow solvent containers. During the validation study, use the same ratio of contaminated surface area to soak solvent volume as would be used during actual decontamination. It is also permissible to use a smaller surface area to soaking solvent volume than used in the validation study, so long as all other required parameters are used as validated in the confirmation required in §761.386 (a) through (f), and paragraphs (a) through (c) of this section. Do not use a larger surface-area-to-solvent-volumes ratio or different kind of solvent based on the results of the validation study.

(b) Except for the minimum soak time of 1 hour (as required in §761.386(c)), the length of soak time is not otherwise restricted in the validation study. The soak time used in the validation study, however, is a use requirement for subsequent decontamination using the solvent being validated. It is permissible to use longer soak times for decontamination than the soak time used in the validation study, if all other parameters required in §761.386, and paragraphs (a) and (c) of this section are used.

(c) There is no restriction on the kind of material containing PCBs to use to create the surface contamination for the validation study. There is also no restriction on the level of starting PCB surface concentration. It is permissible to use lower concentrations of PCB than the concentration used in the validation study, if all other parameters required in §761.386 (a) through (f), and paragraphs (a) through (c) of this section are used.