**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:**  AcidsAlcoholAmmoniaBleach or chlorineDetergentsEnzymatic cleanersFloor wax strippersGlass cleanersPhenolicsQuaternary ammonium compounds |  |  |
|  |
| 51.1 | Yes/no/don’t know |
| Days per week |
|  |
| **Tasks performed:**Wipe down beds, furniture, etc.Cleanup spills or bloodManually mix, refill, empty productsClean bathrooms Spray then wipe glassPolish wood furniturePolish stainless steel surfacesSpray deodorant/disinfectantMop floorsClean equipmentConduct terminal cleaning of patient roomsClean 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 acidAlcoholBleach or chlorineEnzymatic cleanersEthylene oxideFormaldehydeGlutaraldehydeHydrogen PeroxideHypochlorite or hypochlorous acidOrtho-phthalaldehydesPeracetic acid |  |  |
|  |  |
| 50.1 | Yes/no/don’t know |
| Days per week |
|  |
| **Tasks performed by hand:**Remove gross contaminants and waste from scopes and instrumentsRefill or change sterilization solutionsManually 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 sterilizerOperate plasma hydrogen peroxide Sterad® systemOperate Steris® systemConduct maintenance on systems | 50.7.1 | Yes/no/don’t knowDays per weekTimes per dayDuration of task   |
|  |  |  |
| **Tasks performed and chemicals used in medical or clinical laboratories** | 52.1 | Yes/no/don’t knowDays per weekTimes per dayDuration of task  |
| Use formalin to fix gross tissue and autopsy specimensUse stains and dyes such as hematoxylin and eosin stainsUse 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 knowDays per weekTimes per dayDuration of task  |
| Disinfect skin areas on patients with antiseptics such as alcohols, iodine, acetic acidClean and disinfect wounds using antiseptics such as silver compounds, chlorhexidine, or povidone iodineApply wound dressing such as polyurethane based hydrogel, hydrocolloid, or hydrocellular foam Use adhesives for surgery, skin closure, bone repair, ostomy bags, and other applicationsUse adhesive removing solvents such as alcohols, acetone with wipes, gauze or swabsApply synthetic fiberglass casts  |
|  |  |  |
| **Administer aerosolized medicines to patients** | 54.1 | Yes/no/don’t knowDays per weekTimes per dayDuration 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 knowDays per weekTimes per dayDuration of task  |
| Adjust, polish or repair dentures or use compunds such as methyl methacrylates, other acrylates, and epoxysPrepare amalgams such as Vertex Soft®, Villacryl Soft®, Molloplast B®,and Mollosil®Develop x-rays using film developing solutionsUse 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