

**Appendix O:
Occupational Exposures Determined by Survey Questionnaire Responses and Job-Exposure Matrix**

Table 1: Occupational exposures determined by responses on survey questionnaire*

Exposure Class	Questionnaire items	Responses
<u>Cleaning and disinfecting surfaces, equipment, and instruments</u>		
Chemicals used: Acids Alcohol Ammonia Bleach or chlorine Detergents Enzymatic cleaners Floor wax strippers Glass cleaners Phenolics Quaternary ammonium compounds	51.1	Yes/no/don't know Days per week
Tasks performed: Wipe down beds, furniture, etc. Cleanup spills or blood Manually mix, refill, empty products Clean bathrooms Spray then wipe glass Polish wood furniture Polish stainless steel surfaces Spray deodorant/disinfectant Mop floors Clean equipment Conduct terminal cleaning of patient rooms Clean or disinfect for drug resistant bacteria in patient rooms Clean operating rooms at end of shift Strip, scrape, buff, wax floors	51.5 & 51.6.1	Yes/no/don't know Days per week Times per day Duration of task
<u>Sterilizing or high-level disinfecting medical instruments</u>		
Chemicals used: Acetic acid Alcohol Bleach or chlorine Enzymatic cleaners Ethylene oxide Formaldehyde Glutaraldehyde Hydrogen Peroxide Hypochlorite or hypochlorous acid Ortho-phthalaldehydes Peracetic acid	50.1	Yes/no/don't know Days per week
Tasks performed by hand: Remove gross contaminants and waste from scopes and instruments Refill or change sterilization solutions Manually sterilize medical instruments	50.4 - 50.6.2.1	Yes/no/don't know Days per week Times per day Duration of task

Exposure Class	Questionnaire items	Responses
<p>Tasks performed using automated sterilizing systems: Sterilize medical instruments Operate Ethylene oxide sterilizer Operate plasma hydrogen peroxide Sterad® system Operate Steris® system Conduct maintenance on systems</p>	50.7.1	Yes/no/don't know Days per week Times per day Duration of task
<p><u>Tasks performed and chemicals used in medical or clinical laboratories</u> Use formalin to fix gross tissue and autopsy specimens Use stains and dyes such as hematoxylin and eosin stains Use solvents such as xylene and toluene to fix tissue specimens and rinse stains</p>	52.1	Yes/no/don't know Days per week Times per day Duration of task
<p><u>Tasks performed and chemicals used on patients</u> Disinfect skin areas on patients with antiseptics such as alcohols, iodine, acetic acid Clean and disinfect wounds using antiseptics such as silver compounds, chlorhexidine, or povidone iodine Apply wound dressing such as polyurethane based hydrogel, hydrocolloid, or hydrocellular foam Use adhesives for surgery, skin closure, bone repair, ostomy bags, and other applications Use adhesive removing solvents such as alcohols, acetone with wipes, gauze or swabs Apply synthetic fiberglass casts</p>	53.1	Yes/no/don't know Days per week Times per day Duration of task
<p><u>Administer aerosolized medicines to patients</u> Use a small volume nebulizer (SVN) Use continuous aerosol delivery system Use a metered-dose inhaler (MDI) Use a dry powder inhaler (DPI)</p>	54.1	Yes/no/don't know Days per week
<p><u>Tasks performed and chemicals used by dental assistants</u> Adjust, polish or repair dentures or use compounds such as methyl methacrylates, other acrylates, and epoxys Prepare amalgams such as Vertex Soft®, Villacryl Soft®, Molloplast B®, and Mollosil® Develop x-rays using film developing solutions Use adhesives to place dentures or attach braces</p>	55.1	Yes/no/don't know Days per week Times per day Duration of task

* Questionnaire available in Appendix K

Table 2: Occupational chemical exposures measured during field surveys and estimated for survey participants using job-exposure matrix*

Ethanol
Acetone
2-propanol
Methylene chloride
Hexane
Chloroform
Benzene
Methyl methacrylate
Toluene
Ethylbenzene
m,p-xylene
o-xylene
 α -pinene
d-limonene
Total volatile organic compounds (TVOC)

* Average exposures will be reported for all individual chemicals measured, while peak and average exposures will be reported for TVOC