**Reviewer #2**

Point 1. Title- ‘in’ should be used for larger areas, can you add the study locations? Otherwise replace ‘in’ with ‘at’Rephrase title so as not to repeat ‘and’

Answer: Thanks for your advice, we have made the changes to the title following:” Estimation of Children’s Soil/Dust Ingestion Rates and Health Risk at E‑Waste Dismantling Area”

Point 2. I would like to see a better description of the study location. It was only mentioned towards the end – Discussion

Answer: Thanks for your suggestion. We have introduced the sampling sites and added the following information: “The e-waste dismantling area we studied is an E-Waste Recycling Town located in South China, where the possible human body burden and health consequences of heavy metals exposure have been reported [30].”

30. Huang, W.L.; Shi, X.L.; Wu, K.S. Human Body Burden of Heavy Metals and Health Consequences of Pb Exposure in Guiyu, an E-Waste Recycling Town in China. International Journal of Environmental Research and Public Health, 2021, 18(23):12428. <https://doi.org/10.3390/ijerph182312428>

Point 3. Sample Preparation and Instrumental Analysis

-Why were the food samples microwaved? Better explanation needed

- why were the feces samples not microwaved?

- why different processing for different samples? Better explanation needed

Answer: Thanks for your suggestion, we have sorted out the method part again, and now the modification is as follows: “Feces samples and food samples were pretreated in the same way. Dried samples (1 g) were digested to evaporate at low temperatures of 55°C on a heating plate with 3 mL concentrated nitric acid, 3 mL hydrogen fluoride, and 1 mL perchloric acid (HNO3‒HF‒HClO4). The digestion process was repeated until the sample becomes sticky. Crushed Evaporated samples were microwaved with 2 mL concentrated nitric acid and 3 mL hydrogen peroxide (HNO3‒H2O2). Digestion was performed at 120°C for 5 min, then 160°C for 5 min, and finally 180°C for 15 min. The digested product was diluted to 30 ml with ultrapure water and then stored at 4°C. The supernatant was extracted and analyzed by High Resolution Inductively Coupled Plasma Mass Spectrometry (HR‒ICP‒MS, Nu Attom, England) to determine Mn, Al, Ba, Ti, Ce, V, Sc, and Y.

Urine samples (15 mL) were placed in a digestion tube and digested by microwaving with 2 mL of H2O2 and 3 mL of concentrated HNO3. The conditions of microwave digestion are the same as mentioned above. Finally, the digest was analyzed by HR‒ICP‒MS.

Dried soil and dust samples (0.5 g) were digested as same as feces and food samples on a heating plate by HNO3‒HF‒HClO4. And then samples were microwaved with HNO3‒H2O2. The supernatant was analyzed for Al, Ba, Mn, Ti, and V by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP‒OES, Spectra Arcos SOP, German) which is a method for atomic emission spectroscopy analysis using a light source that generates plasma discharge through high-frequency inductive coupling and by ICP‒MS for Ce, Sc, and Y. In addition, dried soil samples from living spaces (0.5 g) were digested with the same pre-treated and analyzed by ICP‒MS for Pb, As, Cr, Cu, Ni, Cd, and Zn. The standard curve of concentration was used to determine the sample concentration was established by heavy metal standard (all standards were from The Nonferrous Metals Society of China).”

Point 4. Line190 – why was 350d/y taken? Explain for better understanding

Answer: For this question, our answer is following: this data is from the Technical Guidelines for Soil Pollution Risk Assessment of Construction Land in China. The website address of the guidelines is <https://www.mee.gov.cn/ywgz/fgbz/bz/bzwb/trhj/201912/W020191224560850148092.pdf>

Will like to see ethical approval for the project/research? Ethical approval from which institution? Were Consent/assent from participants obtained?

For this problem, we conducted a questionnaire survey when collecting samples before the experiment, and all the guardians of the sample providers knew and agreed to the experiment.

Point 5. Table 1 – is it possible to list/ summarise the data for each day?

Answer: Thank you for your suggestions. Collecting samples followed the USEPA recommendation of a period of 28 hours from food to feces and urine. Thus, we cannot provide the data for each day. And we also revised the table 1 legend (removing the “each day”).

Point 6. Line 294 – what is meaning of BTM, Would prefer re-introduction of the full meaning of acronyms in each sub-section

Answer: Thank you for your suggestions. For the convenience of you and readers, we have made full descriptions of some acronyms, and the modifications are as follows: “Therefore, in this study, the Best Tracer Method (BTM) was employed. This method has been used before”, “the Hazard Quotients (HQ) values between 1 and 10 indicate likely damage to human health”.

Point 7. Line 320 -Also descript the study location in the method section

Answer: Thank you for your suggestions. We have added the description of sampling site in the materials and methods. We have replied to your first suggestion on Materials and Methods for the specific content to be added.

Point 8. Line 342- Describe with references the values for carcinogenic risk and non-carcinogenic risks in the methos sections before mentioning it in the discussion section.

Answer: We have added the values for carcinogenic risk and non-carcinogenic risks in the support information.

Point 9. Line 346 – What is HQ? Also describe in the methods section

Answer: Thank you for your proposal. For this part, we have added to the methods section, and followed as: “The Hazard Quotients (HQ) is the ratio of daily intake dose of pollutants to reference dose, which is used to characterize the levels of human exposure to non-carcinogenic contaminants through a single pathway which represents the level of non‒carcinogenic risk”.

Point 10. Line 368 – what is the meaning of ‘Whatever’? please rephrase

Answer: Thanks for your advice, for the first question, this part of the ambiguous expression has been modified to “schools should keep desks and teaching AIDs clean and tidy, and urge children to clean up after outdoor activities”

Point 11. Will like to see references on the metal concentrations at the e-waste recycling site.

Answer: Thank you for your advice. At first, the soil heavy metal data has been added in the supporting information (Table S4 and S5). Besides, our study focuses on estimating the children’s SIRs of from e‒waste disassembly areas by collecting and analyzing selected tracer elements in matched samples of their consumed food, feces, and urine, as well as soil samples from their play areas. We have examined the tracer elements in the food. And when we calculated the SIR, we also used the parameter “Cfood” (equation 1) to analyze the food intake.

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In addition, children’s feces and urine belong to biological samples, which is sufficient to calculate the SIR. Application of more biotic samples that you suggested is useful for our study, however, it is hard to get other samples from children, such as blood and tissue.

At last, we also added the heavy metals information in resident or park green areas: “In resident and park green areas, the highest concentration of heavy metals is Zn and the lowest is Cd. The concentrations of heavy metals in park green areas were slightly higher than that in residential area, which may attribute to the difference of soil environmental quality management and control policy between these areas. Integrated data from the resident and park green areas, the median concentrations (mg/kg) of Cr, Ni, Cu, Zn, As, Cd, and Pb were 48.8, 63.9, 128, 413, 6.30, 0.513, and 115, respectively.”