# PCBs in State Purchased Products Medical and Hospital Supplies 2017 Results

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## Abstract

The Washington State Department of Ecology (Ecology) conducted a study in 2017 to assess polychlorinated biphenyls (PCBs) in products available from state contracts. PCBs are a family of synthetic chemicals used in hundreds of industrial and commercial applications due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties. PCBs are identified as persistent, bioaccumulative, and toxic chemicals.

Washington State law (RCW 39.26.280 and RCW 39.26.290) requires state agencies to limit the purchase of products and packaging containing PCBs. The state Department of Enterprise Services (DES) leads the implementation of the law. This study was carried out to assist state agencies in identifying where PCBs may be present in medical and hospital supplies, a subgroup of products available through DES statewide contracts.

Ecology evaluated 37 medical and hospital supply products that were in use by state entities in 2017. The products may contain dyes, pigments, or chlorinated compounds from manufacturing processes. Once used, they are disposed of either into the landfill or by incineration. Sampled products include disposable gloves, specimen containers, centrifuge tubes, lids and caps, wipes, and other lab consumable supplies.

All results showed detectable levels of total PCBs (tPCBs). The tPCB concentration results ranged, as estimates, from 0.0002 J parts per billion (ppb) to 116.26 J ppb in the samples tested. Twenty-one had tPCB levels below 1 ppb, 12 had levels ranging from 1 to 10 ppb, three had levels between 10 and 100 ppb, and one had a level above 100ppb. The results were all below the TSCA 25 ppm average and 50 ppm maximum limits.

# Publication Information

This report is available on the Department of Ecology's website at:
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Data for this project are available in Ecology's Consumer Product Database.[1]

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[1] https://apps.ecology.wa.gov/consumerproducts/

# Background

## PCBs

Polychlorinated biphenyls (PCBs) are a family of synthetic chemicals consisting of two benzene rings joined together (a biphenyl molecule) and containing one to 10 chlorine atoms attached to the benzene rings (ATSDR 2000). Figure 1 shows the basic structure of PCBs, where the numbers 2-6 and 2'-6' represent possible substitution locations for chlorine. There are 209 possible configurations of chlorine positions around the biphenyl molecule. These individual PCB compounds are known as congeners and are designated by numbers 1 through 209 (EPA 2022).

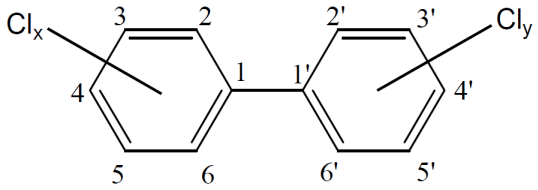


**Figure 1. The general chemical structure of chlorinated biphenyls.**

PCBs were manufactured as chemical mixtures made up of a variety of different congeners. Due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications. PCBs are identified as persistent, bioaccumulative, and toxic (PBT) chemicals. They are persistent in the environment, build up in the food chain, and can cause adverse health effects, including cancer and harm to the immune, nervous, and reproductive systems in humans and wildlife (Ecology and Health 2015).

The manufacture of PCBs for intentional use in products was restricted in the U.S. more than 40 years ago. Products may still contain PCBs at an annual average of less than 25 parts per million (ppm) with a 50 ppm maximum, per the U.S. Toxic Substances Control Act (TSCA; EPA 1979).

PCBs continue to be generated as inadvertent byproducts in manufacturing processes and are referred to as inadvertent PCBs (Panero et al. 2005). Processes that may result in the creation of inadvertent PCBs involve carbon, chlorine, and high temperatures, such as the production of pigments, dyes, and chlorinated chemicals. Inadvertent PCBs may be released from products during their use and eventual disposal. PCB-11 is an example of an inadvertent PCB.

## PCBs in Medical and Hospital Supplies

In 2017, Ecology conducted a study to assess the levels of PCBs in products available from state contracts. Washington State law (Revised Code of Washington (RCW) 39.26.280 and RCW 39.26.290) requires state agencies to limit the purchase of products and packaging containing PCBs. The state Department of Enterprise Services (DES) leads the implementation

of the law. As of 2014, there is no restriction level for PCB concentrations in products within the law. Rather, it specifies that no agency may knowingly purchase products or products in packaging containing PCBs above the practical quantification limit except when it is not cost-effective or technically feasible to do so (RCW 39.26.280). The DES purchasing preference policy (DES 2019) outlines this approach, along with guidelines to incentivize suppliers to provide products and product packaging that do not contain PCBs.

This study was carried out to identify where PCBs may be present in medical and hospital supplies, a subgroup of state-purchased products from state contracts. Non-point releases, such as from consumer products, are becoming increasingly important to control and reduce overall PCB delivery to humans and the environment (Ecology and Health 2015). Materials purchased in large volumes, used in state agencies, and disposed of in landfills or by incineration could contain dyes and pigments or use chlorinated compounds in the manufacturing process, which could release PCBs into the environment. In 2017, state agencies could contract with DES to purchase and use a wide range of medical and hospital supply products such as gloves, tubes, caps, gowns, tubing, boxes, tape, gauze, wipes, and specimen containers. This study examined whether PCBs were present in some of these types of product samples. Ecology acquired 37 samples of medical and hospital supply products in 2017. The 37 samples and one hexane rinse were analyzed for PCBs.

# Methods

## Product Collection and Sample Processing

Ecology acquired medical and hospital supply samples that were available from DES contracts during March 28th, 2017, to August 29th, 2017 (Table A-1). Each sample was labeled with a unique Ecology identification number (Component ID). For example, component sample MCK-2-4-1 corresponds to: McKesson for MCK, the "2" indicates the second time Ecology acquired samples from McKesson, the "4" refers to a unique sample from McKesson, and the "1" indicates it is the first component sample from that specific sample.

Samples were processed to an appropriate lab analysis size and logged into the database per Ecology Standard Operating Procedures (SOPs) PTP001 and PTP002, respectively (both SOPs were per version 1.0 at the time). After samples were made ready by Ecology, they were sent out for contract lab analysis. Table A-1 includes the sample Component ID, Product Description, and Component Material.

A tool cleaning hexane rinse sample was collected as a blank quality control (QC) sample.

All samples were received in good condition by the contract lab. Some component samples were received by the contract lab at ambient temperature instead of at reduced temperature as specified by the Quality Assurance Project Plan and addendum (QAPP; Sekerak 2016; Trumbull 2017a, 2017b). This deviation is not considered to have adversely impacted the study data quality since medical and hospital supplies may be regularly stored at ambient temperatures.

## Laboratory Analysis and Data Quality

Contract lab analysis for PCBs was performed by ALS Life Sciences – Environmental Division (ALS) in Burlington, Ontario, Canada. Samples were sent to ALS via Ecology and followed the quality assurance (QA) system in place at that time. ALS extracted component samples using EPA Method 1668C. The sample extracts were analyzed for all 209 PCB congeners by high-resolution gas chromatography mass spectrometry in accordance with EPA Method 1668C (EPA 2010).

Ecology's QA Coordinator at MEL performed a stage 4 validation in accordance with the QAPP, EPA Method 1668C, and applicable criteria from the National functional Guidelines for Organic Superfund Methods Data Review (EPA 2009, 2017, 2020). Some of the data points were qualified using the reviewer's professional judgment. The data were verified to have been generated following the analytical method with no omissions or errors. The project manager also reviewed all the data points. Except for the rejected "REJ" qualified data, all other data, as validated at the time, were found acceptable and usable for all purposes.

PCB congener concentrations below the limit of quantitation (LOQ) and above the estimated detection limit (EDL) were qualified "J". The "J" qualifier indicates that the analyte was positively identified, and the associated value is an estimate. PCB congener concentrations at levels less than five times the concentrations found in the associated lab method blank were qualified as non-detects: either "UJ" when concentrations were reported below the LOQ or "U" when concentrations were reported above the LOQ. PCB congeners that were tentatively identified by the lab and were also detected in the sample at concentrations less than 5 times the blank value were qualified "NUJ" as non-detects at the EDL. Sample results rejected due to serious deficiencies in the ability to analyze the sample and meet the quality control criteria were qualified "REJ," indicating the presence or absence of the analyte could not be verified.

Measurement quality objectives (MQO) for laboratory control standards, laboratory duplicates, and internal recovery standards were found acceptable as validated. MQO were met with the following exceptions:

- The recoveries for native target PCB-105 and PCB-123 were marginally below the control limits (74% and 71%, respectively) for sample FSS-1-2-1. Data were not qualified on this basis for this sample, as the sample runs for the two analytes were found acceptable.
- The recoveries for extraction standards $^{13}C_{12}$-PCB-001 (1%), $^{13}C_{12}$-PCB-003 (1%), $^{13}C_{12}$-PCB-004 (2%), $^{13}C_{12}$-PCB-015 (8%), $^{13}C_{12}$-PCB-019 (6%), and $^{13}C_{12}$-PCB-054 (9%) in sample FSS-1-2-1 were extremely low and indicated possible high bias in the associated results. The sample results were qualified based on their respective extraction standard recoveries.
- All Continuing Calibration Verification (CCV) standards analyzed met technical acceptance criteria except for:
    - Instrument response drift may have affected results for samples FSS-2-2-1, MCK-2-2-1, and MCK-2-4-1 and were qualified.

- Due to the uncertainties of the CCV and mass resolution associated with the respective sequence, associated sample results for MCK-1-4-1 and MCK-1-5-1-1 were qualified.
- The recovery for the CCV labeled standard $^{13}C_{12}$-PCB-019 (149%) exceeded the upper control limit of 145% in the hexane rinse sample. Remaining target analytes, extraction, and clean-up standard recoveries for the other CCVs met the control limits. PCB-019 in the associated sample was qualified, and results for PCB-019 in the hexane sample may be low-biased.

- All duplicate results were similar with relative percent difference (RPD) less than 50% for detections with the following exceptions:
  - Sample VWR-2-3-1, for PCB-001 (66%), PCB-002 (131%), PCB-004 (55%), PCB-005 (184%), PCB-020/028 (60%), PCB -031 (84%), PCB 040/041/071 (80%), PCB-052 (116%), PCB-056 (182%), PCB-0105 (182%), PCB- 090/101/113 (78%), PCB-117/116/85/110/115 (63%), PCB-118 (117%), PCB-138/163/129 (137%), Total MonoCB (68%), Total DiCB (63%), Total TriCB (72%), Total HexaCB (83%), and Total OctaCB (140%)
  - Sample MCK-2-6-1, for PCB-130 (59%) and PCB-184 (73% )
- Method control limits for labeled PCB congener standards $^{13}C_{12}$-PCB-001, $^{13}C_{12}$-PCB-003, $^{13}C_{12}$-PCB-004, $^{13}C_{12}$-PCB-015, $^{13}C_{12}$-PCB-019, $^{13}C_{12}$-PCB-028, $^{13}C_{12}$-PCB-037, and $^{13}C_{12}$-PCB-054 ranged from 5% to 145% in samples DOC-4-3-1, MCK-2-3-1, and MCK-2-5-1, while control limits for the remaining labeled standards ranged from 10% to 145%. Since the target analyte concentrations are adjusted for their corresponding labeled standard recoveries, low labeled standard recoveries (<10%) may indicate potential high bias in the detected results (qualified estimated, “J”) and possible false negatives on the undetected results, which were qualified estimated, “UJ.” The recoveries of the labeled injection and clean-up standards met the laboratory-established acceptance criteria with exceptions listed in Table 1 below.

**Table 1. Recoveries of labeled injection and clean-up standards, respectively, for component samples DOC-4-3-1, MCK-2-3-1, and MCK-2-5-1.**

| Component ID | Labeled Standard | Recovery (%) | Validation Qualifier Detects | Validation Qualifier Non-Detects |
|---|---|---|---|---|
| DOC-4-3-1 | **$^{13}C_{12}$-PCB-028** | **0** | **J or NJ** | **REJ** |
| DOC-4-3-1 | **$^{13}C_{12}$-PCB-111** | **0** | **J or NJ** | **REJ** |
| DOC-4-3-1 | **$^{13}C_{12}$-PCB-178** | **0** | **J or NJ** | **REJ** |
| MCK-2-3-1 | **$^{13}C_{12}$-PCB-001** | **5** | **J** | **UJ** |
| MCK-2-3-1 | **$^{13}C_{12}$-PCB-003** | **5** | **J** | **UJ** |
| MCK-2-3-1 | **$^{13}C_{12}$-PCB-004** | **10** | **J** | **UJ** |
| MCK-2-3-1 | **$^{13}C_{12}$-PCB-004** | **5** | **J** | **UJ** |
| MCK-2-3-1 | **$^{13}C_{12}$-PCB-015** | **7** | **J** | **UJ** |
| MCK-2-3-1 | **$^{13}C_{12}$-PCB-019** | **7** | **J** | **UJ** |
| MCK-2-3-1 | **$^{13}C_{12}$-PCB-037** | **9** | **J** | **UJ** |
| MCK-2-3-1 | **$^{13}C_{12}$-PCB-054** | **8** | **J** | **UJ** |
| MCK-2-3-1 | **$^{13}C_{12}$-PCB-209** | **10** | **J** | **UJ** |
| MCK-2-5-1 | **$^{13}C_{12}$-PCB-001** | **7** | **J** | **UJ** |
| MCK-2-5-1 | **$^{13}C_{12}$-PCB-003** | **6** | **NJ** | **UJ** |
| MCK-2-5-1 | **$^{13}C_{12}$-PCB-004** | **7** | **J** | **UJ** |
| MCK-2-5-1 | **$^{13}C_{12}$-PCB-015** | **9** | **J** | **UJ** |
| MCK-2-5-1 | **$^{13}C_{12}$-PCB-019** | **8** | **NJ** | **UJ** |
| MCK-2-5-1 | **$^{13}C_{12}$-PCB-104** | **19** | **J** | **UJ** |

J = estimate, may indicate a potential high bias in the detected results.
NJ = tentatively identified, associated value represents approximate concentration.
REJ = presence or absence of the analyte could not be verified.
UJ = non-detect due to possible false negatives.

- Several PCB congeners were detected at concentrations greater than EDL in the hexane rinse and in the associated method blank. PCB-11 and PCB-187 were detected in the hexane rinse and blanks at concentrations that were greater than MRL. Sample results were not qualified using the hexane rinse recovery results.

Total PCB concentrations, calculated by the project manager as the sum of PCB congeners in the sample, include only detected congener results that were either unqualified or were qualified "J," as estimates. Data qualified as "NJ" (indicating that the analyte was tentatively identified, and the associated value represents its approximate concentration) were not included in the tPCB sums. Total PCB calculations were qualified "J" when 10% or more of the detected congener concentration results in the sample were qualified "J," as estimates.

All PCB concentrations are reported on a wet weight basis by the lab in picogram per gram (pg/g), or pg/l (respective for the liquid component samples) and have been converted to nanogram per gram (ng/g, or ppb) for reporting purposes. PCB data are available from Ecology's Consumer Product database.

# Results

ALS analyzed the 37 component samples for all 209 PCB congeners, and tPCB concentrations were calculated according to the procedure outlined in the Data Quality section above. Per the QAPP, the estimated lab reporting limit and range of PCB congener results expected were approximately < 1.0 ppb to 2.3 ppm. Results found within this study are within the expected range (including < 1.0 ppb). Table A-1 displays select results from the component samples. For assessing data in this study, select results (as qualified) are identified in the tables for discussion purposes and do not represent any regulatory level.

## PCB Congener Results

The number of PCB congeners detected at a concentration of greater than or equal to approximately 0.5 ppb or higher in the component samples is listed in Table A-1. Sample FSS-2-2-1 (cryo/freezer box) had the highest number of PCB congener detections overall, with 42. DOC-4-3-1, DOC-4-4-1, FSS-2-3-1, and FSS-1-1-1 had 21, six, five, and two detections at or above 0.5 ppb, respectively. These samples were all disposable gloves, and all were nitrile except for DOC-4-3-1, which was clear vinyl. Seven samples had only one PCB congener detection at or above 0.5 ppb each, and the remaining 25 samples did not have any PCB congener detections at or above 0.5ppb (Table A-1).

The PCB congener observed at the highest concentration overall was PCB-61/70/74/76 at approximately 11.5 ppb in sample FSS-2-2-1. It was detected as unqualified or J in 18 of the samples. The remaining 19 component sample results for PCB-61/70/74/76 were qualified U, UJ, or NUJ. The concentration of PCB-11 in the samples ranged from 0.003 U ppb to 3.99 ppb, with the greatest concentration detected in sample VWR-2-4-1 (sterilization tape). Samples FSS-2-3-1 (nitrile examination gloves) and FSS-2-2-1 (cryo/freezer box) had the next highest concentrations of PCB-11 at 3.78 ppb and 2.66 ppb, respectively. VWR-2-4-1 presented with some green and blue colors within the sample material. FSS-2-3-1 were blue color gloves. FSS-

2-2-1 was a white box with some blue ink printed on it. All other sample concentrations of PCB-11 were below 2.0 ppb. PCB-11 is considered a key indicator of inadvertent PCBs, as it is primarily associated with color pigments, especially yellow (Hu and Hornbuckle 2010).

Samples DOC-4-3-1, FSS-1-2-1, FSS-2-2-1, FSS-2-3-1, FSS-2-4-1, MCK-1-5-1, MCK-2-2-1, MCK-2-6-1, MCK-2-7-2, VWR-1-1-1 and VWR-2-4-1 had at least one detection (as qualified) of PCB-206, PCB-207, PCB-208 and/or PCB-209. Sample FSS-2-2-1 had all of these PCBs detected, and also the highest within these samples of PCB-206 at 0.08 ppb. These could possibly be inadvertent PCBs from white and/or green pigments used in the manufacturing process (Heine and Trebilcock, 2018).

Of the 209 PCB congeners, there are 12 that have a spatial and electronic structure similar to polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs). PCDD and PCDF congeners (numbers 77, 81, 105, 114, 118, 123, 126, 156, 157, 167, 169, and 189) are known as dioxin-like PCBs and considered highly toxic (EPA, 2025). Samples DOC-4-3-1, DOC-4-4-1, FSS-1-1-, FSS-2-2-1, FSS-2-3-1, and MCK-2-6-1 had detections of at least one of these PCBs at or above 0.05 ppb (as qualified). Sample FSS-2-2-1 had the highest number of detections of these PCBs, with seven. All other samples did not have any detections of at least one of these PCBs at or above 0.5 ppb (as qualified).

## PCB Congener Patterns

Principal Components Analysis (PCA) was used to explore similarities and differences in PCB congener patterns among the samples. PCA is a statistical tool that groups a large number of variables (e.g., the PCB congeners) into “principal components” (PCs). The first two PCs often explain much of the variability in the dataset and are a common comparison. Plotting the sample data on an ordinate graph (the first two PCs as the X and Y axes; Figure 3) was used for interpreting similarities and differences in the dataset. Points on the plot that are more closely clustered together are more similar to each other than points that are further away.

PCB congener values for each sample were first normalized to the tPCB concentration of the sample by dividing the two values: [PCB Congener]/[tPCB]. This was done to reduce the total PCB concentration bias on the PCA results. PCA performed on normalized PCB congener composition showed separation of samples on the first two principal components (axes), which cumulatively represented approximately 78% of the total variance in the dataset.

Separation was greatest among two samples (VWR-2-5-1 and MCK-1-8-1), with MCK-1-8-1 having the greatest overall separation. These two samples are Whatman filter papers and perineal & skin cleanser, respectively. Results for sample MCK-1-4-1 indicated some slight separation vs. other samples; however, this sample, consisting of germicidal disposable wipes, was not as significant as the other two samples above.

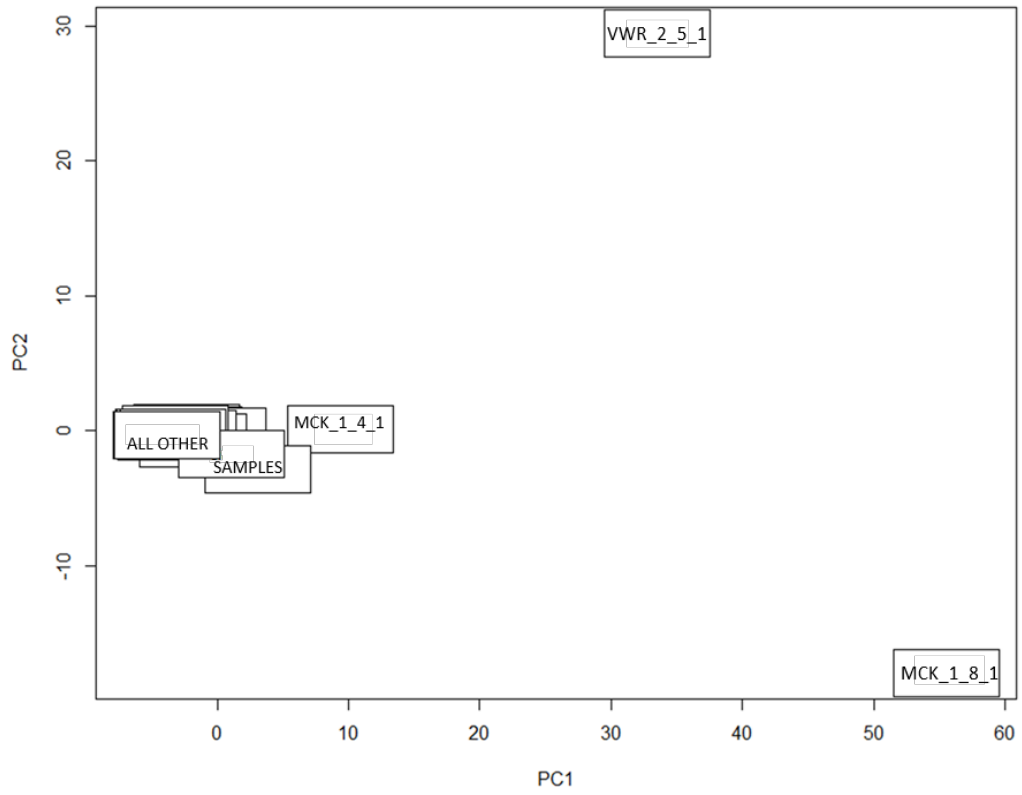


**Figure 2. Principal Components Analysis (PCA) ordination plot showing principal components (PC) 1 and 2 of normalized total PCB congener composition along the X and Y axes.**

## PCB Homolog Results

Homologs are subcategories of PCB congeners that have equal numbers of chlorine substituents. For example, Tetrachlorobiphenyls (TetraCBs) are all PCB congeners with exactly four chlorine substituents that can be in any arrangement (EPA 2022). These include the sum of PCB congeners PCB-40 through PCB-81 and can be summed as a total (tTetraCBs). Overall, TetraCBs represented the largest concentration of PCB homolog groups in the samples, followed by Pentachlorobiphenyls (PentaCBs), Trichlorobiphenyls (TriCBs), and Dichlorobiphenyls (DiCBs). DiCBs are all PCB congeners with exactly two chlorine substituents. PCB-11 is a dichlorobiphenyl. The PCB-11 levels found in the samples also correlate with high concentrations of DiCBs. Sample FSS-2-3-1 had the highest DiCB result at 4.27 J ppb. Figure 3 shows all homolog concentrations in ppb with the corresponding sample Component ID. Component sample results for TetraCBs can be found in Table A-1.

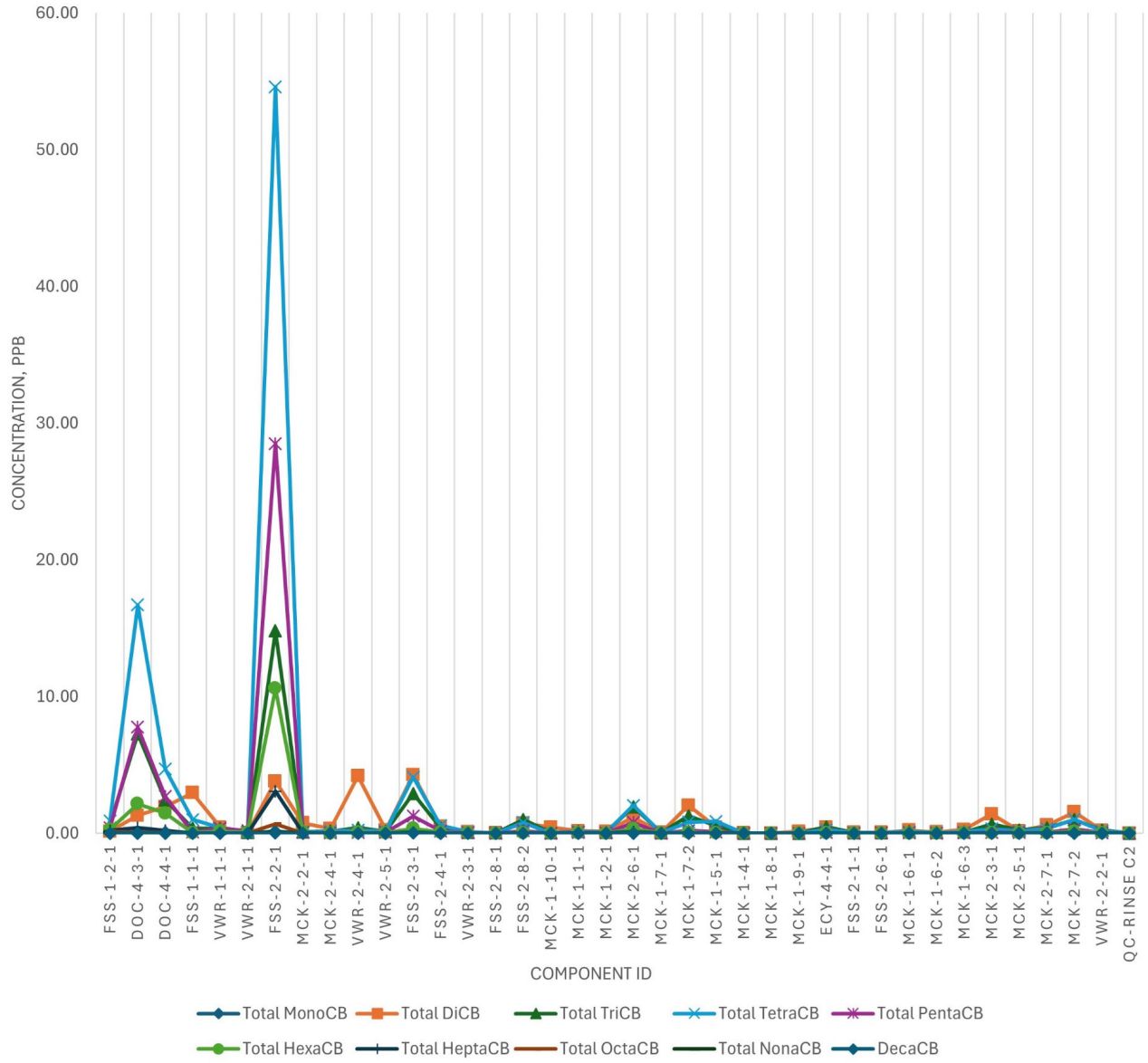


**Figure 3. Sample component ID vs. total homolog concentration (ppb).**

## tPCB Results

All samples had detectable levels of tPCBs, ranging from 0.0002 J ppb to 116.26 J ppb. All of the sample tPCB results were qualified J. The samples with the highest tPCB level were FSS-2-2-1 and DOC-4-3-1 at 116.26 J ppb and 35.01 J ppb, respectively. The samples with the lowest tPCB level were MCK-1-8-1 and MCK-1-4-1 (at 0.0002 J ppb and 0.002 J ppb, respectively).

The hexane rinse sample was analyzed similarly to the medical and hospital supply samples for PCB congeners and was found to have a tPCB concentration of approximately 2.21 J ppb. Since sample component results were not qualified using the hexane rinse results, data for this sample are not included in Table A-1 or the database.

## Results by Component Material

The largest categories of component material types consisted of gloves and miscellaneous lab consumable supplies. Within each of these, DOC-4-3-1 (clear vinyl gloves) and FSS-2-2-1 (cryogenic freezer box) had the highest concentrations of tPCBs at 35.01 J ppb and 116.26 J ppb, respectively. The lowest concentrations of tPCBs from the gloves and miscellaneous lab categories were from blue powder-free examination nitrile gloves (VWR-2-3-1, 0.19 J ppb) and Perineal & Skin Cleanser (MCK-1-8-1, 0.0002 J ppb), respectively.

# Conclusions

All 37 component samples and the hexane rinse sample tested had detectable levels of tPCBs, ranging from 0.0002 J to 116.26 J ppb. Sixteen of the component samples and the hexane rinse had tPCB levels above 1.0 J ppb. The results were all below the TSCA 25 ppm average and 50 ppm maximum limits. Table 2 displays the distribution of tPCB results by concentration range.

**Table 2. Total PCB results (ppb, J) by concentration range.**

| Number of Evaluations | < 0.50 | 0.50 to <1 | 1 to <10 | 10 to <100 | ≥100 |
|---|---|---|---|---|---|
| 38 | 20 | 1 | 13 | 3 | 1 |

J = analyte was positively identified, and the associated value is an estimate.

The exact source of PCBs in the samples is unknown. Pigments and dyes are a known source for inadvertent PCBs in products and have previously been detected in pigment-printed and dyed materials (Guo et al., 2014; Stone, 2016). It is not possible to conclude from this 2017 study that the PCBs detected in the samples are only from the pigments or dyes.

Ultimately, PCBs detected in the samples may be due to several sources:

- Product content.
- Manufacturing process: pigments, dyes, and/or additional chemicals used.
- Environmental contamination from manufacturing: equipment, environment, etc.
- Packaging, handling, and/or storage of the materials prior to use in the production of the final product.

- No conclusions can be drawn from one sample of one product because of the variability of results shown among the same product in other product types with different manufacture dates/lots.

## Recommendations

- Purchasing preference for state contracts can be applied to the products or product packaging items if the test results for the specified products or packaging confirm they do not contain PCBs within the limits of the test and are tested by EPA method 1668C (DES-280-00). Since there are no established standardized practical quantitation limits (PQL) for PCBs in medical and hospital supplies, further work could include PQL method development.
- Ranges and variability among different types and batches of products available by state contracts (including those in use by state entities) could be further assessed. A mass balance study approach accounting for all inputs and outputs could be performed.

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# Appendix A.

**Table A-1. Component sample information and select results.**

| Component ID | Component Description | Component Material | tPCB Concentration (ppb) | Number of PCB Congeners Detected (as Qualified) >= Approximately 0.5 ppb | PCB-11 Concentration (ppb) | PCB Homolog Tetrachlorobiphenyl (TetraCB) Result (ppb) |
|---|---|---|---|---|---|---|
| DOC-4-3-1 | Examination Gloves | Clear Vinyl Glove | 35.01 J | 21 | 0.62 | 16.70 J |
| DOC-4-4-1 | Excel Powder Free Examination Gloves | Blue Nitrile Glove | 13.22 J | 6 | 1.62 | 4.70 J |
| ECY-4-4-1 | LD Poly Slide-Seal Bags 16 x 12 | Clear Zipper Bag | 0.63 J | 0 | 0.30 U | 0.27 J |
| FSS-1-1-1 | Powder-Free Exam Gloves | Purple Nitrile Glove | 4.38 J | 2 | 0.22 | 0.99 J |
| FSS-1-2-1 | Kimwipes Delicate Task Wipers | Wipes | 2.62 J | 0 | 0.05 U | 0.91 J |
| FSS-2-1-1 | Premium Microcentrifuge Tubes | 1.5mL Tubes | 0.022 J | 0 | 0.03 U | 0.03 J |
| FSS-2-2-1 | Cryogenic Freezer Box | Box | 116.26 J | 42 | 2.66 | 54.60 J |
| FSS-2-3-1 | Examination Gloves | Nitrile Gloves | 12.55 J | 5 | 3.78 | 4.11 J |
| FSS-2-4-1 | Sterling Xtra Powder Free Exam Gloves | Nitrile Gloves | 1.57 J | 0 | 0.41 | 0.57 J |
| FSS-2-6-1 | 20mm Open Seal with TEF SIL Crimp Cap Glass Pack | Septa | 0.03 J | 0 | 0.03 U | 0.04 J |
| FSS-2-8-1 | Combat Gauze | Gauze | 0.05 J | 0 | 0.02 U | 0.02 J |

| Component ID | Component Description | Component Material | tPCB Concentration (ppb) | Number of PCB Congeners Detected (as Qualified) >= Approximately 0.5 ppb | PCB-11 Concentration (ppb) | PCB Homolog Tetrachlorobiphenyl (TetraCB) Result (ppb) |
|---|---|---|---|---|---|---|
| FSS-2-8-2 | Combat Gauze | Blue Strip on Gauze | 2.70 J | 0 | 0.49 | 0.79 J |
| MCK-1-1-1 | Adult Underwear | Underwear Fabric | 0.17 J | 0 | 0.12 U | 0.14 J |
| MCK-1-2-1 | Woven Gauze Sponges 3 x 3 | Gauze | 0.25 J | 0 | 0.12 | 0.04 J |
| MCK-1-4-1 | Large Germicidal Disposable Wipes | Wipes | 0.002 J | 0 | 0.01 U | 0.01 J |
| MCK-1-5-1 | Clear Advantage Aloe Vera Male External Catheter | Catheter | 1.54 J | 1 | 0.23 U | 0.88 J |
| MCK-1-6-1 | Piston Irrigation Syringe Flat Top With Catheter Tip | Syringe | 0.16 J | 0 | 0.17 U | 0.10 J |
| MCK-1-6-2 | Piston Irrigation Syringe Flat Top With Catheter Tip | Syringe Plastic Plunger | 0.04 J | 0 | 0.07 U | 0.04 J |
| MCK-1-6-3 | Piston Irrigation Syringe Flat Top With Catheter Tip | Black Rubber on Syringe Plunger | 0.08 J | 0 | 0.22 U | 0.09 J |
| MCK-1-7-1 | X-Ray Detectable Sponges | Sponge | 0.08 J | 0 | 0.04 J | 0.03 J |
| MCK-1-7-2 | X-Ray Detectable Sponges | Blue Strip | 4.42 J | 1 | 1.69 | 0.82 J |
| MCK-1-8-1 | Perineal and Skin Cleanser | Cleanser, liquid | 0.0002 J | 0 | 0.003 U | 0.001 J |

| Component ID | Component Description | Component Material | tPCB Concentration (ppb) | Number of PCB Congeners Detected (as Qualified) >= Approximately 0.5 ppb | PCB-11 Concentration (ppb) | PCB Homolog Tetrachlorobiphenyl (TetraCB) Result (ppb) |
|---|---|---|---|---|---|---|
| MCK-1-9-1 | Tearless Shampoo and Body Wash | Shampoo Body Wash, liquid | 0.13 J | 0 | 0.03 | 0.005 J |
| MCK-1-10-1 | Wings Pre-Moistened Washcloths | Washcloths | 0.48 J | 0 | 0.07 | 0.01 J |
| MCK-2-2-1 | Exam Table Paper | White Paper | 0.12 J | 1 | 0.72 U | 0.11 J |
| MCK-2-3-1 | Intermittent Catheter, Female | Clear Plastic Tubing | 2.83 J | 1 | 0.84 | 0.32 J |
| MCK-2-4-1 | Procedure Masks | Blue Mask | 0.18 J | 0 | 0.28 U | 0.17 J |
| MCK-2-5-1 | IV Administration | Tubing | 0.23 J | 0 | 0.08 U | 0.17 J |
| MCK-2-6-1 | Exam Gowns | White Tissue | 6.45 J | 1 | 0.79 | 2.03 J |
| MCK-2-7-1 | Sterile Specimen Containers | Clear Plastic Cup | 1.35 J | 0 | 0.49 | 0.33 J |
| MCK-2-7-2 | Sterile Specimen Containers | Green Lid | 4.02 J | 1 | 1.68 | 1.02 J |
| VWR-1-1-1 | VWR Latex Pipette Bulb | Latex Bulb | 1.63 J | 0 | 0.34 | 0.40 J |
| VWR-2-1-1 | Single-Weight Hazmat SM Sorbent Pad | Yellow Pad | 0.25 J | 0 | 0.03 U | 0.10 J |
| VWR-2-2-1 | VWR Safe-T Flex Caps | Blue Caps | 0.33 J | 0 | 0.08 U | 0.17 J |

| Component ID | Component Description | Component Material | tPCB Concentration (ppb) | Number of PCB Congeners Detected (as Qualified) >= Approximately 0.5 ppb | PCB-11 Concentration (ppb) | PCB Homolog Tetrachlorobiphenyl (TetraCB) Result (ppb) |
|---|---|---|---|---|---|---|
| VWR-2-3-1 | Powder Free Examination Nitrile Gloves | Blue Gloves | 0.19 J | 0 | 0.04 J | 0.10 J |
| VWR-2-4-1 | VWR Lead Free Sterilization Tape | Tape | 4.63 J | 1 | 3.99 | 0.21 J |
| VWR-2-5-1 | Whatman Filter Papers | Filter Paper | 0.003 J | 0 | 0.20 U | 0.16 J |

J = analyte was positively identified, and the associated value is an estimate.
ppb = parts per billion.
tPCB = total polychlorobiphenyl.
TetraCB = Tetrachlorobiphenyl
U = non-detect due to the result at less than five times the concentration found in the associated lab method blank and above the LOQ (limit of quantitation).