**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** |
| --- | --- | --- |
| **Cleaning and disinfecting surfaces, equipment, and instruments**  **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 |
|  |
|  |
|  |  |  |
| **Sterilizing or high-level disinfecting medical instruments**  **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 |
|  |
| **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 | 50.7.1 | Yes/no/don’t know  Days per week  Times per day  Duration of task |
|  |  |  |
| **Tasks performed and chemicals used in medical or clinical laboratories** | 52.1 | Yes/no/don’t know  Days per week  Times per day  Duration of task |
| 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 |
|  |  |  |
| **Tasks performed and chemicals used on patients** | 53.1 | Yes/no/don’t know  Days per week  Times per day  Duration of task |
| 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 |
|  |  |  |
| **Administer aerosolized medicines to patients** | 54.1 | Yes/no/don’t know  Days per week  Times per day  Duration of task |
| Use a small volume nebulizer (SVN)  Use continuous aerosol delivery system  Use a metered-dose inhaler (MDI)  Use a dry powder inhaler (DPI) |
|  |  |  |
| **Tasks performed and chemicals used by dental assistants** | 55.1 | Yes/no/don’t know  Days per week  Times per day  Duration of task |
| Adjust, polish or repair dentures or use compunds 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 |
|  |  |  |

\* 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