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Lead and Cadmium in School Supplies

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School Supplies 2019

Lead and Cadmium in School Supplies

by

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The following document is a technical memorandum originally sent to the Washington State Attorney General's Office on February 10, 2020. The technical memo is a non-standard report, and includes additional information and appendices not included in a standard report format. Data provided and summarized in this technical memo is publicly available from Ecology's Product Testing Database. The federal Consumer Product Safety Commission (CPSC) sets limits on lead and cadmium. Data and product information for those products identified in this study to contain levels of lead and/or cadmium exceeding federal limits were submitted to the CPSC.

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Acronyms used frequently in this document:

ASIN	Amazon Standardized Identification Number
CPSC	United States Consumer Product Safety Commission
CPSIA	Consumer Product Safety Improvement Act
CSPA	Children’s Safe Products Act
PTDB	Product Testing Database
QA	Quality Assurance
UPC	Universal Product Code

Overview

The Washington State Department of Ecology (Ecology) frequently performs studies to support the Children's Safe Products Act (CSPA), RCW 70.240. Studies are designed to select, purchase, and analyze children's products for the presence of toxic chemicals including chemicals of high concern to children (CHCCs). CSPA sets limits on the use of lead, cadmium, and six phthalates in children's products sold in Washington or to residents of Washington.^{2,3}

During 2015, lead levels in three pencil pouches and two book covers were found to exceed the CSPA limit of 90 parts per million (ppm) for lead in the Back to School seasonal study (Trumbull et al., 2017).⁴ In 2017 and 2018, the Washington State Attorney General's Office (AGO) partnered with Ecology to test for lead and cadmium in similar pencil pouches/cases and book covers used by children for school supplies (Sekerak, 2017; Sekerak, 2019).

On May 9, 2019, Attorney General Bob Ferguson announced that Amazon.com entered into a nationwide legally binding agreement to discontinue the sale of any children's school supplies or jewelry containing lead and/or cadmium levels exceeding (not meeting) levels allowed by state and federal laws (WA AGO, 2019). Amazon also will require all current sellers of these children's products nationwide to provide certifications and lab testing from an accredited lab showing that their products meet state and federal standards for lead and cadmium levels (WA AGO, 2019).

In summer 2019, the AGO again partnered with Ecology to perform follow-up testing for lead and cadmium in school supplies tested in the 2015, 2017, and 2018 studies, if available, and investigate new school supply products for children (Trumbull, 2019). The 2019 study design prioritized follow-up testing on pencil pouches/cases, book covers, and other school supplies that (1) previously were found to contain lead above 90 parts per million (ppm)⁵ or cadmium above 40 ppm and were still available for sale to Washington State residents in 2019 through Amazon.com, (2) were available for sale to Washington State residents through Walmart.com, and (3) were available for sale to Washington State residents at the Dollar Tree retail store.

This memo describes the purchasing process, discusses data quality, and summarizes the data for the 2019 school supplies study. Product information, photos, web screen recordings, and test data will be transferred to the AGO along with delivery of this memo.

² Under CSPA, manufacturers are also required to report to Ecology if any of their children's products contain CHCCs. In 2017 CSPA was amended to include limits on five flame retardants in children's and residential upholstered furniture.

³ When federal law violations are suspected, data and product information from Ecology-tested products are forwarded to the United States Consumer Product Safety Commission (CPSC) for review under the Consumer Product Safety Improvement Act (CPSIA).

⁴ The 2015 study also tested for cadmium, but levels were not found above the 40 ppm CSPA limit in children's products.

⁵ The report will use milligrams per kilogram (mg/kg) in place of ppm.

Methods

A Quality Assurance (QA) Project Plan Addendum was written by Ecology’s project manager and approved by Ecology’s QA Officer prior to conducting product purchasing, sample preparation, lab analysis, and data reporting (Trumbull, 2019 and Appendix A). The plan outlines the purchasing strategy, methods of processing and analysis, quality objectives, quality control, study timeline, budget, and method of data reporting. Also, as referenced in the plan, procedures, standard operating procedures, and methods were followed for the final data discussed in this report.

Minor deviations from the QA Project Plan are noted in the following discussion. Deviations mostly occurred around product availability and the product purchasing process; these deviations did not adversely affect the reported study data quality.

Methods for Selecting Products

Data from the 2015, 2017, and 2018 studies were used to prioritize product selection for this 2019 study. This study was designed to purchase the same products tested in the previous three studies that were found to contain quantifiable lead or cadmium, if available (Trumbull, 2019). Branding, Universal Product Codes (UPCs), unique product item numbers, unique naming, and/or design schemes and color patterns from previously tested products were used to determine products for the 2019 testing. In some cases, after a reasonable effort was made to collect the priority products, similar products by brand, manufacturer, or style, and new school supplies not previously tested, were purchased.

All online products were purchased through Walmart.com or Amazon.com. The study’s online purchasing strategy was to purchase school supply products primarily from third-party sellers from Walmart.com or Amazon.com. A subset of school supply products was purchased from Walmart (and not a third-party seller) through Walmart.com. Walmart.com does not currently fulfill orders on behalf of Walmart marketplace sellers as stated on their website; products purchased from a third-party seller on Walmart.com are fulfilled by the third-party seller. Products purchased from Amazon.com included: some products from third-party sellers and fulfilled directly by the third party, some products from third-party sellers and fulfilled by Amazon.com, and some products from Amazon and fulfilled by Amazon.com.

All products purchased at retail stores were purchased at Dollar Tree stores. An assessment was conducted to select four Dollar Tree stores in vulnerable communities in Washington (Appendix B). Products purchased from the Dollar Tree stores consisted of those prioritized for follow-up testing as well as several new products not previously tested.

Ecology followed the children’s product selection process used in previous studies when new products were purchased.⁶ New products purchased had designs, themes, or bright colors

⁶ Both the CSPA and CPSIA guidance were employed. We deferred to the broadest definition when the criteria differed. For example, when applying age determination, we used the CPSIA “12 years of age or younger” (16 CFR § 1200.2) criteria versus CSPA’s “under the age of 12.”

appealing to children or were packaged or marketed in a manner indicating they were designed for a child 12 years of age or younger.

Online Purchases – Walmart.com and Amazon.com

A total of 75 products were purchased through Walmart.com during four purchasing events in July 2019 on: July 22 (designated Batch A for ease in package receipt); July 24 (Batch B); July 25 (Batch C); and July 26 (Batch D). A total of 41 products were purchased through Amazon.com during two purchasing events on July 29 (designated Batch E and Batch F). Details of the online purchases are available in Appendix C, Table C-1. Screen-recording videos were taken for all six online purchasing events.

During the four online purchasing events for Walmart.com, 80 products were initially selected but only 75 products were received, and payment finalized.

- One product (a blue Elmo pencil case) ordered on July 22 was not received with another product (a pink Elmo pencil case) from the same seller with the same tracking number. A refund for the product was adjusted on the final receipt. The delivery status for these products remained as “delayed” on the final receipt even though one of the two products was received. Three other products (cat pencil pouches) from one seller in this order (July 22, 2019) reported the delivery status as “delayed” on the receipt, although all three products were received. The tracking status was not updated for this shipment.
- One product (a blue shark backpack) ordered on July 24 was canceled because it was out of stock. No payment was made for the product.
- One product (a Shopkins backpack set) ordered on July 25 was not received even though the tracking status on the receipt said “delivered.” A refund for the product was adjusted on the final receipt. Another product (a Disney Pixar Cars backpack set) in this July 25 order was canceled by the seller because it was out of stock. No payment was made for this product.
- One product (a glitter green 3-ring pencil pouch) ordered on July 26 was out of stock with the seller and subsequently canceled. No payment was made for this product. The delivery status for a product (2 Pieces Assorted Colors 3-Ring Pencil Pouches) was reported as “delayed” on the receipt although the product was received. The tracking status was not updated for this shipment.

All 41 products purchased from Amazon.com on July 29, 2019 were received in full and payment finalized.

During late February to early March 2019, Amazon.com Customer Service sent Product Safety Notification emails to purchasers of specific children’s school supply products that may contain lead or cadmium levels above (not meeting) state or federal limits. These school supplies were identified from testing during the School Supplies 2018 study (Sekerak, 2019). Amazon.com Gift Cards were issued for a full refund of the product. The funds from the Amazon.com 2018 Gift Cards were used for most of the payment for school supply products from Amazon.com in this 2019 study (Appendix C, Table C-1).

Product orders arrived at Ecology Headquarters (HQ) in Lacey, Washington via the United States Postal Service, United Parcel Service, or OnTrac shipping in intact packaging between July 24, and August 22, 2019. Images of the intact packages along with packaging labels were captured before opening the package (except for one package that was opened prior to photographing). These images document that all packages received by Ecology's product testing staff were intact upon arrival to Ecology HQ. Some minor damage to some packages was observed: small rips or tears in plastic packaging, cardboard box dented, or packaging taped slightly ripped. All products were inspected, and many were received in additional plastic packaging. All products were deemed usable as received.

Online products were reconciled with order records upon delivery to confirm receipt and approve payables. The outermost packaging information was copied or cut from the shipping box or bag and stored with the product. Some products received were not exactly identical but very similar to the picture of the product purchased online. This occurred only with Walmart.com purchased products. The discrepancy was documented in the product notes for the specific products (WM-43-16, WM-43-18, WM-43-19, WM-45-1, WM-46-6, and WM-46-16).

One product received from the July 26 Walmart.com order was not the same brand as the product listed on the website during purchasing (a Promarx brand instead of a Bazic brand pencil pouch). The seller was contacted through online message, but no response was provided and the product was included in the study. This discrepancy is detailed in the product notes for this product (WM-46-15).

The products and all accompanying product-specific information were placed in clean, labeled zip-top bags and stored in plastic totes. Totes were labeled according to purchase event and stored in restricted-access, locked cabinets in Ecology's HQ product testing room.

Retail Store Purchases – Dollar Tree

A total of 80 products were purchased at the Dollar Tree retail store, at four locations in Washington, between July 31 and August 8, 2019 (Appendix B and Appendix C, Table C-1). Twenty school supply products were purchased at each of the following Dollar Tree store locations: Mount Vernon, Lakewood, Pasco, and Wapato.

During retail store purchasing events, photos were taken to document store marketing. All Dollar Tree retail stores visited in 2019 had sections or aisles dedicated to school supplies, many displaying signage reading "Back to School" or "School Supplies."

Upon return to Ecology HQ, Ecology staff closed the chain-of-custody log and copied receipts for attachment to the Product Testing Database (PTDB). Individual products were separated into labeled zip-top bags and stored in labeled totes in the restricted-access, locked cabinets.

Sample Processing

Procedures for sample processing were followed as referenced in the QA Project Plan (Trumbull, 2019 and Appendix A). All study products were stored in locked, restricted-access cabinets when not being processed. Products and accompanying product information were cataloged in the

PTDB. Unique Product IDs, generated by the PTDB, were used to label the zip-top bags containing the product or products (for sets or packs). When available, product packaging, packing slips, and online order records were stored with the products. Photos were taken of the product and product packaging and some individual product components. Scanned copies of packaging, packing slips, receipts, and product photos were cataloged in the PTDB.

Individual product components were identified and cataloged in the PTDB before screening or processing commenced. X-Ray Fluorescence (XRF) screening was performed on all products purchased for this study to identify components for potential lab analysis. XRF screening was conducted following the standard operating procedure (SOP) cited in the QA Project Plan (Sekerak, 2018 and Appendix A).

Products were identified for potential sample selection by XRF screening if they contained at least one or more components near or exceeding (not meeting) the CSPA restriction level for lead and cadmium. Products identified by XRF screening were selected in the following order:

1. Amazon.com products: every Amazon product identified by XRF screening with many appearing to be the same product previously tested (a follow-up product) and some as similar products to follow-up product (including the same products in this study but from different sellers).
2. Dollar Tree products: at least one unique product from Dollar Tree stores (if the same product was purchased at a different location, only one product was selected).
3. Walmart.com products: at least one follow-up product for each style (and only one if the same follow-up product was purchased from different sellers), several similar products to follow-up products, and some new styles of pencil pouches/cases.

From the 76 selected products, only one product component (or composite of components) from each product was sent as a sample for lab analysis:

- 32 product component samples from Amazon.com.
- 15 product component samples from Dollar Tree stores.
- 29 product component samples from Walmart.com.

The product component selected for a sample was based on (1) the same component in a follow-up product previously tested or (2) the component contained the highest levels of lead, cadmium, or both by XRF screening in the product.

The 76 product component samples (29 fabric,⁷ 24 plastic, and 23 metal) were size-reduced and placed in pre-cleaned certified glass jars for transport to the laboratory. Twenty of the 76 samples consisted of composited material of similar matrix. Composite samples were prepared to replicate processing done in the previous 2018 study or were necessary to meet minimum mass requirements for laboratory preparation and analysis.

⁷ Components cataloged as fabric mostly appear to be made of woven synthetic polymers rather than natural-fiber fabrics.

Samples were delivered via courier to Ecology's Manchester Environmental Laboratory (MEL) on October 4, 2019. Delivery of samples met all chain-of-custody requirements for the study.

All study products and accompanying product information remain in locked restricted-access cabinets at Ecology HQ for the duration of the 2019 study.⁸

Data Entry Review by Project Manager

The project manager conducted the final review on all data entries and lab data in the Product Testing Database (PTDB) for the School Supplies 2019 study. When additional product information was identified and available, it was added to the database. These items included:

- Additional product photos.
- Copies of packing slips and packing receipts that displayed the source of information entered into the database.
- Product-specific Amazon Standardized Identification Numbers (ASINs).
- Web addresses for products purchased from Walmart.com.

ASINs were pulled from the screen recordings collected during the purchasing events. ASINs were listed in the web address, or Uniform Resource Locator (URL), for each purchased product. A web address was included in the product notes for products ordered from Walmart.com. No specific identification code, such as ASINs for Amazon.com, was known for products purchased from Walmart.com. However, a 9-digit number was observed in each web address; this may provide additional information to identify products sold on Walmart.com.

Data entry into the internal product testing database restricts the use of entering the same product name for more than one product in a purchase event. For some products purchased that appeared to be nearly the same product but purchased from a different third-party seller during an online purchasing event, a number (#1, #2, etc.) was added to the product description. The sequential numbering of identical products was implemented throughout the study for consistency in product description names.

Laboratory Analysis

Ecology's Manchester Environmental Laboratory (MEL) prepared samples in one work order (WO) and four lab batches by microwave acid-assisted (less hydrofluoric acid) digestion by U.S. Environmental Protection Agency (EPA) Method 3052. Analyses were performed on the inductively coupled plasma mass spectrometer (ICP-MS) following EPA Method 6020B. Instruments were calibrated with National Institute of Standards and Technology (NIST) traceable standards and were verified with a second-source NIST traceable standard. All standard residuals and instrument calibration (initial and continuing) verification checks were within acceptance limits.

⁸ Products will remain in this condition until approval is given by the AGO for transfer or disposal.

Data Quality

The project manager received a written case narrative and electronic data deliverable from MEL by email on October 29, 2019; this was identified as WO 1909050. A final amended case narrative was received on November 13, 2019. Table C-2 (Appendix C) summarizes the final data. The amended MEL case narrative with the final data analysis report are presented in Appendix D.

MEL case narratives provide a discussion of the quality of the data, methods of analysis, instrument calibration, and quality control (QC). All analyses were in accordance with the technical specifications, methods, and quality assurance/quality control (QA/QC) requirements of MEL methods and the study's QA Project Plan (Appendix A).

Data Usability

The project manager performed the final assessment of laboratory data after receiving MEL's case narrative and data.

At the request of the project manager, the case narrative for WO 1909050 (Appendix D) was amended on November 13, 2019 to correct minor errors in the Replicates section: a sample number transcribed in error (68 instead of 60) and include lead for sample 49 that was omitted.

All results without qualifiers are valid and useable as reported. Results with qualifiers are discussed below, and a recommendation on the usability of the detected results as estimates is provided.

- Sample results with "U" and "UJ" qualifiers indicate that concentrations were not quantified above the adjacent numeric reported concentration. The "U" sample results occurred when concentrations were not found above the reporting limit (RL) of 1.00 mg/kg. The "UJ" sample result occurred when the concentration was not found above the RL and the reporting limit is an estimate.
- Sample results with "J" qualifiers indicate that the analyte was positively identified in the sample and the reported concentration is an estimate.

Matrix spike (MS) and matrix spike duplicate (MSD) recoveries did not meet acceptance limit for lead in two samples: sample 1909050-40 (AM-33-4-15) contained 5,760 mg/kg lead, and sample 1909050-68 (DT-26-5-13) contained 785 mg/kg lead. The standard spiking level was insufficient for the elevated concentration of lead in the source sample; therefore, results were not qualified on this basis, and the results are useable.

Sample 1909050-49 (WM-44-9-8) contained 382 mg/kg lead and 78.3 mg/kg cadmium. Both the lead and cadmium results were qualified "J" due to the duplicate sample relative percent difference (RPD) exceeding the acceptance limit (>20%). The lead and cadmium were positively identified at concentrations well above the 90 mg/kg CSPA lead limit and 40 mg/kg cadmium limit, and the results are useable.

Sample 1909050-68 (DT-26-5-13) contained 785 mg/kg lead and 2.13 mg/kg cadmium. The lead result was qualified as an estimate, "J," due to the RPD between the respective MS and MSD samples exceeding the acceptance limit (>20%). The lead was positively identified at a concentration well above the 90 mg/kg CSPA lead limit, and the result is useable.

Sample 1909050-42 (DT-29-15-2) contained 368 mg/kg cadmium (lead was not detected above 1.00 mg/kg). The cadmium results met the QA/QC requirements of MEL methods. However, the project manager qualified the cadmium result as an estimate, "J," and the non-detected lead result as an estimated RL, "UJ," because the digestion for this sample was incomplete. Incomplete digestion may bias the results lower than what is detected. The cadmium was positively identified at a concentration well above the 40 mg/kg CSPA cadmium limit, and the result is useable.

Results and Discussion

Summary of Results for 2019 Study

Table C-2 (Appendix C) summarizes the results for the products tested in this study. All 76 product component samples contained lead, cadmium, or both metals above the quantitation limit (1.0 mg/kg) or adjusted reporting limit concentration. Detected concentrations of lead ranged from 23.9 to 7,330 mg/kg, and cadmium concentrations ranged from 1.02 to 944 mg/kg. A total of 95% (72 of 76) of the samples contained lead, cadmium, or both metals above the respective CSPA limits⁹ of 90 mg/kg for lead and 40 mg/kg for cadmium.

In all, 76 product component samples from 76 products were tested in this study. Sixty-six of the products were pencil pouches/cases (purchased as the pouch/case alone or as a part of a set), eight were backpacks (five purchased individually and three as part of a set), and two were lunch bags (purchased as part of a backpack set). The four products that did not have detections of lead, cadmium, or both metals above their respective CSPA limits were pencil pouch/case products. No book covers were tested because none of the book covers purchased in this study had lead or cadmium levels above the CSPA limit, when screened by XRF.

Walmart Products – Online

A total of 29 products purchased through Walmart.com were tested for this study, with 100% (29 of 29) of the products found to contain lead, cadmium, or both metals over the CSPA limit in a component of the product. Twelve of the products tested had both lead and cadmium levels over the CSPA limits in a component of the product.

The study's highest detection of lead (7,330 mg/kg) was found in the *Coco Blue Pencil Case – Internal Black Seam Tape* (Component ID: WM-45-2-8; Table C-2). Figure C-1 displays the detections of lead and cadmium in all Walmart product components.

Comparisons of selected 2019 products with previous school supply product results are in Appendix E.

Amazon Products – Online

A total of 32 products purchased through Amazon.com were tested for this study, with 94% (30 of 32) of the products found to contain lead, cadmium, or both metals over the CSPA limit in a component of the product. Fourteen of the products tested had both lead and cadmium levels over the CSPA limits in a component of the product.

The study's highest detection of cadmium (944 mg/kg) was in the *Ultimate Spiderman Black Pencil Case #2 – Internal Black Seam Tape* (Component ID: AM-33-8-8; Table C-2). Figure C-2 displays the detections of lead and cadmium in all Amazon product components.

⁹ The lower CSPA limits are used in the discussion, instead of the CPSIA limits of 100 ppm and 75 ppm for lead and cadmium, respectively.

Comparisons of selected 2019 products with previous school supply product results are in Appendix E.

Dollar Tree Products – Retail Store

A total of 15 pencil pouch products purchased at four Dollar Tree stores were tested in 2019 with 87% (13 of 15) of the products found to contain lead, cadmium, or both metals over the CSPA limit in a component of the product (Appendix C, Table C-2). Four of the products tested had both lead and cadmium levels over the CSPA limits in a component of the product. Figure C-3 displays the detections of lead and cadmium in all Dollar Tree product components.

Two styles of pencil pouches in a variety of colors accounted for 11 of the 13 pencil pouches with at least one component containing lead and/or cadmium over the CSPA limit. These two styles were called (1) color double zipper 3-ring pencil pouch and (2) color and clear plastic 3-ring pencil pouch.

- *The color double zipper 3-ring pencil pouch* product had five pouch colors: black, orange, red, blue, or green color material. The color pouch material was the component tested for lead and cadmium in the double zipper 3-ring pencil pouch except for the black pouch in which the zipper composite was tested.
 - Lead and cadmium exceeded the CSPA limit in the four double zipper 3-ring pencil pouches with orange material (at 887 mg/kg lead and 179 mg/kg cadmium for DT-26-7-1), red material (at 931 mg/kg lead and 64.1 mg/kg cadmium for DT-28-8-1), blue material (at 797 mg/kg lead and 58.6 mg/kg cadmium for DT-29-2-1), and green material (at 752 mg/kg lead and 94.9 mg/kg cadmium for DT-29-5-1).
 - The zipper composite (a composite of the upper and lower metal zipper slider components and the upper and lower metal zipper slider pull components) of the black double zipper 3-ring pencil pouch (DT-26-5-13) was found to contain lead over the CSPA limit at 785 J mg/kg.
- *The color and clear plastic 3-ring pencil pouch* product had six colors: green, blue, purple, pink, black, and gray.
 - The clear plastic material component was found above the CSPA limit for cadmium in the 3-ring pencil pouches with green (at 203 mg/kg cadmium for DT-26-14-2), pink (at 200 mg/kg cadmium for DT-28-18-2), and black (at 368 J mg/kg cadmium for DT-29-15-2) colors.
 - The zipper components (a composite of the metal zipper slider and metal zipper slider pull components) exceeded the CSPA limit for lead in the clear plastic 3-ring pencil pouches with blue (at 558 mg/kg lead for DT-28-16-10), purple (at 482 mg/kg lead for DT-28-17-10), and gray (at 530 mg/kg lead for DT-29-16-10) colors.

Study Results for 2019 Compared to Previous Results for Selected Products

School supply products tested in this 2019 study that appeared the same or similar to previously tested (2015, 2017, and 2018) school supply products were compared. Appendix E describes results for the comparison of the following school supplies:

- Disney Pixar Cars-Themed Pencil Pouches/Cases
- Inkology Pencil Pouches/Cases
- Dreamworks Trolls-Themed Pencil Pouches/Cases and School Supplies
- Cute Cat Pencil Pouches
- Marvel Ultimate Spiderman-Themed Pencil Pouches/Cases
- Monster High-Themed Pencil Pouches/Cases and School Supplies
- Cute Panda Pencil Pouches/Cases
- Plush Green Frog Pencil Pouches
- Shark Backpacks

Minor Edits to Data Presented in the Preliminary Data Set

Some minor edits to the data have occurred since the 2019 preliminary data were delivered. These include the names of the manufacturers, distributors, importers, and/or other sellers for online purchases; this was due to an error in the PTDB that prevented the export of this information. The function has been fixed, and the study information is exporting correctly from the PTDB.

Study Files (sent separately)

- Database Raw Data
- Web Screen Recordings
- Product Photos
- In-Store Photos

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- Washington State Office of the Attorney General (WA AGO), 2019. AG Ferguson: Amazon Must Remove Toxic School Supplies, Kid's Jewelry from Marketplace Nationwide. Release: May 9, 2019. <https://www.atg.wa.gov/news/news-releases/ag-ferguson-amazon-must-remove-toxic-school-supplies-kid-s-jewelry-marketplace>

Appendices

Appendix A. Quality Assurance Project Plan for 2019 Study

The following 12 pages is the:

School Supplies 2019: Addendum 4 Quality Assurance Project Plan, Phthalates and Metals in Children's Products.

In October 2019, this Addendum was posted to the web at

<https://fortress.wa.gov/ecy/publications/SummaryPages/1904018.html>

The following 12 pages include these sections:

- 3.0 Background
- 4.0 Study Description
- 5.0 Organization and Schedule
- 6.0 Quality Objectives
- 7.0 Study Design
- 8.0 Field Procedures
- 9.0 Laboratory Procedures
- 10.0 Quality Control Procedures
- 11.0 Management Procedures
- 12.0 Audits and Reports
- 15.0 References

School Supplies 2019

Addendum 4 to Quality Assurance Project Plan: Phthalates and Metals in Children's Products

Approved July 2019

Approved by:

Signature: _____ William Sherman, Client / Assistant Attorney General, AGO	Date: _____
Signature: _____ Kari Trumbull, Product Testing Project Manager, HWTR	Date: _____
Signature: _____ Kara Steward, <i>Acting</i> RTT Unit Supervisor, HWTR	Date: _____
Signature: _____ Ken Zarker, P2RA Section Manager, HWTR	Date: _____
Signature: _____ Samuel Iwenofu, Quality Assurance Coordinator, HWTR	Date: _____
Signature: _____ Alan Rue, Director, Manchester Environmental Laboratory, EAP	Date: _____
Signature: _____ Arati Kaza, Quality Assurance Officer, EAP	Date: _____

Signatures are not available on the Internet version.

Client: The party responsible for which professional services are rendered.

AGO: Washington State Attorney General's Office

HWTR: Hazardous Waste and Toxics Reduction Program (Department of Ecology)

RTT: Reducing Toxic Threats

P2RA: Pollution Prevention and Regulatory Assistance

EAP: Environmental Assessment Program (Department of Ecology)

3.0 Background

This document describes the 2019 plan to study lead and cadmium in school supplies. It is the fourth addendum to the Quality Assurance Project Plan: Phthalates and Metals in Children's Products (Stone, 2012). This fourth addendum will follow a sampling design similar to that used in Addendum 1 for Quality Assurance Project Plan: Phthalates and Metals in Children's Products (Stone, 2014).

It includes specific details employed during the

- School Supplies 2017, Addendum 2 to Quality Assurance Project Plan: Phthalates and Metals in Children's Products (Sekerak, 2017).
- School Supplies 2018, Addendum 3 to Quality Assurance Project Plan: Phthalates and Metals in Children's Products (Sekerak, 2018a).

4.0 Study Description

Beginning in July 2019, Ecology will purchase school supplies for analysis of lead and cadmium. Ecology will focus the purchasing effort on pencil pouches and pencil cases¹ and book covers tested in the 2015 (Trumbull et al., 2017), 2017, and 2018 studies. This 2019 study may also include investigations on other supplies marketed and sold as school supplies for use by a child 12 years old or younger. Ecology will purchase school supplies both online and in retail stores.

4.1 Study goals

This study aims to assess lead and cadmium concentrations in school supplies.

The data from this study will serve to:

- Provide 2019 supplementary data on pencil pouches/cases and book covers previously tested in 2015, 2017, and 2018.
- Provide additional data on pencil pouches/cases, book covers, and other products sold as school supplies not tested in an earlier study.

4.6 Tasks required

The study will include the following tasks:

- Purchase up to 200 school supply products available online and in retail stores in Washington State.
- Screen products for lead and cadmium using the X-ray fluorescence (XRF) analyzer.
- Send up to 76 product samples to Manchester Environmental Laboratory for analysis of lead and cadmium.
- Perform a quality assurance (QA) review on analytical data and database entries.
- Transfer initial findings to client.
- Write a technical memo to accompany the final data set documenting methods and data quality assessment.

¹ Pencil pouches and pencil cases will be collectively referred to as pencil pouches/cases for the remainder of this document.

5.0 Organization and Schedule

5.1 Key individuals and their responsibilities

Table 1. Organization of study staff and responsibilities.

Staff	Title	Responsibilities
William Sherman Attorney General's Office Phone: 206-442-4485	External Client	Along with other team staff, clarifies scope of the study. Provides review of the QAPP addendum and approves the final QAPP addendum.
Kari Trumbull RTT Unit HWTR Phone: 360-407-6093	Project Manager	Writes the QAPP addendum. Leads purchasing, product sampling strategy, prioritizing samples for lab analysis, sample processing, chain-of-custody, and transport of samples to/from the laboratory. Conducts QA review of lab data and PTDB study, analyzes and interprets all data, and enters lab data into PTDB. Writes the draft and final technical memo.
Chrissy Wiseman RTT Unit HWTR Phone: 360-407-7672	Project Assistant	Leads sample screening. Assists with purchasing, sample processing, and transport of samples to/from the laboratory. Tracks online purchases, including product packaging and packing receipts. Conducts QA review of internal product log-in.
Prajwol Tuladhar RTT Unit HWTR Phone: 360-407-6745	Project Assistant	Leads product data entry into internal PTDB and photographing products. Assists with purchasing, sample screening, sample processing, and chain-of-custody.
Kara Steward RTT Unit HWTR Phone: 360-407-6250	<i>Acting</i> Unit Supervisor	Approves the study scope and budget, provides internal review of the QAPP addendum, approves the final QAPP addendum, and tracks progress. Reviews the draft and final technical memo.
Ken Zarker P2RA HWTR Phone: 360-407-6724	Section Manager	Reviews the study scope and budget, reviews the draft QAPP addendum, and approves the final QAPP addendum.
Samuel Iwenofu P2RA HWTR Phone: 360-407-6346	HWTR Quality Assurance Coordinator	Reviews draft QAPP addendum and approves the final QAPP addendum.
Alan Rue Manchester Environmental Laboratory, EAP Phone: 360-871-8801	Lab Director	Reviews and approves the final QAPP addendum.
Arati Kaza EAP Phone: 360-407-6964	Ecology Quality Assurance Officer	Reviews draft QAPP addendum and approves the final QAPP addendum.

PTDB: Product Testing Database

RTT: Reducing Toxic Threats

P2RA: Pollution Prevention and Regulatory Assistance

HWTR: Hazardous Waste and Toxics Reduction Program

EAP: Environmental Assessment Program

5.4 Study schedule

Table 2. Schedule for completing product collection, data entry, and screening

Task	Due Date	Lead Staff
Product purchase complete	8/23/2019	Kari Trumbull
Product data entry complete	8/30/2019	Prajwol Tuladhar
Product screening complete	9/6/2019	Chrissy Wiseman
Internal product data entry QA complete	10/15/2019	Chrissy Wiseman

QA: Quality Assurance

Table 3. Schedule for sending samples to the lab and lab analysis

Task	Due Date	Lead Staff
Samples sent to lab complete	9/20/2019	Kari Trumbull
All laboratory analyses complete	10/23/2019	Dean Momohara

Table 4. Schedule for data and study reviews and data transfer to client

Task	Due Date	Lead Staff
Lab data QA reviewed	11/6/2019	Kari Trumbull
Lab data loaded into PTDB	11/6/2019	Kari Trumbull
PTDB study QA review complete	11/13/2019	Kari Trumbull
Preliminary data transfer to client	11/15/2019	Kari Trumbull

QA: Quality Assurance

PTDB: Product Testing Database

Table 5. Schedule for final technical memo

Task	Due Date	Lead Staff
Draft due to supervisor/peer reviewer	1/1/2020	Kari Trumbull
Draft due to publications coordinator	1/20/2020	Kari Trumbull
Technical memo due to AGO	2/10/2020	Kari Trumbull

AGO: Attorney General's Office

QA: Quality Assurance

PTDB: Product Testing Database

5.6 Budget and funding

The estimated study budget is displayed in Table 6 and 7. Funding for this study is provided by the AGO.

Table 6. Study budget for purchasing products

Products	No. Purchased	QC Samples*	Average \$ per Sample	Subtotal
School Supplies	200	0	\$10.00	\$2,000

Table 7. Study budget for lab analysis

Lab Analysis	No. of Samples	QC Samples*	\$ per Sample	Subtotal
Metals (lead, cadmium)	76	12	\$90.00	\$7,920

Study Total: \$9,920**

*Quality Control (QC) samples in this table are those not provided free of charge (matrix spike, matrix spike duplicate, duplicate)

Estimate based up to 200 purchased products and 76 samples plus 12 QC samples

+ Not to exceed \$10,000

6.0 Quality Objectives

All laboratory measurement quality objectives (MQOs) are as established in the original QAPP (Stone, 2012), consistent through the 2015, 2017, and 2018 studies, and are restated below (Table 8).

Table 8. Laboratory measurement quality objectives

Analyte	LCS (% recovery)	Matrix Spikes (% recovery)	Sample and LCS Duplicates (RPD)	Matrix Spike Duplicates (RPD)	Lowest Concentration of Interest (ppm)*
Metals (lead, cadmium)	85 - 115%	75 - 125%	≤ 20%	≤ 20%	1.0

LCS: Laboratory control sample

RPD: Relative percent difference

ppm: parts per million

*Cited as “Method Blanks” in original QAPP

7.0 Study Design

Product selection

Product selection of children's school supplies will remain consistent with the strategy used in 2017 and 2018. Ecology will consider purchasing products that are:

- Brightly colored.
- Decorated or embellished with features that might appeal to a child (age 12 years or younger).
- Contain childish themes, or are sized more appropriately for use by a child.

Online purchases

Ecology plans to:

- Purchase approximately (a maximum of) 120 of 200 children's school supply products from online sources.
- Prioritize purchasing school supply products that were found to contain lead or cadmium² in the previous 2015, 2017, and 2018 studies.

Retail store purchases

Ecology plans to:

- Purchase approximately (a maximum of) 80 of 200 children's school supplies from any retail store previously visited in the 2015, 2017, and 2018 studies.
- Collect products from retail stores in the weeks immediately following the July 4th holiday when retail stores increase types of merchandise geared toward the upcoming school year. For chain-type stores, the location of the store does not need to be consistent with those previously visited. An assessment of the retail store location will include vulnerable communities.
- Prioritize purchasing school supply products where lead or cadmium² were previously detected.
- Possibly investigate other school supply products not investigated previously after a reasonable effort has been made to collect the priority products.

² Detections above the Children's Safe Products Act limits of 90 ppm for lead and 40 ppm for cadmium are used to characterize a product as a priority target product.

Product screening

Ecology will screen products for lead and cadmium using a portable X-Ray Fluorescence (XRF) analyzer.

XRF screening will follow the PT Program SOP:

- PTP003 Standard Operating Procedures for the Operation of the Thermo Fisher Scientific Niton XL3t 700 X-Ray Fluorescence Analyzer (XRF), Version 1.1 (Sekerak, 2018b)

The procedures are consistent with those used in the 2018 study.

Ecology will use XRF results to prioritize specific component samples (for example, a metal zipper or fabric case material) to send for laboratory analysis. Multiple component samples, representing different components from one product, may be submitted to the laboratory for testing.

Ecology will prioritize component samples with XRF-confirmed lead or cadmium over component samples with no detected levels of lead and cadmium.

8.0 Field Procedures

8.2 Measurement and sampling procedures

Product collection and processing will follow the Product Testing Program SOP:

- PTP001 Sample Collection and Processing, Version 2.0 (Wiseman, 2018) The procedures are consistent with those used in the 2018 study.

8.8 Other activities

Web screen captures and web screen recordings will be collected during online purchasing using TechSmith Camtasia® Version 2018.0. This strategy is consistent with previous documentation during the 2017 and 2018 studies.

9.0 Laboratory Procedures

The procedures described below are consistent with those used in the 2017 and 2018 studies. Samples for this study will be prepared by the U.S. Environmental Protection Agency (EPA) method EPA 3052, less the addition of hydrofluoric acid. Analysis of lead and cadmium will be performed in accordance with EPA 6020B. This method replaces EPA 6020A, which was used in the original study.

In 2015 guidance was developed by the EPA for SW-846 analytical methods replacing the MDL methodology with a Lower Limit of Quantitation (LLOQ) methodology. LLOQ is the lowest concentration at which the laboratory has demonstrated target analytes can be reliably measured and reported with a certain degree of confidence, which must be greater than or equal to the lowest point in the calibration curve.

In early 2017 Manchester Environmental Laboratory (MEL) implemented this guidance and adopted the latest version of EPA method 6020: EPA 6020B, for the analysis of metals. The lowest concentration of interest (reporting limit; 1 ppm) for this study will not be adversely affected by this change in methodology.

10.0 Quality Control Procedures

10.1 Laboratory quality control

Table 9 displays the types, numbers, and frequency of quality control.

Table 9. Quality control

Analyte	Method Blank	Sample Duplicate	Laboratory Control Sample/ Laboratory Control Sample Duplicate*	Matrix Spike/ Matrix Spike Duplicate*
Metals (lead, cadmium)	1/batch	1/batch	1 set/batch	1 set/batch

Batch = 19 product samples³

*Either a laboratory control sample duplicate or a matrix spike duplicate will be selected for each batch.⁴

11.0 Management Procedures

11.1 Data recording and reporting requirements

Product login will follow the PT Database SOP:

- PTP002 Data Entry and Data Entry Quality Assurance, Version 2.0 (Wiseman, 2019) The procedures are consistent with those used in the 2018 study.

12.0 Audits and Reports

12.4 Responsibility for reports

At the earliest point possible after completion of the laboratory data review and the QA review of the PTDB data, the project manager will compile and send an initial preliminary data set, in CSV format, to the client.

A technical memo discussing the methods, data quality, and usability of the data will accompany the final data set transferred to the AGO. The data set will include spreadsheets of data, photos of products, screen captures, and screen-recording videos.

³ Batch sizes will be reduced to 19 client product samples to adjust for microwave prep method size limitations.

⁴ A batch size of 19 product samples can include only 5 QC for microwave prep method size limitations.

15.0 References

- Sekerak, S. 2017. School Supplies 2017, Addendum 2 to Quality Assurance Project Plan: Phthalates and Metals in Children's Products. Publication 17-03-114. Washington State Department of Ecology, Olympia, WA.
- Sekerak, S. 2018a. School Supplies 2018, Addendum 3 to Quality Assurance Project Plan: Phthalates and Metals in Children's Products. Publication 19-03-109. Washington State Department of Ecology, Olympia, WA.
- Sekerak, S. 2018b. Standard Operating Procedures for the Operation of the Thermo Fisher Scientific Niton XL3t 700 X-Ray Fluorescence Analyzer (XRF), Version 1.1. Internal Document No. PTP003. Washington State Department of Ecology, Olympia, WA.
- Stone, A. 2012. Quality Assurance Project Plan: Phthalates and Metals in Children's Products. Publication No. 12-07-023. Washington State Department of Ecology, Olympia, WA.
- Stone, A. 2014. Addendum #1 to Quality Assurance Project Plan: Phthalates and Metals in Children's Products. Publication No. 12-07-023a. Washington State Department of Ecology, Olympia, WA.
- Trumbull, K., Stone, A., Steward, K., and Winters, N. 2017. Children's Seasonal Products Report 2014-2015. Publication No. 16-04-029. Washington State Department of Ecology, Olympia, WA.
- Wiseman, C. 2018. Standard Operating Procedure for Consumer Product Sample Collection and Processing, Version 2.0. Document No. PTP001. Publication 18-04-018. Washington State Department of Ecology, Olympia, WA.
- Wiseman, C. 2019. Product Testing Database Standard Operating Procedure for Data Entry and Data Entry Quality Assurance, Version 2.0. Document No. PTP002. Publication 19-04-015. Washington State Department of Ecology, Olympia, WA.

Appendix B. Dollar Tree Environmental Justice Screening Process

The following assessment was performed by Teague Powell, a Research Analyst in the Department of Ecology (Ecology) Hazardous Waste and Toxics Reduction Program (teague.powell@ecy.wa.gov). A summary of the Environmental Justice (EJ) screening process with a table of results (Table B-1) was provided to Ecology’s project manager and included below. The project manager selected the highest result from cities in each of the four Ecology regions: Wapato (Central), Pasco (Eastern), Lakewood (Southwest), and Mount Vernon (Northwest).

The Dollar Tree EJ Screen process was as follows:

1. A list of Dollar Tree store locations was obtained from <https://www.dollartree.com/locations/wa/> on June 25, 2019.
2. A latitude and longitude were obtained by geocoding each store’s address using [Google Maps Platform’s API](#) (version 3).
3. The resulting coordinates were passed to [EPA’s EJ Screen API](#) (2018 Version) which returned demographic data for the surrounding areas based on the US Census Bureau’s 2012-2016 American Community Survey’s 5-Year Estimates. Dollar Tree locations were assigned an EJScreen demographic score according to the average of: *the percentage of households making less than or equal to twice the federal poverty line and the percentage of individuals who list their racial status as a race other than white alone*, expressed as a statewide percentile. For additional information, see [EPA’s EJScreen Technical Documentation](#).
4. The store addresses were also passed to the [US Census Bureau’s geocoding service API](#) to obtain the US Census tract associated with the location. This census tract was then used to provide language estimates based on the 2011-2015 American Community Survey’s 5-Year Estimates – Table B16001 — LANGUAGE SPOKEN AT HOME BY ABILITY TO SPEAK ENGLISH FOR THE POPULATION 5 YEARS AND OVER, assembled using the Census Bureau’s [American FactFinder Advanced Search Table Viewer](#) to access Table B16001 broken down by Washington State census tract level geography. Significant language issues were flagged for stores if more than 2% of the surrounding population spoke a language other than English and or spoke English “less than well.”

Glossary

Geocoding is the process of converting addresses (such as a street address) into geographic coordinates (like latitude and longitude), which you can use to place markers on a map, or position the map.

A Geocoding API ([Application Program Interface](#)) is a service that provides **geocoding** and reverse geocoding of addresses.

An **application programming interface (API)** is an [interface](#) or [communication protocol](#) between a [client and a server](#) intended to simplify the building of client-side software. It has been described as a “contract” between the client and the server, such that if the client makes a request in a specific format, it will always get a response in a specific format or initiate a defined action.

Table B-1. Summary of Dollar Tree Stores by city, including locations, with EJ Index higher than 80th percentile for the state and categorized by location served by a Washington State Department of Ecology Regional Office.

City	Dollar Tree Location	Ecology Region	EJ Index %ile for WA	Languages Spoken by >2% of Population
Wapato	109 W 1st St, Wapato, WA	CRO	99	Spanish
Grandview	614 East Wine Country Road, Grandview, WA	CRO	98	Spanish
Toppenish	300 W 1st Ave, Toppenish, WA	CRO	98	Spanish
Sunnyside	2660 Yakima Valley Hwy, Sunnyside, WA	CRO	97	Spanish
Pasco	1316 N 20th Ave, Pasco, WA	ERO	95	Spanish
Othello	1112 E Main St, Othello, WA	ERO	94	Spanish
Lakewood	5720 Lakewood Towne Center Blvd SW, Lakewood, WA	SWRO	89	Korean
Mount Vernon	220 E College Way, Mt Vernon, WA	NWRO	87	Spanish
Kent	10432 SE Kent-Kangley Rd, Kent, WA	NWRO	86	Spanish, Arabic, Other Indic, Other Slavic
Tacoma	9830 Pacific Ave, Tacoma, WA	SWRO	86	Spanish
Seattle	10014 15th Ave SW, Seattle, WA	NWRO	85	Vietnamese, Spanish, Other Pacific Islander, African
Omak	703 Omache Dr, Omak, WA	CRO	84	Spanish
Federal Way	31014 Pacific Hwy S, Federal Way, WA	NWRO	83	Spanish, Korean, African
Fife	1422 54th Ave E, Fife, WA	SWRO	83	Korean
Renton	1222 Bronson Way N, Renton, WA	NWRO	82	Vietnamese, Spanish
Burien	250 SW 152nd St, Burien, WA	NWRO	81	Spanish
East Wenatchee	620 Grant Rd, East Wenatchee, WA	CRO	81	Spanish, Arabic

CRO: Central Regional Office

ERO: Eastern Regional Office

NWRO: Northwest Regional Office

SWRO: Southwest Regional Office

Appendix C. Data Summaries for 2019 Study

Table C-1. Summary of items purchased, including locations, dates, costs, and quantity.

Retail name (purchase event ID)	Physical address or web address	Purchase date	Total cost of purchase (\$)	Number of products purchased	Number of products tested*
Walmart (WM-43)	Walmart.com	7/22/2019	190.80	19	7
Walmart (WM-44)	Walmart.com	7/24/2019	302.32	21	9
Walmart (WM-45)	Walmart.com	7/25/2019	263.71	18	7
Walmart (WM-46)	Walmart.com	7/26/2019	140.01	17	6
Amazon (AM-33)	Amazon.com	7/29/2019	405.69 [#]	19	13
Amazon (AM-34)	Amazon.com	7/29/2019	404.36 [#]	22	19
Dollar Tree (DT-26)	220 E. College Way, Ste 120, Store # 3072 Mount Vernon, WA 98273	7/31/2019	21.74	20	3
Dollar Tree (DT-27)	5720 Lakewood Towne Ctr Blvd SW, # B, Store #4094 Lakewood, WA 98499	7/31/2019	21.98	20	4
Dollar Tree (DT-28)	1316 North 20th Ave Store # 2957 Pasco, WA 99301	8/8/2019	21.72	20	4
Dollar Tree (DT-29)	109 West 1st Street Store # 7190 Wapato, WA 98951	8/8/2019	21.58	20	4
Walmart combined—Subtotal			896.84	75	29
Amazon combined—Subtotal			810.05 [#]	41	32
Dollar Tree combined—Subtotal			87.02	80	15
Totals			1,793.91	196	76

*One component was tested from one purchased product (each product may contain more than one item).

[#]Amazon.com Gift Cards from refunds issued from the purchase of school supply products in 2018 were used to purchase school supply products in 2019. Amazon purchase AM-33 was paid in full with \$404.69 from Amazon.com Gift Cards. Amazon purchase AM-34 was partially paid with \$204.65 of \$404.36 from Amazon.com Gift Cards. Amazon combined subtotal was paid by Amazon.com Gift Cards for \$610.34 of \$810.05.

Table C-2. Summary Results for School Supplies Study 2019.

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
WM-43-1-8	Cars City Scene Black Pencil Case #1—Internal Black Seam Tape	Disney Pixar	6940127820102	Walmart, Directwells	4,870	753	Attached tag with UPC; Code above UPC: C2010; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; Web address: https://www.walmart.com/ip/Disney-Car-Single-Zipper-Black-Pencil-Case/816013881
WM-43-2-8	Cars Nature Scene Blue Pencil Case #1—Internal White Seam Tape	Disney Pixar	6940127820102	Walmart, Directwells	4,160	918	Attached tag with UPC; Code above UPC: C2010; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; Web address: https://www.walmart.com/ip/Disney-Car-Single-Zipper-Blue-Pencil-Case/527580536
WM-43-5-8	Ultimate Spiderman Black Pencil Case #1—Internal Black Seam Tape	Marvel	6940127822663	Walmart, Directwells	537	149	Attached tag with UPC; Code above UPC: 9A-SPR; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; Web address: https://www.walmart.com/ip/Spiderman-Single-Zipper-Black-Pencil-Case/916877865
WM-43-9-14	Green Sneaker Pencil Pouch—Zipper	Inkology	838157004424	Walmart, Soapsplash, Inkology, Inc.	388	18.8	Attached tag with UPC; Item No. on tag: 442-4; Code on tag and internal label: F11071943 04/2015; Web address: https://www.walmart.com/ip/Inkology-Sneaker-Pouch-Solid-Light-Green/493646170
WM-43-10-15	Sad Cat #1 and Grumpy Cat #1 Pencil Pouches (Set of 2)—Grumpy Cat #1—Zipper	X-dolls	—	Walmart, Allydrew	767	7.31	2-pack set; Label attached to packaging: A70484; Web address: https://www.walmart.com/ip/ALLYDREW-Cat-Face-Pencil-Pouches-Kitty-Pencil-Holders-Cat-Pencil-Cases-3D-Cat-Cosmetic-Bags-set-of-2-Sad-Cat-Grumpy-Cat/353086311
WM-43-13-8	Gray Cat Pencil Pouch—Zipper	X-dolls	—	Walmart, Beauty and Beautiful, Shwe Tun	432	1.08	Label attached to packaging: FB17354B1, 10615713,3,RLT, DD3134003 (5-3); Web address: https://www.walmart.com/ip/Cute-Simulation-Cartoon-Cat-Soft-Cloth-Pencil-Case-School-Pen-Stationery-Bag-Gift/520068135
WM-43-14-8	Cute Cat Pencil Pouch #1—Zipper	Smiling Juju	—	Walmart, Smiling Juju	850	6.58	Label attached to packaging: KT 00075; Web address: https://www.walmart.com/ip/3D-Print-Smiling-Cat-Small-Purse-Pencil-Case-Pouch-KT00075-Super-Soft/586101707

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
WM-44-1-12	Cute White Panda Pencil Case #1—Zipper Composite	AKDSteel	—	Walmart, Manufacturing Consulting & Design Company Inc., EachBit Trade LLC	101	4.32	Label attached to packaging: PST_00V9YIZ6/E16-060-4, #1G20; Web address: https://www.walmart.com/ip/Pretty-Cute-White-Panda-Pencil-Case-Pouch-Box-Bag-for-Kids-Students-Office/584398519
WM-44-2-11	Cute Blue Lamb Pencil Case #1—Zipper Composite	KABOER	—	Walmart, Display Technology International, Shwe Tun	660	2.80	Label attached to packaging: OSS1921BL, 411L-1521/2, 2019-07-24 (3/3); Web address: https://www.walmart.com/ip/KABOER-Cute-Rabbit-Panda-Pen-Bag-kawaii-cartoonpouch-purse-cute-kids-pencil-case-gift/723262114
WM-44-4-7	White Panda Pencil Case—Zipper	Fancyleo	—	Walmart, Fancyleo, Shwe Tun	678	2.46	Label attached to packaging: OSS5832H01, 404L-0422/2; Web address: https://www.walmart.com/ip/Fancyleo-Panda-Series-Pencil-Case-Office-Stationery-Holder-Zipper-Bag/506062130
WM-44-5-1	Gray Shark Backpack #1—Light Gray Material	—	—	Walmart, New Orleans Gift, Shwe Tun	564	97.5	Label on packaging: GWQ80723471GYS, [C10X34D3-02], 190727132409568001; Web address: https://www.walmart.com/ip/Child-Baby-Girl-Boy-Kids-Cartoon-Shark-Animal-Backpack-2019hotsales-Toddler-School-Bag/673771998
WM-44-6-1	Black Shark Backpack #1—Black Material	—	—	Walmart, New Orleans Gift, Shwe Tun	1,260	11.9	Label attached to packaging: GWQ80723471BKL, [C10X34D3-03], 190721164400015006; Web address: https://www.walmart.com/ip/Child-Baby-Girl-Boy-Kids-Cartoon-Shark-Animal-Backpack-Toddler-School-Bag/110435390
WM-44-8-8	Trolls Family Pencil Case #1—Internal White Seam Tape	Dreamworks	4714127515076	Walmart, S-Shopper, DreamWorks Animation LLC	377	77.6	Attached tag with UPC; Code above UPC: 9A-TRO; Licensed by Pustaka Sri Dunia Sdn. Bhd.; Web address: https://www.walmart.com/ip/Dreamworks-Trolls-Family-Girls-Pencil-Case-Pouch-Green/625512225
WM-44-9-8	Trolls Poppy Pencil Case #1—Internal White Seam Tape	Dreamworks	4714127515076	Walmart, S-Shopper, DreamWorks Animation LLC	382 J	78.3 J	Attached tag with UPC; Code above UPC: 9A-TRO; Licensed by Pustaka Sri Dunia Sdn. Bhd.; Web address: https://www.walmart.com/ip/Dreamworks-Trolls-Poppy-Girls-Pencil-Case-Pouch-Pink/566037536

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
WM-44-14-2	Trolls Character Blue Pencil Case—Blue Case Material	Dreamworks	6927219880183	Walmart, Directwells, DWA LLC	2,440	9.53	Attached tag with UPC; Web address: https://www.walmart.com/ip/Trolls-Character-Authentic-Licensed-Single-Zipper-Blue-Pencil-Case/496670689
WM-44-15-2	Trolls Character Purple Pencil Case—Purple Case Material	Dreamworks	6927219880183	Walmart, Directwells, DWA LLC	3,060	1.08	Attached tag with UPC; Web address: https://www.walmart.com/ip/Trolls-Character-Authentic-Licensed-Single-Zipper-Purple-Pencil-Case/792210208
WM-45-1-2	Cars London WGP Red Pencil Case—Red Case Material	Disney Pixar	6931190811173	Walmart, Directwells	2,940	8.06	The Cars graphic on pencil case received was different than the image displayed on the product when purchased online; Attached tag with UPC; Licensed by Dynamic International Co., Ltd.; Web address: https://www.walmart.com/ip/Disney-Cars-Single-Zipper-Red-Pencil-Case/368149556
WM-45-2-8	Coco Blue Pencil Case—Internal Black Seam Tape	Disney Pixar	6940127824551	Walmart, Directwells	7,330	765	Attached tag with UPC; Code above UPC: 9A-CC; Code on packaging and internal label: 170828; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; Web address: https://www.walmart.com/ip/Disney-Coco-Single-Zipper-Navy-Pencil-Case/776012728
WM-45-3-8	Princess Beautiful as a Rose Pink Pencil Case—Internal White Seam Tape	Disney	4714127515458	Walmart, Directwells	396	84.9	Attached tag with UPC; Code above UPC: 9A-Princess; Licensed by Pustaka Sri Dunia Sdn. Bhd.; Web address: https://www.walmart.com/ip/Disney-Princess-Pencil-Case-Pouch-Bag/628017279
WM-45-4-1	Cat Blue Canvas Pencil Pouch—Tan Cat Material	—	—	Walmart, Electronics Dist, Dept NJ #11W69	1,640	1.64	Label on packaging: 1548107, 4745669; Web address: https://www.walmart.com/ip/Coofit-Creative-Cute-Canvas-Cat-Pencil-Case-with-Zipper-Pencil-Pouch-Storage-Bag-School-Learnng-Gifts-for-Baby-Kids-Child-Boys-Girls/976928721

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
WM-45-9-7	Shopkins Sprinkle Party Backpack and Pencil Pouch—Backpack—Blue Side and Back Material	Shopkins	840716179382	Walmart, Open and Clothing, Fast Forward New York	3,070	5.36	Product contained: 1 backpack, 1 pencil pouch; Attached tag with UPC for set; Code above UPC: KNCF36RS; Licensed by Moose Enterprise (Int.) Pty. Ltd., 2013; Choking hazard warning on tag; Code on internal tag: BK014, 03-2017, Batch# F17-297; Web address: https://www.walmart.com/ip/Girls-Shopkins-Backpack-16-Sprinkle-Party-with-Pencil-Case-Miss-Sprinkles/542337196
WM-45-12-8	Frozen Pink Pencil Case—Internal White Seam Tape	Disney	6940127820102	Walmart, RC LLC, Shipping Department	482	83.2	Attached tag with UPC; Code above UPC: 9A-FRZ; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; Code on internal label: 140314-01; Web address: https://www.walmart.com/ip/Disney-Frozen-Anna-Elsa-Olaf-Pencil-Cases-Pouch-Zipper-Pink-Blue-Snow-Queen-1pc/660603068
WM-45-13-2	SpongeBob Squarepants Yellow Pencil Case—Yellow Case Material	Nickelodeon	4714670042890	Walmart, S-Shopper	1,970	44.8	Attached tag with UPC; Code above UPC: BVSP-9A-28; Web address: https://www.walmart.com/ip/Disney-Spongebob-Squarepants-Pencil-Case-Pouch-Bag/839036803
WM-46-1-8	Blue and Orange 3-Ring Pencil Pouches—Orange Pouch—Orange Material	Mr. Pen	853126008593	Walmart, Mr. Pen	2,060	68.9	Label on Package with UPC; Web address: https://www.walmart.com/ip/Pouch-Orange-Case-Mr-Zippered-Zipper-Bags-Bider-Bags-Blue-Pouch-Canvas-Ring-Pencil-2-3-Pen-Pockets-Fabric-Pouches/239882450
WM-46-2-43	Pink 3-Ring Pencil Pouches (6 Pieces)—Pouch #1—Zipper	—	—	Walmart, Electronics Dist, Dept NJ #11W69	584	1.02	Label on packaging: @989989@05-20 1, 4960176/604/B-85087, 600; Web address: https://www.walmart.com/ip/Pouch-Pcs-Fountain-Adults-Binder-Pens-2-Compartments-Organizer-Art-Bag-Mesh-Pencil-Marker-Zipper-Kids-Crayon-Canvas-3-Carrying-6-Ring-Pouch-Wa/415006502
WM-46-3-1	Blue Camouflage Pencil Case—Blue Camouflage Material	—	—	Walmart, Electronics Dist, Dept NJ #11W69	892	56.9	Label on packaging: @1062428 @07-19 1, 693, 5185670/685/; Web address: https://www.walmart.com/ip/Student-Nylon-Camouflage-Zipper-Pen-Bag-Pencil-Case-Stationery-Pouch-Organizer/143865362

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
WM-46-8-3	Monster High Black Pencil Case #1—Purple Back Material	Mattel	4714670059058	Walmart, S-Shopper, Shinn Jee Enterprise Co., Ltd.	2,540	2.78	Attached tag with UPC; Code below UPC: BVMH-9A-41; Web address: https://www.walmart.com/ip/Monster-High-Pencil-Case-Pouch-Bag/659164421
WM-46-14-2	My Little Pony Chase Your Dreams Pencil Case—Purple Case Material	Mattel	4714127515212	Walmart, Directwells	2,300	1.00 U	Attached tag with UPC; Code above UPC: 9A-MLP; Licensed by Pustaka Sri Dunia Sdn. Bhd.; Web address: https://www.walmart.com/ip/MY-LITTLE-PONY-PENCIL-CASE-POUCH-PURPLE/878308195
WM-46-17-2	Assorted Colors 3-Ring Pencil Pouches (2 Pieces)—Black Pouch—Clear Plastic Material	—	721003023079	Walmart, All Top Bargains, Regent Products Corp.	1.00 U	490	Received black and gray pencil pouches. The seller selected and sent two colors from six different colors shown online. Attached tag with UPC; UPC same on black and gray pencil pouches; Code below UPC: MFG:1803-7683; Code on tag: G02307N; Web address: https://www.walmart.com/ip/2-Pencil-Zipper-Pouch-3-Ring-Binder-Bag-Pen-Marker-Storage-Holder-Scholl-Supply/216554346
AM-33-1-35	Black Shark Backpack with USB Outlet #1—Upper Zipper Pull Composite	DC. Meilun	—	Amazon, YOYOShome, Yan You	294	1.00 U	Attached tag with no UPC; Codes on tag: M735, QB/T 1333-2010, GB18401-2010, RMB:199; ASIN: B00UBWN6JY
AM-33-2-21	Trolls Family Backpack and Lunch Bag #1—Backpack—Internal White Seam Tape	Dreamworks	4714127515120	Amazon, Kids World of Toys, DreamWorks Animation LLC	426	72.8	Product contained: 1 backpack, 1 lunch bag. Attached tag with UPC for backpack: 4714127515120; Code above UPC for backpack: 13A-TRO; Code below UPC for backpack: 180326; Attached tag with UPC for lunch bag: 4714127515106; Code above UPC for lunch bag: 8A-TRO; Licensed by Pustaka Sri Dunia Sdn. Bhd.; ASIN: B01N1PKD1Y
AM-33-4-15	Trolls Poppy Round Pencil Case—Black Piping	Dreamworks	8427934942404	Amazon, Amazon Global Store UK, DreamWorks Animation LLC	5,760	29.7	Label on packaging with UPC; Code above UPC: REF 2100001804; Attached tags; ASIN: B06XPZYVYQ

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
AM-33-5-2	Monster High Black Pencil Case #2—Black Side Material	Mattel	4714670059058	Amazon, Koola Inc., Shinn Jee Enterprise Co., Ltd.	2,110	12.3	Attached tag with UPC; Code below UPC: BVMH-9A-41; ASIN: B07T2QTRQN
AM-33-6-39	Monster High Backpack Set (3 Pieces)—Lunch Bag—Internal Black Seam Tape	Mattel	4714670059096	Amazon, Koola Inc., Shinn Jee Enterprise Co., Ltd.	4,690	716	Product contained: 1 backpack, 1 lunch bag, 1 pencil case; Attached tags with different UPCs for each item; UPC for backpack: 4714670059096; Code below UPC for backpack: BVMH-136A-41; UPC for lunch bag: 4714670059041; Code below UPC for lunch bag: BVMH-8A-41; UPC for pencil case: 4714670059058; Code below UPC for pencil case: BVMH-9A-41; ASIN: B07T2PMGMT
AM-33-7-3	Trolls Family Backpack and Lunch Bag #2—Backpack—Trolls Graphic Upper Side Material	Dreamworks	4714127515120	Amazon, Low Price Queen, DreamWorks Animation LLC	1,180	1.00 U	Product contained: 1 backpack, 1 lunch bag. Attached tag with UPC for backpack: 4714127515120; Code above UPC for backpack: 13A-TRO; Code below UPC for backpack: 180326; Attached tag with UPC for lunch bag: 4714127515106; Code above UPC for lunch bag: 8A-TRO; Licensed by Pustaka Sri Dunia Sdn. Bhd.; ASIN: B01N1PKD1Y
AM-33-8-8	Ultimate Spiderman Black Pencil Case #2—Internal Black Seam Tape	Marvel	6940127822663	Amazon, Papa N Me Store	4,400	944	Attached tag with UPC; Code below UPC: 9A-SPR; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; ASIN: B01AYNMFPO
AM-33-9-2	Ultimate Spiderman Red Pencil Case—Red Case Material	Marvel	6940127822663	Amazon, Papa N Me Store	3,260	30.5	Attached tag with UPC; Code below UPC: 9A-SPR; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; ASIN: B07TZ6RWBN
AM-33-11-1	Gray Shark Backpack #2—Light Gray Material	—	—	Amazon, Sanmomo	537	95.6	Label on packaging: GWQ80723471GYS, [C10X34D3-02], 190727132422440003; ASIN: B07TGJV6XM
AM-33-13-9	Plush Green Frog Pencil Pouch—Zipper	Nici	—	Amazon, Love Emily, Yang Jinhua, NICI GmbH	454	5.48	No label on packaging or attached tag; ASIN: B00MLVX792

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
AM-33-14-34	Trolls Family Backpack and Lunch Bag #3—Lunch Bag—Internal White Seam Tape	Dreamworks	4714127515120	Amazon, Granny's Best Deals, DreamWorks Animation LLC	495	119	Product contained: 1 backpack, 1 lunch bag. Attached tag with UPC for backpack: 4714127515120; Code above UPC for backpack: 13A-TRO; Code below UPC for backpack: 180326; Attached tag with UPC for lunch bag: 4714127515106; Code above UPC for lunch bag: 8A-TRO; Licensed by Pustaka Sri Dunia Sdn. Bhd.; ASIN: B01N1PKD1Y
AM-33-17-8	Ultimate Spiderman Black Pencil Case #3—Internal Black Seam Tape	Marvel	6940127822663	Amazon, FOUR-SEASONS-STORE	4,300	911	Attached tag with UPC; Code above UPC 9A-SPR; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; ASIN: B01AYNMFPO
AM-33-19-1	Black Shark Backpack with USB Outlet #2—Black Backpack Material	—	—	Amazon, UPSTORE, Amazon Fulfillment Services	1,730	5.58	Label on packaging: X001WXDZ11; ASIN: B07J4Y7HFT
AM-34-1-8	Cars City Scene Black Pencil Case #2 and Stationary Set—Pencil Case—Internal Black Seam Tape	Disney Pixar	6940127820102	Amazon, 2 Brothers Unlimited	3,640	741	Attached tag with UPC; Code above UPC: C2010; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; ASIN: B00UWKRZLO
AM-34-2-4	Cute White Panda Pencil Case #4—Black Feet and Ear Material	—	—	Amazon, QingSongBNJ, Guangzhou Huan Yi Trade Co., Ltd	1,630	219	No label on packaging or attached tag; ASIN: B07Q7YXLJ4
AM-34-3-12	Cute Cat Pencil Pouch #2—Zipper	X-dolls	—	Amazon, IBluelover, Dept. CA #42	548	1.59	Label on packaging: A8-04-002, BI-DAI-000063; ASIN: B07MXGPNGL
AM-34-4-14	Black Sneaker Pencil Pouch—Zipper	Sil Interiors	5024418704836	Amazon, The Home Fusion Company	584	2.87	Attached tag with UPC; Code below UPC: ST7130, PO/27174; Statement on tag: For Adult Use Only; ASIN: B00H969UJU
AM-34-5-12	Cute White Panda Pencil Case #5—Zipper Composite	—	—	Amazon, Bleu-Moo, Cao Xiang Xiang	113	4.02	Label on packaging: 07300959182637, SPC7846A; ASIN: B07VRCDTYV

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
AM-34-6-63	Cute White Panda #6 and #7, Pink Rabbit #2 and #3, Blue Lamb #3 and #4 Pencil Cases—Rabbit #3—Zipper Composite	—	—	Amazon, Karseemee Store, Vincent Wang	689	4.22	No label on packaging or attached tag; ASIN: B07TC5J3LT
AM-34-7-8	Cars Nature Scene Blue Pencil Case #2 and Stationary Set—Pencil Case—Internal White Seam Tape	Disney Pixar	6940127820102	Amazon, Jossy's New Arrivals	508	133	Attached tag with UPC; Code above UPC: C2010; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; ASIN: B00UWN8N2C
AM-34-9-1	Purple 3-Ring Pencil Pouch (2 Pack)—Pouch #1—Purple Pouch Material	Boonafit	—	Amazon, Boonafit	2,010	20.7	No label on packaging or attached tag with UPC or code; ASIN: B07KZLS4S9
AM-34-10-2	Cars Round Pencil Case—Black Side Case Material	Disney Pixar	8414778542754	Amazon, Amazon Global Store UK	55.6	7.58	UPC Label on packaging, attached tag, and product; Code above UPC: REF 54275; ASIN: B06XQMQG82
AM-34-11-2	Blue Glitter Sneaker Pencil Pouch—Brown Sole Material	Wedo	4003801857473	Amazon, Amazon Global Store UK, Werner Dorsch GmbH	1,480	114	Label on packaging with UPC; Code above UPC: 242 6157903; ASIN: B01C2TV4RO
AM-34-12-6	Sesame Street Elmo Blue Pencil Case #2—Blue Metal Zipper Slider	123 Sesame Street	4718733158849	Amazon, L&B Bows and More, Amazon Fulfillment Services	46.2	4.66	Label on packaging: X001P9LF4L; Attached tag with UPC; Code above UPC: 9A-ELMO; DungJin listed on tag; Front of tag: 12+; TM/copyright 2011 Sesame Workshop; ASIN: B007URXCVO
AM-34-13-53	Assorted Pink and Yellow with Dots and Hearts 3-Ring Pencil Pouches (8 Pieces)—Pink Dot Pouch #2—Pink Material	Inkology	838157004295	Amazon, Amazon Fulfillment Services, Inkology, Inc.	2,110	10.8	Attached tag with UPC and internal label are identical for all eight 3-ring pencil pouches; Item No. 429-5; Code below UPC on tag and on internal label: F11281994 04/2014; ASIN: B00LU0WE5I

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
AM-34-14-2	Cars Champion Red and Cars Champion Black Pencil Cases—Red Case—Red Case Material	Disney Pixar	6927219880220	Amazon, Kids World of Toys	1,030	45.2	Label on packaging: X00269J4IN; Attached tag with UPC identical for both pencil cases; Licensed by Dynamic International Co., Ltd.; ASIN: B07N1ZJ5F5
AM-34-15-8	Cars City Scene Black Pencil Case #3 and Stationary Set—Pencil Case—Internal Black Seam Tape	Disney Pixar	6940127820102	Amazon, Kids World of Toys	3,800	783	Label on packaging: X001TLK93X; Attached tag with UPC: Code above UPC: C2010; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; ASIN: B00UWKRZLO
AM-34-16-8	Cars Nature Scene Blue Pencil Case #3 and Stationary Set—Pencil Case—Internal White Seam Tape	Disney Pixar	6940127820102	Amazon, Kids World of Toys	488	136	Label on packaging: X001TLK90L; Attached tag with UPC; Code above UPC: C2010; Mirage is listed as a registered trademark on tag; Choking hazard warning on tag; ASIN: B00UWN8N2C
AM-34-17-22	Pink, Black, and Red Boot Pencil Pouches (6 Pieces)—Red Boot #1—Red Plastic Pouch Material	Inkology	838157004622	Amazon, Amazon Fulfillment Services, Inkology, Inc.	1,260	1.00 U	Attached tag with UPC and internal label are identical for all six boot pencil pouches; Item No. on tag: 462-2; Code below UPC and on internal label: F01111952 04/2015; ASIN: B014SYTRDY
AM-34-18-28	Assorted Colors 3-Ring Pencil Pouches (4 Pack of 6 Colors)—Orange Pouch—Orange Material	—	—	Amazon, Edis Direct Sales, Amazon Fulfillment Services	1,550	120	Label on packaging: X001LQMICB; ASIN: B072BVKNNG
AM-34-19-1	Purple Glitter Flip Flop Shoe Pencil Pouch—Purple Glitter Front Material	Inkology	838157004547	Amazon, Amazon Fulfillment Services, Inkology, Inc.	614	1.00 U	Attached tag with UPC; Item # 454-7; Choking hazard warning on tag; ASIN: B00DOIE78G

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
AM-34-21-9	Assorted Pink and Yellow with Dots and Hearts Pencil Cases (12 Pieces)—Pink Heart Case #1—Pink Material	Inkology	838157004288	Amazon, Amazon Fulfillment Services, Inkology, Inc.	2,770	19.8	Attached tag with UPC and internal label are identical for all twelve pencil cases; Item No. 428-8; Code below UPC on tag and on internal label: F11281994 04/2015; Pink cases were received in individual plastic packages while yellow cases were not; ASIN: B014SYTQXA
DT-26-5-13	Black Double Zipper 3-Ring Pencil Pouch #1—Zipper Composite	Jot	639277407979	Greenbrier International Inc.	785 J	2.13	Code on label: 164338-12702-004-011519
DT-26-7-1	Orange Double Zipper 3-Ring Pencil Pouch #1—Orange Material	Jot	639277407979	Greenbrier International Inc.	887	179	Code on label: 164338-12702-004-011519
DT-26-14-2	Green and Clear Plastic 3-Ring Pencil Pouch #1—Clear Plastic Material	Jot	639277721433	Greenbrier International Inc.	1.00 U	203	Code on label: 182374-12702-004-011519
DT-27-5-8	Green Camo 3-Ring Pencil Pouch—Metal Grommet (3 Pieces)	Jot	639277093721	Greenbrier International Inc.	354	1.00 U	Code on label: 219095-10959-001-041018
DT-27-6-8	Light Blue Graphic 3-Ring Pencil Pouch—Metal Grommet (3 Pieces)	Jot	639277093721	Greenbrier International Inc.	222	1.00 U	Code on label: 219095-10959-001-041018
DT-27-16-8	Light Pink Pattern Pencil Pouch—Zipper	Jot	639277721419	Greenbrier International Inc.	23.9	3.22	Code on label: 292522-08807-095-042819
DT-27-17-8	Multicolor Pattern Pencil Pouch—Zipper	Jot	639277721419	Greenbrier International Inc.	27.8	3.41	Code on label: 292522-08807-095-042819

Component ID	Product Component Description	Brand	UPC Number	Companies Associated (distributors, importers, manuf., etc.)	Lead (mg/kg)	Cadmium (mg/kg)	Product Notes
DT-28-8-1	Red Double Zipper 3-Ring Pencil Pouch #1—Red Material	Jot	639277407979	Greenbrier International Inc.	931	64.1	Code on label: 164338-12702-004-011519
DT-28-16-10	Blue and Clear Plastic 3-Ring Pencil Pouch #1—Zipper	Jot	639277721433	Greenbrier International Inc.	558	1.20	Code on label: 182374-12702-004-011519
DT-28-17-10	Purple and Clear Plastic 3-Ring Pencil Pouch #1—Zipper	Jot	639277721433	Greenbrier International Inc.	482	2.03	Code on label: 182374-12702-004-011519
DT-28-18-2	Pink and Clear Plastic 3-Ring Pencil Pouch #1—Clear Plastic Material	Jot	639277721433	Greenbrier International Inc.	1.00 U	200	Code on label: 182374-12702-004-011519
DT-29-2-1	Blue Double Zipper 3-Ring Pencil Pouch #3—Blue Material	Jot	639277407979	Greenbrier International Inc.	797	58.6	Code on label: 164338-12702-004-011519
DT-29-5-1	Green Double Zipper 3-Ring Pencil Pouch #2—Green Material	Jot	639277407979	Greenbrier International Inc.	752	94.9	Code on label: 164338-12702-004-011519
DT-29-15-2	Black and Clear Plastic 3-Ring Pencil Pouch #2—Clear Plastic Material	Jot	639277721433	Greenbrier International Inc.	1.00 UJ	368 J	Code on label: 182374-12702-004-011519
DT-29-16-10	Gray and Clear Plastic 3-Ring Pencil Pouch #2—Zipper	Jot	639277721433	Greenbrier International Inc.	530	1.39	Code on label: 182374-12702-004-011519

Bold=Detections above CSPA limits (90 mg/kg lead, 40 mg/kg cadmium); UPC=Universal Product Code; ASIN=Amazon Standardized Identification Number; U=Analyte was not detected at or above the reported result; UJ=Analyte was not detected at or above the reported result and the reported result is an estimate; J=Analyte was positively identified and the reported result is an estimate.

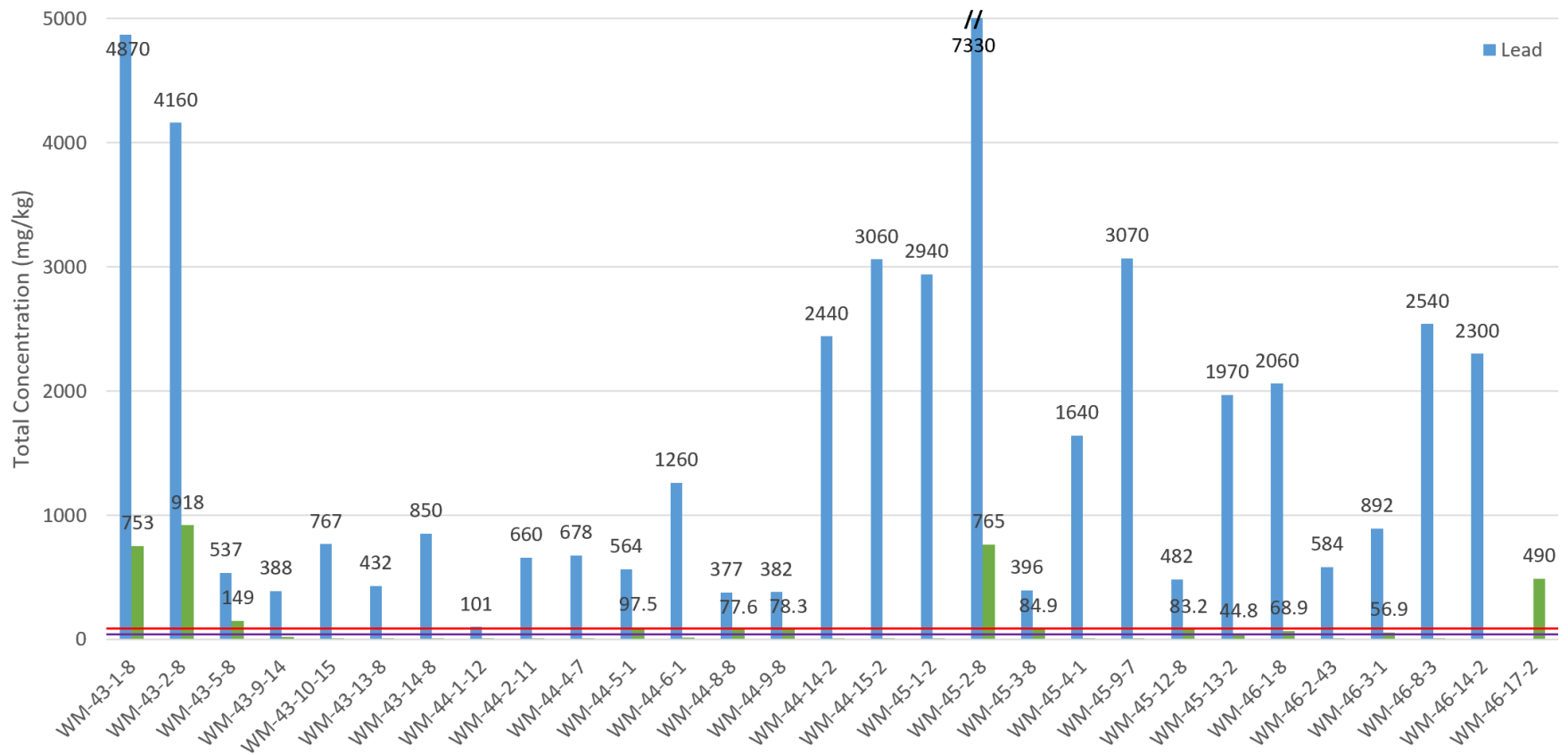


Figure C-1. Summary chart for Walmart products by product component.

// = lead concentrations for WM-45-2-8 exceeded the displayed y-axis upper limit. Red horizontal line = Children's Safe Products Act (CSPA) lead limit of 90 mg/kg. Purple horizontal line = CSPA cadmium limit of 40 mg/kg.

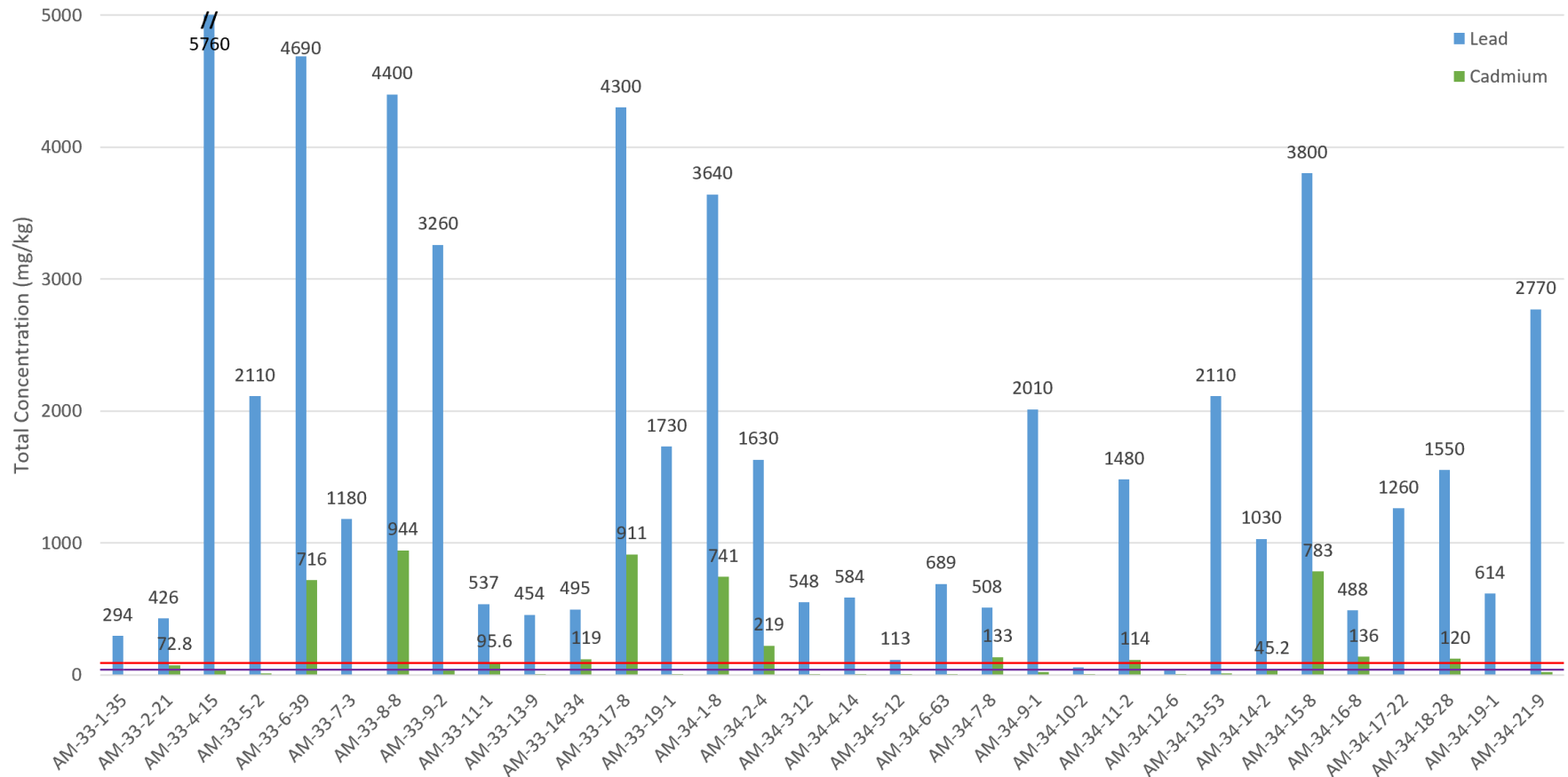


Figure C-2. Summary chart for Amazon products by product component.

// = lead concentrations for AM-33-4-15 exceeded the displayed y-axis upper limit. Red horizontal line = Children’s Safe Products Act (CSPA) lead limit of 90 mg/kg. Purple horizontal line = CSPA cadmium limit of 40 mg/kg.

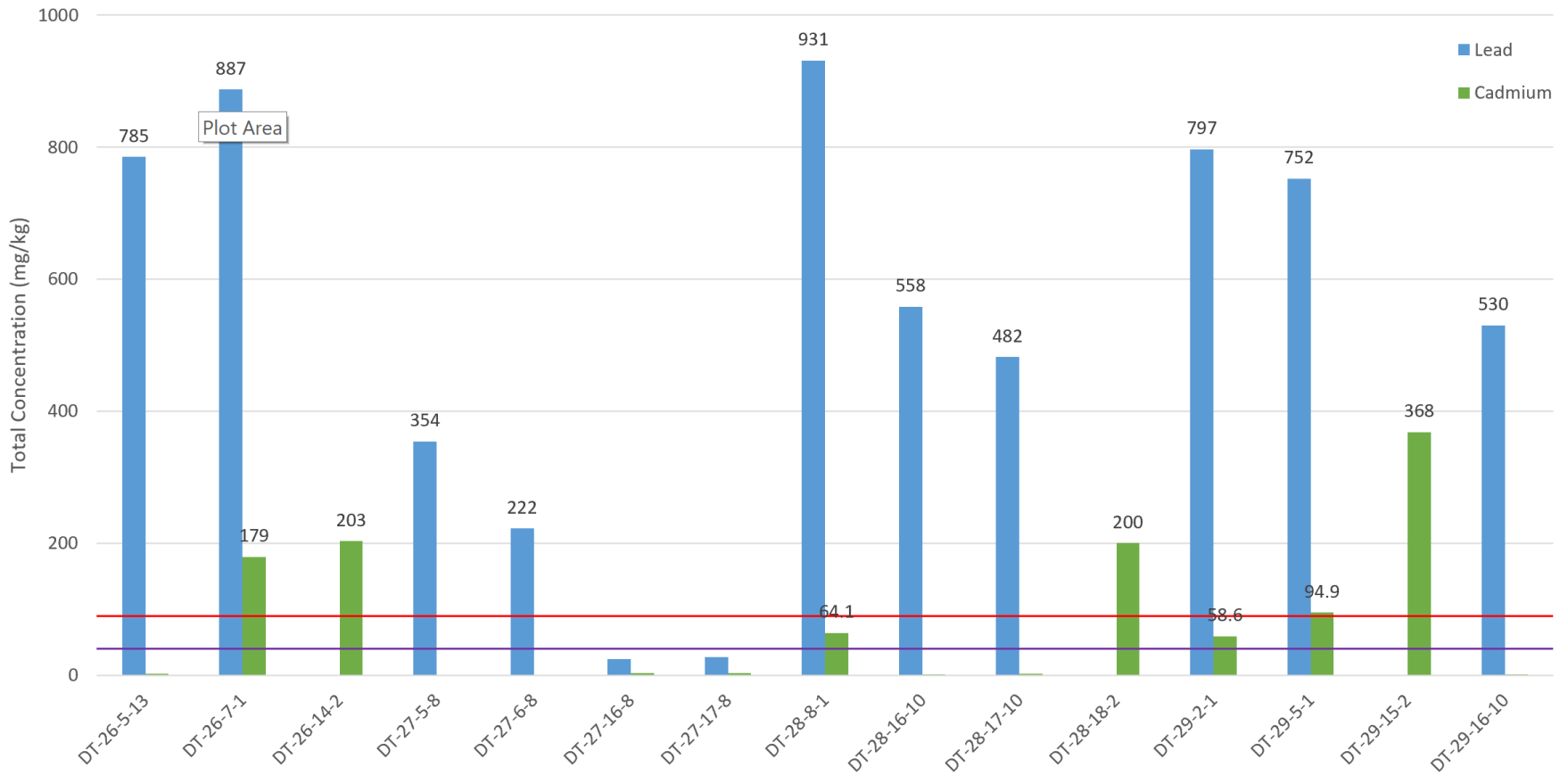


Figure C-3. Summary chart for Dollar Tree products by product component.

Red horizontal line = Children’s Safe Products Act (CSPA) lead limit of 90 mg/kg. Purple horizontal line = CSPA cadmium limit of 40 mg/kg.

Table C-3. Comparison of a subset of data from 2017, 2018, and 2019 results for Cars-themed pencil pouches/cases (2019 data are a subset of data presented in Table C-2).

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
School Supplies—2017	Amazon, Smileworkshop	Mirage	Cars Pencil Pouch 2-Pack—Black Seam Tape	6940127820102 ASIN Unknown	AM-16-7-3 (1711023-26)	3510	736
School Supplies—2017	Amazon, Smileworkshop	Mirage	Cars Pencil Pouch 2-Pack—White Seam Tape	6940127820102 ASIN Unknown	AM-16-7-13 (1711023-30)	474	137
School Supplies—2018	Amazon, Kids World of Toys, Disney/Pixar	Mirage	Cars Single Zipper Blue Pencil Pouch—White Seam Tape	6940127820102 ASIN: B00IQY9MC4	AM-24-2-3 (1811050-39)	538	137
School Supplies—2018	Amazon, FOUR-SEASONS-STORE, Disney/Pixar	Mirage	Cars Single Zipper Black Pencil Pouch—Black Seam Tape	6940127820102 ASIN Unknown	AM-24-3-3 (1811050-41)	3930	766
School Supplies—2018	FOUR-SEASONS-STORE, Amazon, Disney/Pixar	Mirage	Cars Single Zipper Blue Pencil Pouch—White Seam Tape	6940127820102 ASIN Unknown	AM-24-4-3 (1811050-40)	507	135
School Supplies—2019	Walmart, Directwells	Disney Pixar*	Cars City Scene Black Pencil Case #1—Internal Black Seam Tape	6940127820102 No ASIN	WM-43-1-8 (1909050-53)	4,870	753
School Supplies—2019	Walmart, Directwells	Disney Pixar*	Cars Nature Scene Blue Pencil Case #1—Internal White Seam Tape	6940127820102 No ASIN	WM-43-2-8 (1909050-52)	4,160	918
School Supplies—2019	Amazon, 2 Brothers Unlimited	Disney Pixar*	Cars City Scene Black Pencil Case #2 and Stationary Set—Pencil Case—Internal Black Seam Tape	6940127820102 ASIN: B00UWKRZLO	AM-34-1-8 (1909050-35)	3,640	741
School Supplies—2019	Amazon, Jossy’s New Arrivals	Disney Pixar*	Cars Nature Scene Blue Pencil Case #2 and Stationary Set—Pencil Case—Internal White Seam Tape	6940127820102 ASIN: B00UWN8N2C	AM-34-7-8 (1909050-34)	508	133
School Supplies—2019	Amazon, Kids World of Toys	Disney Pixar*	Cars City Scene Black Pencil Case #3 and Stationary Set—Pencil Case—Internal Black Seam Tape	6940127820102 ASIN: B00UWKRZLO	AM-34-15-8 (1909050-32)	3,800	783
School Supplies—2019	Amazon, Kids World of Toys	Disney Pixar*	Cars Nature Scene Blue Pencil Case #3 and Stationary Set—Pencil Case—Internal White Seam Tape	6940127820102 ASIN: B00UWN8N2C	AM-34-16-8 (1909050-31)	488	136

*Mirage is listed as a registered trademark on the tag.

ASIN = Amazon Standardized Identification Number.

Bold = Detections above CSPA limits (90 mg/Kg lead, 40 mg/Kg cadmium). UPC = Universal Product Code.

Table C-4. Comparison of a subset of data from 2015, 2017, 2018, and 2019 results for Inkology pencil pouches/cases (2019 data are a subset of data presented in Table C-2).

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
Back to School—2015	Shopko	Inkology	Pink Heart Pencil Pouch—Pink Fabric	838157004295 No ASIN	SK-6-5-1 (1509092-17)	3840	10.6
School Supplies—2017	Shopko	Inkology	Pink Heart Pencil Pouch—Pink Outer Material	838157004295 No ASIN	SK-13-4-1 (1711023-46)	2080	10.9
School Supplies—2017	Amazon	Inkology	Pink Pencil Pouch with Hearts – Pink Material	838157004295 ASIN Unknown	AM-17-8-1 (1711023-40)	1.24	1.00 U
School Supplies—2018	Amazon, Clique Deals, Amazon Fulfillment Services	Inkology	Pink Pencil Pouch with Dots—Pink Outer Material	838157004295 ASIN: B00LU0ZHPC	AM-24-10-1 (1811033-03)	1.57	1.00 U
School Supplies—2018	Amazon, Amazon Fulfillment Services	Inkology	Pink Pencil Pouch with Dots—Pink Outer Material	838157004295 ASIN: B00LU0ZHPC	AM-24-11-1 (1811033-02)	1.50	1.00 U
School Supplies—2018	Amazon, Your Online Solutions, Amazon Fulfillment Services	Inkology	Pink Pencil Pouch with Hearts—Pink Outer Material	838157004295 ASIN: B00LU0ZHPC	AM-24-12-1 (1811033-04)	1.28	1.00 U
School Supplies—2018	Amazon, Amazon Fulfillment Services	Inkology	Pink Pencil Pouch with Hearts—Pink Outer Material	No UPC ASIN: B00LU0ZHPC	AM-24-13-1 (1811033-05)	1.26	1.00 U
School Supplies—2019	Amazon, Amazon Fulfillment Services	Inkology	Assorted Pink and Yellow with Dots and Hearts 3-Ring Pencil Pouches (8 Pieces)—Pink Dot Pouch #2—Pink Material	838157004295 ASIN: B00LU0WE5I	AM-34-13-53 (1909050-05)	2110	10.8
School Supplies—2017	Amazon	Inkology	Round Pink Pencil Pouch with Hearts—Pink Material	838157004288 ASIN Unknown	AM-17-7-1 (1711023-44)	2410	19.4
School Supplies—2018	Amazon, Amazon Fulfillment Services	Inkology	Round Pink Pencil Pouch with Hearts – Pink Material	838157004288 ASIN: B014SYTNE2	AM-25-2-1 (1811033-01)	2940	20.6
School Supplies—2019	Amazon, Amazon Fulfillment Services	Inkology	Assorted Pink and Yellow with Dots and Hearts Pencil Cases (12 Pieces)—Pink Heart Case #1—Pink Material	838157004288 ASIN: B014SYTQXA	AM-34-21-9 (1909050-01)	2770	19.8
Back to School—2015	Office Depot	Inkology	[Glitter Blue] Shoe Pencil Pouch—Zipper Pull	838157004424 No ASIN	OD-3-37-2 (1509092-13)	474	16.4
School Supplies—2017	Amazon	Inkology	Glitter Blue Sneaker Pencil Pouch – Zipper Pull	838157004424 ASIN Unknown	AM-18-2-8 (1711023-08)	361 J	20.4

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
School Supplies—2018	Amazon, Amazon Fulfillment Services	Inkology	Sneaker Pencil Pouch 12 Pack—Glitter Blue Sneaker Zipper Pulls (Pull Composite from 2 Pouches)	838157004424 ASIN: B014STYRXE	AM-24-18-3 (1810044-65)	534	27.4
School Supplies—2018	Amazon, Amazon Fulfillment Services	Inkology	Sneaker Pencil Pouch 12 Pack—Green Sneaker Zipper Pulls (Pull Composite from 2 Pouches)	838157004424 ASIN: B014STYRXE	AM-24-18-9 (1810044-66)	616	22.2
School Supplies—2019	Walmart, Soapsplash	Inkology	Green Sneaker Pencil Pouch—Zipper	838157004424 No ASIN	WM-43-9-14 (1909050-76)	388	18.8

ASIN = Amazon Standardized Identification Number.

Bold = Detections above CSPA limits (90 mg/kg lead, 40 mg/kg cadmium).

J = Analyte was positively identified. The reported result is an estimate.

U = Analyte was not detected at or above the reported result.

UPC = Universal Product Code.

Table C-5. Comparison of a subset of data from 2017, 2018, and 2019 results for Trolls-themed school supplies (2019 data are a subset of data presented in Table C-2).

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
School Supplies—2017	Amazon	Dreamworks	Pink Trolls Family Girls Pencil Case—White Internal Trim	4714127515076 No ASIN Recorded	AM-16-5-7 (1711023-32)	385	82.2
School Supplies—2018	Amazon, Kids World of Toys	Dreamworks	Trolls Family Backpack with Pencil Case—Pencil Case—White Seam Tape	4714127515076 ASIN: B01MQTAERQ	AM-25-10-7 (1810044-44)	401	79.8
School Supplies—2018	Amazon, Kids World of Toys	Dreamworks	Trolls Family Backpack with Pencil Case—Lunch Bag—Seam Tape	4714127515106 ASIN: B01MQTAERQ	AM-25-10-17 (1810044-55)	400	82
School Supplies—2018	Amazon, Kids World of Toys	Dreamworks	Trolls Family Backpack with Pencil Case—Backpack—White Seam Tape	4714127515120 ASIN: B01MQTAERQ	AM-25-10-33 (1810044-52)	547	106
School Supplies—2018	Amazon, Granny's Best Deals	Dreamworks	Trolls Family Backpack with Pencil Case—Pencil Case—White Seam Tape	4714127515076 ASIN: B01MQTAERQ	AM-26-3-7 (1810044-45)	537	137
School Supplies—2018	Amazon, Granny's Best Deals	Dreamworks	Trolls Family Backpack with Pencil Case—Lunch Bag—Seam Tape	4714127515106 ASIN: B01MQTAERQ	AM-26-3-17 (1810044-54)	553	107
School Supplies—2018	Amazon, Granny's Best Deals	Dreamworks	Trolls Family Backpack with Pencil Case—Backpack—White Seam Tape	4714127515120 ASIN: B01MQTAERQ	AM-26-3-33 (1810044-53)	394	82
School Supplies—2018	Amazon, 5StarsService	Dreamworks	Trolls Family Pencil Case Set of 2—Dark Pink Case—White Seam Tape	4714127515076 ASIN: B01MUE7FA5	AM-26-5-7 (1810044-48)	371	74.6
School Supplies—2018	Amazon, 5StarsService	Dreamworks	Trolls Family Pencil Case Set of 2—Light Pink Case—White Seam Tape	4714127515076 ASIN: B01MUE7FA5	AM-26-5-14 (1810044-49)	382	78.1
School Supplies—2018	Amazon, Kids World of Toys	Dreamworks	Trolls Family Pencil Case Set of 2—Dark Pink Case—White Seam Tape	4714127515076 ASIN: B01MUE7FA5	AM-26-2-7 (1810044-46)	316	65.8
School Supplies—2018	Amazon, Kids World of Toys	Dreamworks	Trolls Family Pencil Case Set of 2—Light Pink Case—White Seam Tape	4714127515076 ASIN: B01MUE7FA5	AM-26-2-14 (1810044-47)	396	80.4
School Supplies—2019	Walmart, S-Shopper	Dreamworks	Trolls Family Pencil Case #1—Internal White Seam Tape	4714127515076 No ASIN	WM-44-8-8 (1909050-50)	377	77.6
School Supplies—2019	Walmart, S-Shopper	Dreamworks	Trolls Poppy Pencil Case #1—Internal White Seam Tape	4714127515076 No ASIN	WM-44-9-8 (1909050-49)	382 J	78.3 J
School Supplies—2019	Amazon, Kids World of Toys	Dreamworks	Trolls Family Backpack and Lunch Bag #1—Backpack—Internal White Seam Tape	4714127515120 ASIN: B01N1PKD1Y	AM-33-2-21 (1909050-41)	426	72.8
School Supplies—2019	Amazon, Granny's Best Deals	Dreamworks	Trolls Family Backpack and Lunch Bag #3—Lunch Bag—Internal White Seam Tape	4714127515106 ASIN: B01N1PKD1Y	AM-33-14-34 (1909050-37)	495	119

ASIN = Amazon Standardized Identification Number. **Bold** = Detections above CSPA limits (90 mg/kg lead, 40 mg/kg cadmium). J = Analyte was positively identified. The reported result is an estimate. UPC = Universal Product Code.

Table C-6. Comparison of a subset of data from 2017, 2018, and 2019 results for cute cat pencil pouches and similar cat pencil pouches (2019 data are a subset of data presented in Table C-2).

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
School Supplies—2017	Amazon, Phroboxl	Phroboxl	Cute Cat Pencil Pouch—Zipper Pull	No UPC ASIN Unknown	AM-16-16-5 (1711023-01)	750	8.24
School Supplies—2018	Amazon, Funny Live	Funny Live	Cute Cat Pencil Pouch Set of 2—Zipper Composite	No UPC ASIN: B073NDT2BG	AM-25-8-9 (1810044-80)	380	2.05
School Supplies—2019	Walmart, Smiling Juju	Smiling Juju	Cute Cat Pencil Pouch #1—Zipper	No UPC No ASIN	WM-43-14-8 (1909050-73)	850	6.58
School Supplies—2019	Amazon, IBluelover	X-dolls	Cute Cat Pencil Pouch #2—Zipper	No UPC ASIN: B07MXGPNGL	AM-34-3-12 (1909050-58)	548	1.59
School Supplies—2019	Walmart, Allydrew	X-dolls	Sad Cat #1 and Grumpy Cat #1 Pencil Pouches (Set of 2)—Grumpy Cat #1—Zipper	No UPC No ASIN	WM-43-10-15 (1909050-75)	767	7.31
School Supplies—2019	Walmart, Beauty and Beautiful	X-dolls	Gray Cat Pencil Pouch—Zipper	No UPC No ASIN	WM-43-13-8 (1909050-74)	432	1.08

ASIN = Amazon Standardized Identification Number.

Bold = Detections above CSPA limits (90 mg/Kg lead, 40 mg/Kg cadmium).

UPC = Universal Product Code.

Table C-7. Comparison of a subset of data from 2017, 2018, and 2019 results for Spiderman-themed pencil pouches/cases (2019 data are a subset of data presented in Table C-2).

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
School Supplies—2017	Amazon, Dreamshop 14	Mirage	Spiderman Pencil Pouch 2-Pack—Red Material	6940127822663 ASIN Unknown	AM-16-8-2 (1711023-43)	2790	41.0
School Supplies—2017	Amazon, Dreamshop 14	Mirage	Spiderman Pencil Pouch 2-Pack—Black Material	6940127822663 ASIN Unknown	AM-16-8-8 (1711023-54)	31.2	3.35
School Supplies—2017	Amazon, Dreamshop 14	Mirage	Spiderman Pencil Pouch 2-Pack—Black Seam Tape on the Black Pouch	6940127822663 ASIN Unknown	AM-16-8-12 (1711023-24)	4130	922
School Supplies—2018	Amazon, Kids World of Toys	Mirage	Red Spiderman Single Zipper Pencil Pouch—Red Material	6940127822663 ASIN: B01AYNMFPU	AM-26-1-2 (1811033-06)	3020	44.4
School Supplies—2018	Amazon, Kids World of Toys	Mirage	Red Spiderman Single Zipper Pencil Pouch—White Seam Tape	6940127822663 ASIN: B01AYNMFPU	AM-26-1-6 (1811050-38)	425	80.0
School Supplies—2019	Amazon, Papa N Me Store	Marvel	Ultimate Spiderman Red Pencil Case—Red Case Material	6940127822663 ASIN: B07TZ6RWBN	AM-33-9-2 (1909050-11)	3260	30.5
School Supplies—2019	Walmart, Directwells	Marvel	Ultimate Spiderman Black Pencil Case #1—Internal Black Seam Tape	6940127822663 No ASIN	WM-43-5-8 (1909050-51)	537	149
School Supplies—2019	Amazon, Papa N Me Store	Marvel	Ultimate Spiderman Black Pencil Case #2—Internal Black Seam Tape	6940127822663 ASIN: B01AYNMFPO	AM-33-8-8 (1909050-38)	4400	944
School Supplies—2019	Amazon, Four Seasons Store	Marvel	Ultimate Spiderman Black Pencil Case #3—Internal Black Seam Tape	6940127822663 ASIN: B01AYNMFPO	AM-33-17-8 (1909050-36)	4300	911

ASIN = Amazon Standardized Identification Number. **Bold** = Detections above CSPA limits (90 mg/Kg lead, 40 mg/Kg cadmium). UPC = Universal Product Code.

Table C-8. Comparison of a subset of data from 2018 and 2019 results for Monster High-themed pencil pouches/cases and school supplies (2019 data are a subset of data presented in Table C-2).

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
School Supplies—2018	Amazon, Koola Inc.	Mattel	Monster High Girls Pencil Pouch—Seam Tape	4714670059058 ASIN: B07FWMFNMN	AM-25-1-9 (1810044-50)	3660	1150
School Supplies—2019	Walmart, S-Shopper	Mattel	Monster High Black Pencil Case #1—Purple Back Material	4714670059058 No ASIN	WM-46-8-3 (1909050-19)	2540	2.78
School Supplies—2019	Amazon, Koola Inc.	Mattel	Monster High Black Pencil Case #2—Black Side Material	4714670059058 ASIN: B07T2QTRQN	AM-33-5-2 (1909050-13)	2110	12.3
School Supplies—2019	Amazon, Koola Inc.	Mattel	Monster High Backpack Set (3 Pieces)—Lunch Bag—Internal Black Seam Tape	4714670059041 ASIN: B07T2PMGMT	AM-33-6-39 (1909050-39)	4690	716

ASIN = Amazon Standardized Identification Number.

Bold = Detections above CSPA limits (90 mg/Kg lead, 40 mg/Kg cadmium).

UPC = Universal Product Code.

Table C-9. Comparison of a subset of data from 2018 and 2019 results for Cute White Panda pencil cases and similar animal-style pencil cases (2019 data are a subset of data presented in Table C-2).

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
School Supplies—2018	Amazon, Gbell	—	Cute Panda Pencil Case—Black Pouch Material	No UPC ASIN: B07D7TZL5N	AM-27-2-2 (1811050-30)	1010	129
School Supplies—2018	Amazon, Gbell	—	Cute Panda Pencil Case—Front Zipper	No UPC ASIN: B07D7TZL5N	AM-27-2-9 (1810044-78)	289	3.67
School Supplies—2019	Walmart, Manufacturing Consulting & Design Company Inc.	AKDSteel	Cute White Panda Pencil Case #1—Zipper Composite	No UPC No ASIN	WM-44-1-12 (1909050-72)	101	4.32
School Supplies—2019	Amazon, QingSongBNJ	—	Cute White Panda Pencil Case #4—Black Feet and Ear Material	NO UPC ASIN: B07Q7YXLJ4	AM-34-2-4 (1909050-08)	1630	219
School Supplies—2019	Amazon, Bleu-Moo	—	Cute White Panda Pencil Case #5—Zipper Composite	No UPC ASIN: B07VRCDTYV	AM-34-5-12 (1909050-56)	113	4.02
School Supplies—2019	Walmart, Display Technology International	KABOER	Cute Blue Lamb Pencil Case #1—Zipper Composite	NO UPC No ASIN	WM-44-2-11 (1909050-71)	660	2.8
School Supplies—2019	Amazon, Karseemee Store	—	Cute White Panda #6 and #7, Pink Rabbit #2 and #3, Blue Lamb #3 and #4 Pencil Cases—Rabbit #3—Zipper Composite	No UPC ASIN: B07TC5J3LT	AM-34-6-63 (1909050-55)	689	4.22

ASIN = Amazon Standardized Identification Number.

Bold = Detections above CSPA limits (90 mg/Kg lead, 40 mg/Kg cadmium).

UPC = Universal Product Code.

Table C-10. Comparison of a subset of data from 2017, 2018, and 2019 results for Plush Green Frog pencil pouches (2019 data are a subset of data presented in Table C-2).

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
School Supplies—2017	Amazon	Ladaidra	Plush Green Frog Pencil Pouch—Frog Eye	No UPC ASIN Unknown	AM-17-9-2 (1711023-28)	3500	1.00 U
School Supplies—2018	Amazon, YOURNELO	YOURNELO	Plush Green Frog Pencil Pouch—Frog Eye	No UPC ASIN: B078TD1G62	AM-24-7-2 (1810044-43)	8560	1.44 U
School Supplies—2018	Amazon, rainandbow	Nici	Plush Green Frog Pencil Pouch—Frog Eye	No UPC ASIN: B00TCKMQLU	AM-24-8-2 (1810044-42)	7930	1.01 U
School Supplies—2019	Amazon, Love Emily	Nici	Plush Green Frog Pencil Pouch—Zipper	No UPC ASIN: B00MLVX792	AM-33-13-9 (1909050-59)	454	5.48

ASIN = Amazon Standardized Identification Number.

Bold = Detections above CSPA limits (90 mg/Kg lead, 40 mg/Kg cadmium).

U = Analyte was not detected at or above the reported result.

UPC = Universal Product Code.

Table C-11. Comparison of a subset of data from 2018 and 2019 results for Black Shark backpacks and similar shark backpacks (2019 data are a subset of data presented in Table C-2).

Study Name	Purchased From	Brand	Product Component Description	UPC Number & ASIN	Component ID (Lab ID)	Lead (mg/kg)	Cadmium (mg/kg)
School Supplies—2018	Amazon, Figaro Gift Shop	Artone	Black Shark Backpack—Black Material	No UPC ASIN: B06XDFRLQJ	AM-28-1-1 (1811033-25)	885	4.58
School Supplies—2018	Amazon, Figaro Gift Shop	Artone	Black Shark Backpack—Metal Zipper Pull	No UPC ASIN: B06XDFRLQJ	AM-28-1-23 (1810044-79)	842	57.3
School Supplies—2018	Amazon, SAMAZ SUPER	SAMAZ	Black Shark Backpack—Black Material	No UPC ASIN: B01JKTVL3G	AM-28-6-1 (1811033-24)	2780	35.6
School Supplies—2018	Amazon, SAMAZ SUPER	SAMAZ	Black Shark Backpack—Red Mouth Material	No UPC ASIN: B01JKTVL3G	AM-28-6-3 (1811033-26)	2030	5.00
School Supplies—2019	Walmart, New Orleans Gift	—	Black Shark Backpack #1—Black Material	No UPC No ASIN	WM-44-6-1 (1909050-28)	1260	11.9
School Supplies—2019	Amazon, YOYOShome	DC. Meilun	Black Shark Backpack with USB Outlet #1—Upper Zipper Pull Composite	No UPC ASIN: B00UBWN6JY	AM-33-1-35 (1909050-60)	294	1.00 U
School Supplies—2019	Amazon, UPSTORE	—	Black Shark Backpack with USB Outlet #2—Black Backpack Material	No UPC ASIN: B07J4Y7HFT	AM-33-19-1 (1909050-09)	1730	5.58
School Supplies—2019	Walmart, New Orleans Gift	—	Gray Shark Backpack #1—Light Gray Material	No UPC No ASIN	WM-44-5-1 (1909050-29)	564	97.5
School Supplies—2019	Amazon, Sanmomo	—	Gray Shark Backpack #2—Light Gray Material	No UPC ASIN: B07TGJV6XM	AM-33-11-1 (1909050-10)	537	95.6

ASIN = Amazon Standardized Identification Number.

Bold = Detections above CSPA limits (90 mg/Kg lead, 40 mg/Kg cadmium).

U = Analyte was not detected at or above the reported result.

UPC = Universal Product Code.

Appendix D. Case Narratives and Data Summaries from Manchester Environmental Laboratory

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Manchester Environmental Laboratory
7411 Beach Drive E, Port Orchard, Washington 98366

Case Narrative - Metals

Amended: November 13, 2019 Original: October 23, 2019

Project: School Supplies Study 2019

Work Order: 1909050

Project
Manager: Trumbull, Kari

By: Dean Momohara *D.M.*

Summary

The laboratory followed EPA 3052 for the preparation and EPA 6020B for the analysis of metals.

The digestion for sample 42 was incomplete.

The analysis requested was evaluated by established regulatory quality assurance guidelines.

Sample Information

The samples were received at the Manchester Laboratory on 10/4/2019. The samples were received in good condition. Seventy six samples were received and assigned laboratory identification numbers 01 to 76.

Holding Times

The laboratory performed the analysis within its hold time.

Calibration

The instrument was calibrated following the appropriate method. All initial and continuing calibration verification checks were within the acceptance limits. All initial and continuing calibration blank checks were within the acceptance limits. All standard residuals were within acceptance limits. The r-value was within acceptance limits.

The instrument was calibrated with a NIST traceable standard and verified to be in calibration with a second source NIST traceable standard.

Method Blanks

No analytically significant levels of analyte were detected in the method blanks associated with these samples.

Laboratory Control Samples

All laboratory control sample recoveries were within the acceptance limits.

Replicates (Section amended on 11/13/2019, amendments underlined)

Except for the duplicates for samples 49 and 68, all other duplicate relative percent differences (RPD) of samples with concentrations greater than 5 times the reporting limit were within the acceptance limit.

The duplicate RPDs for sample 49 for cadmium and lead and 68 for lead was greater than the acceptance limit. The source samples and duplicates were qualified as estimates.

Matrix Spikes

All matrix spike (MS) recoveries were within the acceptance limits except for lead.

Both MS/MSD recoveries for samples 40 and 68 for lead were outside of the acceptance limits. The standard spiking level was insufficient for the elevated concentration in the source sample therefore the recoveries were not evaluated.

Internal Standards

All internal standard recoveries were within the acceptance limits.

Other Quality Assurance Measures and Issues

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

bold - The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Please call Dean Momohara at (360) 871-8808 to further discuss this project.

cc: Project File

Manchester Environmental Laboratory
7411 Beach Drive E, Port Orchard, Washington 98366

Case Narrative - Metals

October 23, 2019

Project: School Supplies Study 2019

Work Order: 1909050

Project
Manager: Trumbull, Kari

By: Dean Momohara
Dr

Summary

The laboratory followed EPA 3052 for the preparation and EPA 6020B for the analysis of metals.

The digestion for sample 42 was incomplete.

The analysis requested was evaluated by established regulatory quality assurance guidelines.

Sample Information

The samples were received at the Manchester Laboratory on 10/4/2019. The samples were received in good condition. Seventy six samples were received and assigned laboratory identification numbers 01 to 76.

Holding Times

The laboratory performed the analysis within its hold time.

Calibration

The instrument was calibrated following the appropriate method. All initial and continuing calibration verification checks were within the acceptance limits. All initial and continuing calibration blank checks were within the acceptance limits. All standard residuals were within acceptance limits. The r-value was within acceptance limits.

The instrument was calibrated with a NIST traceable standard and verified to be in calibration with a second source NIST traceable standard.

Method Blanks

No analytically significant levels of analyte were detected in the method blanks associated with these samples.

Laboratory Control Samples

All laboratory control sample recoveries were within the acceptance limits.

Replicates

Except for the duplicates for samples 49 and 60, all other duplicate relative percent differences (RPD) of samples with concentrations greater than 5 times the reporting limit were within the acceptance limit.

The duplicate RPDs for sample 49 for cadmium and 68 for lead was greater than the acceptance limit. The source samples and duplicates were qualified as estimates.

Matrix Spikes

All matrix spike (MS) recoveries were within the acceptance limits except for lead.

Both MS/MSD recoveries for samples 40 and 68 for lead were outside of the acceptance limits. The standard spiking level was insufficient for the elevated concentration in the source sample therefore the recoveries were not evaluated.

Internal Standards

All internal standard recoveries were within the acceptance limits.

Other Quality Assurance Measures and Issues

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

bold - The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Please call Dean Momohara at (360) 871-8808 to further discuss this project.

cc: Project File

**Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Cadmium**

Project Name: School Supplies Study 2019

**Project Officer: Trumbull, Kari
Work Order: 1909050
Analyte: Cadmium**

**Prep Method: SW3052
Prepared: 10/10/19
Batch ID: B19J047**

**Analysis Method: SW6020B
Units: mg/Kg ww**

Sample #	Sample ID	Result	Qualifier	RL	Matrix	Collected	Analyzed
1909050-30	AM-34-17-22	1.00	U	1.00	Plastic	09/26/19	10/22/19
1909050-31	AM-34-16-8	136		1.00	Plastic	09/25/19	10/22/19
1909050-32	AM-34-15-8	783		1.00	Plastic	09/25/19	10/22/19
1909050-33	AM-34-11-2	114		1.00	Plastic	09/25/19	10/22/19
1909050-34	AM-34-7-8	133		1.00	Plastic	09/25/19	10/22/19
1909050-35	AM-34-1-8	741		1.00	Plastic	09/25/19	10/22/19
1909050-36	AM-33-17-8	911		1.00	Plastic	09/26/19	10/22/19
1909050-37	AM-33-14-34	119		1.00	Plastic	09/26/19	10/22/19
1909050-38	AM-33-8-8	944		1.00	Plastic	09/26/19	10/22/19
1909050-39	AM-33-6-39	716		1.00	Plastic	09/27/19	10/22/19
1909050-40	AM-33-4-15	29.7		1.00	Plastic	10/01/19	10/22/19
1909050-41	AM-33-2-21	72.8		1.00	Plastic	09/27/19	10/22/19
1909050-42	DT-29-15-2	368		1.00	Plastic	09/27/19	10/22/19
1909050-43	DT-28-18-2	200		1.00	Plastic	09/27/19	10/22/19
1909050-44	DT-26-14-2	203		1.00	Plastic	09/27/19	10/22/19
1909050-45	WM-46-17-2	490		1.00	Plastic	10/01/19	10/22/19
1909050-46	WM-45-12-8	83.2		1.00	Plastic	10/01/19	10/22/19
1909050-47	WM-45-3-8	84.9		1.00	Plastic	10/01/19	10/23/19
1909050-48	WM-45-2-8	765		1.00	Plastic	10/01/19	10/22/19

QC Results for Batch ID: B19J047

Method Blank	Sample ID	Result	Qualifier	RL	MDL
B19J047-BLK1	Blank	1.00	U	1.00	0.027

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B19J047-BS1	LCS	89.9	80.0			112	85-115		
B19J047-DUP1	Duplicate	138		1909050-34	133			3	20
B19J047-MS1	Matrix Spike	110	79.7	1909050-40	29.7	101	75-125		
B19J047-MSD1	Matrix Spike Dup	112	79.4	1909050-40	29.7	103	75-125	1	20

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Release Date: 10/28/19

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**Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Cadmium**

Project Name: School Supplies Study 2019

**Project Officer: Trumbull, Kari
Work Order: 1909050
Analyte: Cadmium**

**Prep Method: SW3052
Prepared: 10/14/19
Batch ID: B19J084**

**Analysis Method: SW6020B
Units: mg/Kg ww**

Sample #	Sample ID	Result	Qualifier	RL	Matrix	Collected	Analyzed
1909050-54	AM-34-12-6	4.66		1.00	Metal	09/25/19	10/22/19
1909050-55	AM-34-6-63	4.22		1.00	Metal	09/26/19	10/22/19
1909050-56	AM-34-5-12	4.02		1.00	Metal	09/26/19	10/22/19
1909050-57	AM-34-4-14	2.87		1.00	Metal	09/26/19	10/22/19
1909050-58	AM-34-3-12	1.59		1.00	Metal	09/26/19	10/22/19
1909050-59	AM-33-13-9	5.48		1.00	Metal	09/26/19	10/22/19
1909050-60	AM-33-1-35	1.00	U	1.00	Metal	09/26/19	10/22/19
1909050-61	DT-29-16-10	1.39		1.00	Metal	09/27/19	10/22/19
1909050-62	DT-28-17-10	2.03		1.00	Metal	09/27/19	10/22/19
1909050-63	DT-28-16-10	1.20		1.00	Metal	09/27/19	10/22/19
1909050-64	DT-27-17-8	3.41		1.00	Metal	09/27/19	10/22/19
1909050-65	DT-27-16-8	3.22		1.00	Metal	09/27/19	10/22/19
1909050-66	DT-27-6-8	1.00	U	1.00	Metal	09/27/19	10/22/19
1909050-67	DT-27-5-8	1.00	U	1.00	Metal	09/27/19	10/22/19
1909050-68	DT-26-5-13	2.13		1.00	Metal	09/27/19	10/22/19
1909050-69	WM-46-2-43	1.02		1.00	Metal	10/01/19	10/22/19
1909050-70	WM-44-4-7	2.46		1.00	Metal	10/01/19	10/22/19
1909050-71	WM-44-2-11	2.80		1.00	Metal	10/01/19	10/22/19
1909050-72	WM-44-1-12	4.32		1.00	Metal	10/01/19	10/22/19

QC Results for Batch ID: B19J084

Method Blank	Sample ID	Result	Qualifier	RL	MDL
B19J084-BLK1	Blank	1.00	U	1.00	0.027

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B19J084-BS1	LCS	85.4	80.0			107	85-115		
B19J084-DUP1	Duplicate	3.09		1909050-57	2.87			7	20
B19J084-MS1	Matrix Spike	80.5	75.8	1909050-68	2.13	103	75-125		
B19J084-MSD1	Matrix Spike Dup	83.7	78.7	1909050-68	2.13	104	75-125	4	20

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Release Date: _____ *10/28/19*

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**Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Cadmium**

Project Name: School Supplies Study 2019

Project Officer: Trumbull, Kari	Prep Method: SW3052	Analysis Method: SW6020B
Work Order: 1909050	Prepared: 10/21/19	Units: mg/Kg ww
Analyte: Cadmium	Batch ID: B19J096	

Sample #	Sample ID	Result	Qualifier	RL	Matrix	Collected	Analyzed
1909050-20	WM-46-3-1	56.9		1.00	Fabric	10/01/19	10/22/19
1909050-21	WM-46-1-8	68.9		1.00	Fabric	10/01/19	10/22/19
1909050-22	WM-45-13-2	44.8		1.00	Fabric	10/01/19	10/22/19
1909050-23	WM-45-9-7	5.36		1.00	Fabric	10/01/19	10/22/19
1909050-24	WM-45-4-1	1.64		1.00	Fabric	10/01/19	10/22/19
1909050-25	WM-45-1-2	8.06		1.00	Fabric	10/01/19	10/22/19
1909050-26	WM-44-15-2	1.08		1.00	Fabric	10/01/19	10/22/19
1909050-27	WM-44-14-2	9.53		1.00	Fabric	10/01/19	10/22/19
1909050-28	WM-44-6-1	11.9		1.00	Fabric	10/01/19	10/22/19
1909050-29	WM-44-5-1	97.5		1.00	Fabric	10/01/19	10/22/19
1909050-49	WM-44-9-8	78.3	J	1.00	Plastic	10/01/19	10/22/19
1909050-50	WM-44-8-8	77.6		1.00	Plastic	10/01/19	10/22/19
1909050-51	WM-43-5-8	149		1.00	Plastic	09/27/19	10/22/19
1909050-52	WM-43-2-8	918		1.00	Plastic	09/27/19	10/22/19
1909050-53	WM-43-1-8	753		1.00	Plastic	09/27/19	10/22/19
1909050-73	WM-43-14-8	6.58		1.00	Metal	09/27/19	10/22/19
1909050-74	WM-43-13-8	1.08		1.00	Metal	09/27/19	10/22/19
1909050-75	WM-43-10-15	7.31		1.00	Metal	09/27/19	10/22/19
1909050-76	WM-43-9-14	18.8		1.00	Metal	09/27/19	10/22/19

QC Results for Batch ID: B19J096

Method Blank	Sample ID	Result	Qualifer	RL	MDL
B19J096-BLK1	Blank	1.00	U	1.00	0.027

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B19J096-BS1	LCS	83.8	80.0			105	85-115		
B19J096-BSD1	LCS Dup	86.5	80.0			108	85-115	3	20
B19J096-DUP1	Duplicate	60.1		1909050-20	56.9			5	20
B19J096-DUP2	Duplicate	132	J	1909050-49	78.3			51	20
B19J096-DUP3	Duplicate	19.8		1909050-76	18.8			5	20

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Release Date: _____ *10/28/19*

**Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Lead**

Project Name: School Supplies Study 2019

**Project Officer: Trumbull, Kari
Work Order: 1909050
Analyte: Lead**

**Prep Method: SW3052
Prepared: 10/08/19
Batch ID: B19J024**

**Analysis Method: SW6020B
Units: mg/Kg ww**

Sample #	Sample ID	Result	Qualifier	RL	Matrix	Collected	Analyzed
1909050-01	AM-34-21-9	2770		1.00	Fabric	09/26/19	10/22/19
1909050-02	AM-34-19-1	614		1.00	Fabric	09/25/19	10/22/19
1909050-03	AM-34-18-28	1550		1.00	Fabric	09/26/19	10/22/19
1909050-04	AM-34-14-2	1030		1.00	Fabric	09/26/19	10/22/19
1909050-05	AM-34-13-53	2110		1.00	Fabric	09/26/19	10/22/19
1909050-06	AM-34-10-2	55.6		1.00	Fabric	10/01/19	10/22/19
1909050-07	AM-34-9-1	2010		1.00	Fabric	09/25/19	10/22/19
1909050-08	AM-34-2-4	1630		1.00	Fabric	09/26/19	10/22/19
1909050-09	AM-33-19-1	1730		1.00	Fabric	09/26/19	10/22/19
1909050-10	AM-33-11-1	537		1.00	Fabric	09/26/19	10/22/19
1909050-11	AM-33-9-2	3260		1.00	Fabric	09/26/19	10/22/19
1909050-12	AM-33-7-3	1180		1.00	Fabric	09/27/19	10/22/19
1909050-13	AM-33-5-2	2110		1.00	Fabric	09/27/19	10/22/19
1909050-14	DT-29-5-1	752		1.00	Fabric	09/27/19	10/22/19
1909050-15	DT-29-2-1	797		1.00	Fabric	09/27/19	10/22/19
1909050-16	DT-28-8-1	931		1.00	Fabric	09/27/19	10/22/19
1909050-17	DT-26-7-1	887		1.00	Fabric	09/27/19	10/22/19
1909050-18	WM-46-14-2	2300		1.00	Fabric	10/01/19	10/22/19
1909050-19	WM-46-8-3	2540		1.00	Fabric	10/01/19	10/22/19

QC Results for Batch ID: B19J024

Method Blank	Sample ID	Result	Qualifier	RL	MDL
B19J024-BLK1	Blank	1.00	U	1.00	0.051

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B19J024-BS1	LCS	83.2	80.0			104	85-115		
B19J024-DUP1	Duplicate	2170		1909050-05	2110			3	20
B19J024-MS1	Matrix Spike	819	79.4	1909050-14	752	84	75-125		
B19J024-MSD1	Matrix Spike Dup	836	79.7	1909050-14	752	105	75-125	2	20

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**Washington State Department of Ecology
Manchester Environmental Laboratory
Final Analysis Report for
Lead**

Project Name: School Supplies Study 2019

Project Officer: Trumbull, Kari	Prep Method: SW3052	Analysis Method: SW6020B
Work Order: 1909050	Prepared: 10/10/19	Units: mg/Kg ww
Analyte: Lead	Batch ID: B19J047	

Sample #	Sample ID	Result	Qualifier	RL	Matrix	Collected	Analyzed
1909050-30	AM-34-17-22	1260		1.00	Plastic	09/26/19	10/22/19
1909050-31	AM-34-16-8	488		1.00	Plastic	09/25/19	10/22/19
1909050-32	AM-34-15-8	3800		1.00	Plastic	09/25/19	10/22/19
1909050-33	AM-34-11-2	1480		1.00	Plastic	09/25/19	10/22/19
1909050-34	AM-34-7-8	508		1.00	Plastic	09/25/19	10/22/19
1909050-35	AM-34-1-8	3640		1.00	Plastic	09/25/19	10/22/19
1909050-36	AM-33-17-8	4300		10.0	Plastic	09/26/19	10/22/19
1909050-37	AM-33-14-34	495		1.00	Plastic	09/26/19	10/22/19
1909050-38	AM-33-8-8	4400		9.96	Plastic	09/26/19	10/22/19
1909050-39	AM-33-6-39	4690		9.77	Plastic	09/27/19	10/22/19
1909050-40	AM-33-4-15	5760		10.0	Plastic	10/01/19	10/22/19
1909050-41	AM-33-2-21	426		1.00	Plastic	09/27/19	10/22/19
1909050-42	DT-29-15-2	1.00	U	1.00	Plastic	09/27/19	10/22/19
1909050-43	DT-28-18-2	1.00	U	1.00	Plastic	09/27/19	10/22/19
1909050-44	DT-26-14-2	1.00	U	1.00	Plastic	09/27/19	10/22/19
1909050-45	WM-46-17-2	1.00	U	1.00	Plastic	10/01/19	10/22/19
1909050-46	WM-45-12-8	482		1.00	Plastic	10/01/19	10/22/19
1909050-47	WM-45-3-8	396		1.00	Plastic	10/01/19	10/23/19
1909050-48	WM-45-2-8	7330		100	Plastic	10/01/19	10/23/19

QC Results for Batch ID: B19J047

Method Blank	Sample ID	Result	Qualifier	RL	MDL
B19J047-BLK1	Blank	1.00	U	1.00	0.051

Sample #	QC Sample	Result	Spike Level	Source Sample	Source Result	%Rec	%Rec Limits	RPD	RPD Limit
B19J047-BS1	LCS	89.5	80.0			112	85-115		
B19J047-DUP1	Duplicate	521		1909050-34	508			3	20
B19J047-MS1	Matrix Spike	5800	79.7	1909050-40	5760	52	75-125		
B19J047-MSD1	Matrix Spike Dup	5760	79.4	1909050-40	5760	5	75-125	0.6	20

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Appendix E. Study Results for 2019 Compared to Previous Results for Selected Products

Appendix E. Results of 2019 Study Compared to Previous Results for Selected Products

Disney Pixar Cars-Themed Pencil Pouches/Cases

In the 2019 study, cars-themed pencil cases in two styles (three pencil cases for each style) were tested. These appeared to be the same products as tested in the 2017 and 2018 studies. Table C-3 (Appendix C) compares a subset of data from the 2017, 2018, and 2019 results for Cars-themed pencil pouches/cases. The two styles of pencil cases consisted of (1) an image of Cars characters in nature with blue fabric pencil case material and (2) an image of Cars characters in the city with black fabric pencil case material.

The 2017 Cars-themed product was a double-pack of pencil cases, one in each style (nature scene with blue case and city scene with black case), and the 2018 products were purchased as three single-packs of pencil cases (two blue cases and one black case). The 2019 products were purchased as single-packs of pencil cases; two pencil cases of each style were purchased from Amazon.com and one of each style purchased from Walmart.com. The four pencil cases purchased from Amazon.com in 2019 included a stationary set with the Cars-themed pencil case. In the 2019 study, product names for the Cars pencil cases were slightly different to describe in more detail the image of the Cars-theme on the pencil case in order to differentiate between additional Cars-themed products purchased in this study.

In the 2019 study, the seam tape from each pencil case was tested similar to the product component tested in the 2017 and 2018 Cars-theme pencil cases. All six Cars-themed pencil cases tested were found above the Children's Safe Products Act (CSPA) limits, 90 mg/kg for lead and 40 mg/kg for cadmium, in the product component samples.

- For the Cars-themed black pencil cases, the *Cars City Scene Black Pencil Case #1 - Internal Black Seam Tape* (WM-43-1-8) contained 4,870 mg/kg of lead and 753 mg/kg of cadmium, the *Cars City Scene Black Pencil Case #2 - Internal Black Seam Tape* (AM-34-1-8) contained 3,640 mg/kg of lead and 741 mg/kg of cadmium, and the *Cars City Scene Black Pencil Case #3 - Internal Black Seam Tape* (AM-34-15-8) contained 3,800 mg/kg of lead and 783 mg/kg of cadmium.
 - Lead and cadmium levels in the 2019 Cars-themed black pencil cases' black seam tape were consistent with the 2017 (AM-16-7-3 with 3,510 mg/kg of lead and 736 mg/kg of cadmium) and 2018 (AM-24-3-3 with 3,930 mg/kg of lead and the 766 mg/kg of cadmium) black seam tape of the same Cars-themed black pencil cases.
- For the Cars-themed blue pencil cases, the *Cars Nature Scene Blue Pencil Case #1 - Internal White Seam Tape* (WM-43-2-8) contained 4,160 mg/kg of lead and 918 mg/kg of cadmium, the *Cars Nature Scene Blue Pencil Case #2 - Internal White Seam Tape* (AM-34-7-8) contained 508 mg/kg of lead and 133 mg/kg of cadmium, and the *Cars Nature Scene Blue Pencil Case #3 - Internal White Seam Tape* (AM-34-16-8) contained 488 mg/kg of lead and 136 mg/kg of cadmium.
 - Lead and cadmium levels in the 2019 Cars-themed blue pencil cases' white seam tape purchased at Amazon.com were consistent with the 2017 (AM-16-7-13 with 474 mg/kg of lead and 137 mg/kg of cadmium) and 2018 (AM-24-2-3 with 538 mg/kg lead and 137

mg/kg cadmium and AM-24-4-3 with 507 mg/kg lead and 135 mg/kg cadmium) white seam tape of the same Cars-themed blue pencil cases.

- The white seam tape from the Cars-themed blue pencil case purchased at Walmart in 2019 (WM-43-2-8), contained much higher levels of lead and cadmium than in the white seam tape of the 2017 (AM-16-7-13), 2018 (AM-24-2-3 and AM-24-4-3), and 2019 (AM-34-7-8 and AM-34-16-8) Cars-themed blue pencil cases purchased at Amazon.com.

Three additional Cars-themed pencil cases tested in 2019, that were similar but not the same products previously tested, showed detectable levels of lead and cadmium in a product component other than the seam tape (Table C-2).

- The *Cars London WGP Red Pencil Case - Red Case Material* (WM-45-1-2) purchased from Walmart.com had 2,940 mg/kg of lead, above the CSPA lead limit of 90 mg/kg, and 8.06 mg/kg of cadmium.
- A *Cars Round Pencil Case - Black Side Case Material* (AM-34-10-2) purchased from Amazon.com had 55.6 mg/kg lead and 7.58 mg/kg cadmium, both meeting the requirements of (below) CSPA lead and cadmium limits.
- In a double-pack of pencil cases (a red case and a black case and both with the same Cars-themed image) purchased from Amazon.com, the *Cars Champion Red Pencil Case - Red Case Material* (AM-34-14-2) had 1,030 mg/kg lead and 45.2 mg/kg cadmium, both above CSPA limits.

Inkology Pencil Pouches/Cases

Product components from three Inkology pencil pouch/case products were tested in 2019 that appeared to be the same or very similar to an Inkology pencil pouch/case product tested in 2017 and 2018. Table C-4 (Appendix C) compares a subset of data from the 2015, 2017, 2018, and 2019 results for Inkology pencil pouches/cases. Two of the 2019 Inkology pencil pouch/case products were very similar to an Inkology pencil pouch/case product from the 2015 Back to School study, and the 2015 test results are included in the comparison (Trumbull et al. 2017).

- The *Pink Dot Pouch #2 - Pink Material* from an eight-piece set of *Inkology Assorted Pink and Yellow with Dots and Hearts 3-Ring Pencil Pouches* (AM-34-13-53) purchased from Amazon.com was tested in 2019 and found to contain 2,110 mg/kg lead, above the CSPA limit.
 - The lead level in the 2019 product was inconsistent with lead levels detected in products from Amazon.com that appeared to be the same or very similar product by style and color (the front decorations of either hearts or dots differed between the pencil pouches) in the 2017 and 2018 studies which were below the CSPA limit. Four *Inkology Pink Pencil Pouches with Dots* or *with Hearts - Pink Outer Material* (AM-24-10-1, AM-24-11-1, AM-24-12-1, and AM-24-13-1) tested in 2018, and one *Inkology Pink Pencil Pouch with Hearts - Pink Material* (AM-17-8-1) tested in 2017, showed trace levels of lead.
 - The lead level in the 2019 pink material (AM-34-13-53) is consistent with lead levels found in the *Inkology Pink Heart Pencil Pouch - Pink Material* purchased from Shopko in the 2015 Back to School study at 3,840 mg/kg lead (SK-6-5-1) and purchased from Shopko in the 2017 School Supplies study at 2,080 mg/kg lead (SK-13-4-1).

- Cadmium was detected at either low levels (less than 15 mg/kg) or not detected above the reporting limit in these Inkology product component samples.
- The *Pink Heart Case #1 - Pink Material* from a twelve-piece set of *Inkology Assorted Pink and Yellow with Dots and Hearts Pencil Cases* (AM-34-21-9) purchased from Amazon.com was tested in 2019 and found to contain 2,770 mg/kg lead, above the CSPA limit..
 - The lead level was consistent with *the Inkology Round Pink Pencil Pouch with Hearts – Pink Material* tested in 2018 at 2,940 mg/kg lead (AM-25-2-1) and the pink material tested in 2017 at 2,410 mg/kg lead (AM-17-7-1).
 - Cadmium was detected at low levels (less than 30 mg/kg) in these Inkology product component samples.
- For the 2019 study, one *Inkology Green Sneaker Pencil Pouch - Zipper* (WM-43-9-14) purchased from Walmart.com was tested and found to contain 388 mg/kg lead, above the CSPA limit. The zipper pull component was composited with the zipper slider component in the 2019 study.
 - The lead level in 2019 was consistent with the zipper pulls tested in 2018 from the glitter blue sneaker (AM-24-18-3) at 534 mg/kg lead and the green sneaker (AM-24-18-9) at 616 mg/kg lead in an *Inkology Sneaker Pencil Pouch 12-Pack* (containing six colors in sneaker pairs) and the zipper pull in 2017 from the *Inkology Glitter Blue Sneaker Pencil Pouch* (AM- 18-2-8) at 361 J mg/kg lead.
 - The lead levels are also consistent with levels found in the zipper pull from the *Inkology Glitter Blue Sneaker Pencil Pouch* (OD-3-37-2), at 474 mg/kg lead, purchased from Office Depot in the 2015 Back to School study (Trumbull et al. 2017).
 - For each zipper pull or composite of zipper tested, low levels (<30 mg/kg) of cadmium were found.
- Two additional Inkology pencil pouch products purchased from Amazon.com and tested in 2019, that were not the same products previously tested, had detectable levels of lead in a product component above the CSPA lead limit (Table C-2).
 - The *Pink, Black, and Red Boot Pencil Pouches (6 Pieces) - Red Boot #1 - Red Plastic Pouch Material* (AM-34-17-22) contained 1,260 mg/kg lead.
 - The *Purple Glitter Flip Flop Shoe Pencil Pouch - Purple Glitter Front Material* (AM-34-19-1) contained 614 mg/kg of lead.
 - Neither component contained detectable cadmium above the reporting limit.

Dreamworks Trolls-Themed Pencil Pouches/Cases and School Supplies

In 2019, the internal white seam tape was tested in four Trolls-themed school supplies that appeared to be the same product as Trolls-themed products tested in 2018 and 2017. Table C-5 (Appendix C) compares a subset of data from the 2017, 2018, and 2019 results for Trolls-themed pencil pouches/cases and school supplies. All four of the internal white seam tape component samples tested in 2019 were above the CSPA limit for lead and cadmium, similar to the 2018 and 2017 test results.

- The *Trolls Family Pencil Case #1 – Internal White Seam Tape* (WM-44-8-8) purchased at Walmart.com in 2019 contained 377 mg/kg lead and 77.6 mg/kg cadmium. This pencil case

had an image of the Trolls family characters with dark pink fabric and appeared to be the same as Trolls-themed pencil cases purchased and tested in 2018 and 2017.

- Lead and cadmium levels in the internal white seam tape from the 2019 pencil case (WM-44-8-8) were consistent with levels found in the internal white seam tape from the same Trolls-themed pencil cases purchased from Amazon.com in 2018 (AM-26-2-7 at 316 mg/kg lead and 65.8 mg/kg cadmium, AM-26-5-7 at 371 mg/kg lead and 74.6 mg/kg cadmium, AM-26-3-7 at 537 mg/kg lead and 137 mg/kg cadmium, and AM-25-10-7 at 401 mg/kg lead and 79.8 mg/kg cadmium) and also in 2017 (AM-16-5-7 at 385 mg/kg lead and 82.2 mg/kg cadmium).
 - Two Trolls-themed set of two pencil case products (AM-26-2 and AM-26-5) were purchased in 2018 with each set containing two pencil cases, one with an image of the Trolls family characters with dark pink fabric pencil case and the other with an image of the Poppy Troll character with light pink fabric pencil case.
 - In addition, two identical Trolls-themed backpack three-piece sets (AM-25-10 and AM-26-3), containing a backpack, lunch bag, and pencil case, were purchased from two different sellers on Amazon.com in 2018. The pencil cases in these sets had an image of the Trolls family characters with dark pink fabric cases. The Trolls-themed pencil case purchased from Amazon in 2017 (AM-16-5) was also with an image of the Trolls family characters with dark pink fabric pencil case.
- The *Trolls Poppy Pencil Case #1 - Internal White Seam Tape* (WM-44-9-8) purchased at Walmart.com in 2019 contained 382 J mg/kg lead and 78.3 J mg/kg cadmium. This pencil case had an image of the Poppy Troll character with light pink fabric case and appeared to be the same as Trolls-themed pencil cases purchased and tested in 2018.
 - Lead and cadmium levels in the internal white seam tape from the 2019 Trolls Poppy Pencil Case (WM-44-9-8) are consistent with levels found in the internal white seam tape from the same Trolls-themed pencil cases purchased from Amazon.com in 2018 (AM-26-2-14 at 396 mg/kg lead and 80.4 mg/kg cadmium and AM-26-5-14 at 382 mg/kg lead and 78.1 mg/kg cadmium).
 - Two Trolls-themed sets of two pencil case products (AM-26-2 and AM-26-5) were purchased in 2018 with each set containing two pencil cases, one with an image of the Trolls family characters with dark pink fabric pencil case and the other with an image of the Poppy Troll character with light pink fabric pencil case.
- The internal white seam tape was tested in two identical 2019 Trolls-themed backpack two-piece sets (AM-33-2 and AM-33-14) containing a backpack and a lunch bag purchased from Amazon.com. The backpack and lunch bag in the 2019 Trolls-themed backpack two-piece sets (AM-33-2 and AM-33-14) appeared to be the same as the backpack and lunch bag from the 2018 Trolls-themed backpack three-piece sets (AM-25-10 and AM-26-3) except the pencil cases were not included in the 2019 backpack sets. The two 2019 backpack two-piece sets were purchased from the same third party sellers, Kids World of Toys and Granny's Best Deals, on Amazon.com as the two 2018 backpack three-piece sets.
 - The 2019 *Trolls Family Backpack and Lunch Bag #1 - Backpack - Internal White Seam Tape* (AM-33-2-21) contained 426 mg/kg lead and 72.8 mg/kg cadmium. This is consistent with levels in the two 2018 *Trolls Family Backpack with Pencil Case* -

Backpack - White Seam Tape at 547 mg/kg lead and 106 mg/kg cadmium (AM-25-10-33) and at 394 mg/kg lead and 82 mg/kg cadmium (AM-26-3-33).

- The 2019 *Trolls Family Backpack and Lunch Bag #3 - Lunch Bag - Internal White Seam Tape* (AM-33-14-34) contained 495 mg/kg lead and 119 mg/kg cadmium. This is consistent with levels in the two 2018 *Trolls Family Backpack with Pencil Case - Lunch Bag - Seam Tape* at 400 mg/kg lead and 82 mg/kg cadmium (AM-25-10-17) and at 553 mg/kg lead and 107 mg/kg cadmium (AM-26-3-17).

Four additional Trolls-themed school supplies tested in 2019 showed detectable levels in a product component other than the internal white seam tape (Table C-2).

- In another identical 2019 Trolls-themed backpack two-piece set purchased from Amazon.com, the *Trolls Family Backpack and Lunch Bag #2 - Backpack - Trolls Graphic Upper Side Material* (AM-33-7-3) had 1,180 mg/kg of lead, above the 90 mg/kg CSPA lead limit.
- The pencil case fabric material of two Trolls-themed pencil cases purchased from Walmart.com were found to contain 2,440 mg/kg lead, above the CSPA limit, in the *Trolls Character Blue Pencil Case - Blue Case Material* (WM-44-14-2) and at 3,060 mg/kg lead in the *Trolls Character Purple Pencil Case - Purple Case Material* (WM-44-15-2).
- Lead was found at 5,760 mg/kg, above the CSPA limit, in the *Trolls Poppy Round Pencil Case - Black Piping* (AM-33-4-15) purchased from Amazon.com.

Cute Cat Pencil Pouches

Two cat design pencil pouches were tested in 2019 that appeared to be the same as the cute cat pencil pouch products tested in 2017 and 2018. Table C-6 (Appendix C) compares a subset of data from the 2017, 2018, and 2019 results for cute cat pencil pouches.

- Lead levels in the zipper components (a composite of the metal zipper slider and metal zipper slider pull) were 850 mg/kg, above the CSPA limit for lead, in the *Cute Cat Pencil Pouch #1 - Zipper* (WM-43-14-8) purchased from Walmart.com and at 548 mg/kg in the *Cute Cat Pencil Pouch #2 - Zipper* (AM-34-3-12) purchased from Amazon.com.
- Lead levels in the 2019 cute cat pencil pouches were generally consistent with the levels found in the 2018 *Cute Cat Pencil Pouch Set of 2 - Zipper Composite* (AM-25-8-9) at 380 mg/kg lead purchased from Amazon.com and the 2017 *Cute Cat Pencil Pouch - Zipper Pull* (AM-16-16-5) at 750 mg/kg lead purchased from Amazon.com.

In addition, two cat design pencil pouches similar in style, color, or brand, but not the same as the cute cat pencil pouch, were tested in 2019.

- Lead was also detected above the CSPA limit for lead in the zipper components (a composite of the metal zipper slider and metal zipper slider pull) of *Sad Cat #1 and Grumpy Cat #1 Pencil Pouches (Set of 2) - Grumpy Cat #1 - Zipper* (WM-43-10-15) at 767 mg/kg lead and *Gray Cat Pencil Pouch - Zipper* (WM-43-13-8) at 432 mg/kg lead.
- Both of these cat pencil pouches were purchased from Walmart.com

Cadmium was detected at low levels, less than 10 mg/kg, in each zipper, zipper pull, or zipper composite tested in the cat design pencil pouches in 2017, 2018, and 2019.

Marvel Ultimate Spiderman-Themed Pencil Pouches/Cases

In 2019, the red pencil case material was tested in a Spiderman-themed red pencil case that appeared to be the same product, by Spiderman image and case color, as Spiderman-themed red pencil cases tested in 2017 and 2018. Table C-7 (Appendix C) compares a subset of data from the 2017, 2018, and 2019 results for Spiderman-themed pencil pouches/cases.

- The 2019 *Ultimate Spiderman Red Pencil Case - Red Case Material* (AM-33-9-2) purchased from Amazon.com contained 3,260 mg/kg of lead, above the CSPA limit for lead.
- Lead levels detected in the 2019 Spiderman-themed red pencil case were consistent with levels found the 2017 Spiderman red pencil case material (AM-16-8-2) purchased from Amazon.com at 2,790 mg/kg lead and the 2018 Spiderman red pencil case material (AM-26-1-2) purchased from Amazon.com at 3,020 mg/kg lead.
- The 2017 and 2018 Spiderman-themed red pencil case material was found to have cadmium at 41.0 mg/kg, above the CSPA limit, for the 2017 pencil case (AM-16-8-2) and at 44.4 mg/kg cadmium for the 2018 pencil case (AM-26-1-2), while the 2019 pencil case (AM-33-9-2) had 30.5 mg/kg cadmium, below the CSPA limit for cadmium.

In 2019, the internal black seam tape was tested in three Spiderman-themed black pencil cases that appeared to be the same product by Spiderman image and case color as a Spiderman-themed black pencil case tested in 2017. All three of the internal black seam tape component samples from the Spiderman-themed black pencil cases tested in 2019 were above the CSPA limit for both lead and cadmium.

- In 2019, the *Ultimate Spiderman Black Pencil Case #1 - Internal Black Seam Tape* (WM-43-5-8) purchased from Walmart.com had 537 mg/kg lead and 149 mg/kg cadmium; the *Ultimate Spiderman Black Pencil Case #2 - Internal Black Seam Tape* (AM-33-8-8) purchased from Amazon.com had 4,400 mg/kg lead and 944 mg/kg cadmium; and the *Ultimate Spiderman Black Pencil Case #3 - Internal Black Seam Tape* (AM-33-17-8) purchased from Amazon.com had 4,300 mg/kg lead and 911 mg/kg cadmium.
- In 2019, lead and cadmium levels in Spiderman-themed black pencil cases (AM-33-8-8 and AM-33-17-8) purchased from Amazon.com were consistent with levels detected in the 2017 black pencil case (AM-16-8-12) at 4130 mg/kg lead and 922 mg/kg cadmium, while the 2019 Spiderman-themed black pencil case (WM-43-5-8) purchased from Walmart.com was detected at much lower levels.

Monster High-Themed Pencil Pouches/Cases and School Supplies

In 2019, components from three Monster High-themed school supply products, two pencil cases and a three-piece backpack set consisting of a backpack, lunch bag and pencil case, were tested. Table C-8 (Appendix C) compares a subset of data from the 2018 and 2019 results for Monster High-themed pencil pouches/cases and school supplies.

- The 2019 *Monster High Black Pencil Case #1 - Purple Back Material* (WM-46-8-3) had 2,540 mg/kg of lead, and the 2019 *Monster High Black Pencil Case #2 - Black Side Material* (AM-33-5-2) had 2,110 mg/kg of lead. Both 2019 pencil case material components contained lead levels above the CSPA limit at 90 ppm.

- Cadmium was detected at low levels, less than 15 mg/kg, in the 2019 pencil case material components.
- The 2019 Monster High pencil cases appeared to be the same as each other, one purchased from Walmart.com (WM-46-8) and the other purchased from Amazon.com (AM-33-5), but appeared to be similar and not the same as the Monster High pencil case tested in 2018 (AM-25-1). The 2018 and 2019 Monster High pencil cases were similar in style but different in the image of the Monster High characters on the front of the pencil case and the color of front and back case material (pink material for 2018 and purple material for 2019).
 - In the 2018 Monster High pencil case, the internal seam tape (AM-25-1-9) was tested but in the 2019 Monster High pencil cases, a component of the pencil case material was tested.
- The internal black seam tape was tested from the lunch bag of the 2019 Monster High-themed three-piece backpack set. *The Monster High Backpack Set (3 Pieces) - Lunch Bag - Internal Black Seam Tape* (AM-33-6-39) was found to contain 4,690 mg/kg lead and 716 mg/kg cadmium, both above CSPA limits.
 - Lead and cadmium levels in the internal black seam tape for the 2019 Monster High lunch bag were consistent with levels in the seam tape from the 2018 Monster High pencil case (AM-25-1-9) at 3,660 mg/kg lead and 1,150 mg/kg cadmium.

Cute Panda Pencil Pouches/Cases

In 2019, three panda design pencil cases were tested; these appeared to be the same product as the cute panda pencil case tested in 2018. Table C-9 (Appendix C) compares a subset of data from the 2018 and 2019 results for cute panda pencil pouches/cases.

- The 2019 *Cute White Panda Pencil Case #4 - Black Feet and Ear Material* (AM-34-2-4) purchased from Amazon.com had 1,630 mg/kg lead and 219 mg/kg cadmium, both above CSPA limits.
 - Lead and cadmium levels in the black material for the 2019 cute panda pencil case were consistent with levels in the black material from the 2018 *Cute Panda Pencil Case - Black Pouch Material* (AM-27-2-2) at 1,010 mg/kg lead and 129 mg/kg cadmium.
- The zipper composites (a composite of the upper and lower metal zipper slider components and the upper and lower metal zipper slider pull components on each case) were above the CSPA limit for lead at 101 mg/kg lead in the *Cute White Panda Pencil Case #1 - Zipper Composite* (WM-44-1-12) purchased from Walmart.com and at 113 mg/kg in the *Cute White Panda Pencil Case #5 - Zipper Composite* (AM-34-5-12) purchased from Amazon.com.
 - Lead levels in the 2019 cute panda pencil cases were 289 mg/kg, lower than the level found in the 2018 *Cute Panda Pencil Case - Front Zipper* (AM-27-2-9) purchased from Amazon.com.

In addition, two animal design pencil cases, a blue lamb pencil case and a pink rabbit pencil case which were similar in style to the white panda but different in animal design and color, were tested in 2019.

- Lead was detected above the CSPA limit in the zipper composites (a composite of the upper and lower metal zipper slider components and the upper and lower metal zipper slider pull components on each case) of the *Cute Blue Lamb Pencil Case #1 - Zipper Composite* (WM-44-2-11) at 660 mg/kg lead purchased from Walmart.com and the *Cute Pink Rabbit #3 - Zipper Composite* (from a set of six pencil cases with two each of white panda, pink rabbit, and blue lamb pencil cases, AM-34-6-63) at 689 mg/kg of lead purchased from Amazon.com.

Cadmium was detected at low levels, less than 10 mg/kg, in each zipper or zipper composite tested from the panda, lamb, and rabbit design pencil cases in 2018 and 2019.

Plush Green Frog Pencil Pouches

In 2019, a plush green frog pencil pouch was tested; this pouch appeared very similar but not the same as one 2017 and two 2018 tested plush green frog pencil pouches. Table C-10 (Appendix C) compares a subset of data from the 2017, 2018, and 2019 results for plush green frog pencil pouches.

- The 2017, 2018, and 2019 plush green frog pencil pouches were purchased from Amazon.com.
- The 2019 *Plush Green Frog Pencil Pouch* (AM-33-13) was of the same brand, Nici, as a 2018 *Plush Green Frog Pencil Pouch* (AM-24-8). The frog eye components on the pencil pouch were previously tested from the 2017 and 2018 frog pencil pouches (3,500 mg/kg lead for AM-17-9-2, 8560 mg/kg lead for AM-24-7-2, and 7930 mg/kg lead for AM-24-8-2), all above the CSPA limit.
- In 2019, the zipper component (a composite of the metal zipper slider and metal zipper slider pull, AM-33-13-9) was tested due to being a more accessible part that children would more frequently be in contact with rather than the frog eye. Lead in the *Plush Green Frog Pencil Pouch - Zipper* (AM-33-13-9) was 454 mg/kg, above the CSPA limit for lead.

Shark Backpacks

In 2019, three black shark design backpacks were tested that looked very similar but not the same as either of the two black shark backpacks tested in 2018 that were also similar but not the same. Table C-11 (Appendix C) compares a subset of data from the 2018 and 2019 results for shark backpacks. Two of the 2019 tested black shark backpacks were nearly the same in style and color, and they contained an USB outlet so they were named Black Shark Backpack with USB Outlet #1 and #2. The Black Shark Backpack with USB Outlet #1 had additional white material for zipper pull straps, and the internal black liner material had the brand name printed on it.

- The 2019 *Black Shark Backpack #1 - Black Material* (WM-44-6-1) purchased from Walmart.com had 1,260 mg/kg lead, and the 2019 *Black Shark Backpack with USB Outlet #2 - Black Material* (AM-33-19-1) purchased from Amazon.com had 1,730 mg/kg lead, both above the CSPA limit for lead.
 - Lead levels in the black material for these two 2019 black shark backpacks were in the general range with levels in the black material from the 2018 black shark backpacks

purchased from Amazon.com at 885 mg/kg lead (AM-28-1-1) and 2,780 mg/kg lead (AM-28-6-1).

- Cadmium was detected at low levels, less than 15 mg/kg, in the 2019 black material from the black shark backpacks.
- The lead level in the upper zipper pull composite (a composite of two upper metal zipper pull components) was above the CSPA limit for lead at 294 mg/kg in the *Black Shark Backpack with USB Outlet #1* (AM-33-1-35) purchased from Amazon.com.
 - Lead levels in the metal zipper pulls were lower in the 2019 black shark backpack than levels found in the zipper pull from the 2018 black shark backpack (AM-28-1-23) at 842 mg/kg lead.
 - Cadmium was not detected above the reporting limit in the 2019 zipper pulls from the black shark backpack, unlike in the 2018 zipper pull (57.3 mg/kg cadmium for AM-28-1-23).

In addition, two gray shark backpacks were tested in 2019 which appeared nearly the same in style as the 2019 black shark backpack (without the USB outlet) but were gray in color rather than black. The two gray shark backpacks appeared identical to each other.

- Lead and cadmium levels in the light gray material were above CSPA limits in both the *Gray Shark Backpack #1* (WM-44-5-1), at 564 mg/kg lead and 97.5 mg/kg cadmium, purchased from Walmart.com and the *Gray Shark Backpack #2* (AM-33-11-1), at 537 mg/kg lead and 95.6 mg/kg cadmium, purchased from Amazon.com.