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Journal Name:	Current Journal of Applied Science and Technology
Manuscript Number:	**Ms_CJAST_50132**
Title of the Manuscript:	**MICROPELLET PARTICLES: A VECTOR OF HYDROPHOBIC ENDOCRINE DISRUPTING CHEMICALS IN LAGOS LAGOON**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.
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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	The "Results" part does need a lot of revision work. At first the authors report that 91.6% of particles (in the water? In both media?) were round and 13.7% were cylindrical. I am not sure why this characteristic is so important to be reported in the first place. And I do not know why the two percentages give a sum larger than 100. I believe a particle can only be either round or cylindrical! Next they tell that one third of the particles were found in the sediment and two thirds in the water. I would prefer to learn absolute numbers (either number of mass concentration). With the percentages I am not even sure if they refer to a per m^3 or a per kg concentration in the media. When the amount of sediment and water is not defined the percentages are meaningless. Next the colour of the particles is reported. Are the numbers percentages or number or mass per sampling medium? If the numbers are percentages then white and opaque together account for more than 100% (56.31 + 62.73). Next the size distribution is described (as %) and I am not sure to what the percentages refer. Then we learn about particles of white and black colour (again with percentages) and "only 2 where other colour (1 brown)" (percentages? µg? Numbers?). In the next sentence particle numbers per litre water are reported. This whole part is simply confusing. While figure 2 is not very informative (33% versus 67% was already reported in the text and it is still not clear if this is reported on a per mass or a per volume basis of the medium), figure 3 might help to clarify the confusing percentage description in the text (and why reported percentages exceed 100), but it still does not clarify the basis on which the numbers are calculated. Absolute numbers again would be more informative than percentages: Number or mass of particles (in figure 3 per colour and size-range) per m^3 or per kg of water and sediment, at least mean values and standard error, better still as box-plots. Figure 4 is described as "percentage occurrences..." but the y-axis is labelled as "particle/L". But is it plausible that they only found very few (1-20) particles per litre? In the text they report several 1000 per litre! It is not clear if the whiskers are standard errors, interquartile ranges, 95% confidence intervals, or standard deviation. (It is not even clear if the data are normally distributed and if therefore some of these measures really apply!) Next concentration of PCBs and PAHs are reported. The description in the text is rather short and the reader is forced to study the figures that are only poorly explained. In the text they claim that PCBs are significantly higher in the water than in the sediment. But figure 5 shows that PCBs were higher in sediment at ST1, ST4 and ST8. Yes, PCBs were (much) higher in the water than in sediment at ST5. So maybe the statement in the text only refers to that ST? The figure 5 is "explained" by letters and asterisks. But it is not clear what the letters indicate. Most likely the difference between different STs versus a difference	

	between water and sediment within the same ST. But why then a-c? I do assume that on asterisk signifies <0.05 and two <0.01. But this is also not stated. It is stated that both 1 and 2 stars refer to differences between media with a p <0.01. This is unlikely or would not make any sense. By the way in figure 8 the stars are reported to indicate “differences between seasons”. That reminds me: We have never been informed in what season (or seasons?) the sampling has taken place? Maybe there would indeed be a difference between dry and rainy season? Figure 6 and 7 is are a rather confusing way of displaying the concentration of individual congeners. The same is obviously true for figures 9 and 10. Why was the colour and the size (and even the form of the particles) analysed? Do the authors assume that different types of particles signify different sources, different fate, or different ability to bind PAH and PCB? But if that is the case the authors should have analysed PAH and PCB per particle category. In the discussion the authors claim that white particles are more likely confused with plankton and that they are therefore more dangerous for the ecosystem. I am not sure if this is correct. Most plankton consumers to not go by colour but indiscriminately swallow what comes into their mouth. I have never seen a mussel or a whale picking through their plate with a spoon! Why were specific sampling points selected? The authors claim they selected the points according to the solid waste characterisation. Table 1 provides a descriptive and qualitative picture of this characterisation. But do they have a theory that specific solid waste parameters would predict high or low microplastic concentrations or specific PAH profiles or whatever? Then they should have investigated this. That would be much more interesting than the simple statement that some sampling points differed from some others in some aspects.	
Minor REVISION comments	Endocrine disruption is not the only hazardous property of PCBs and especially of PAHs. There are also other EDCs but the two groups analysed. So maybe a different title like “micropellet particles and their PAH and PCB content in Lagos Lagoon” would be more informative.	
Optional/General comments	This is a purely descriptive study about the concentration of micropellets (plastic particles < 5mm) in the waters and sediments of the Lagos Lagoon and of the concentration of PAH and PCB in the particles. The text is written mostly in understandable English, but improvement of the language would still be possible. The study does not provide new evidence of the relevance of this pollution but in the introduction and the discussion the authors cite references that claim that absorption and adsorption of toxic substances to micropellets increase their bioavailability. Still there is no information if the discovered concentrations are “high” or “low” in comparison to any guidance- or limit value. I am not an expert in chemistry. So I cannot fully assess the analytical part of the paper. I do not fully understand the sampling procedure. For the water sample a trawl net with a mesh size of 1.62 mm was drawn through the waters by a boat. The opening of the net, the speed of the boat, and the length of the drawl are known. So I assume the amount of water drawn through the net can be calculated. But if I understand it correctly only particles larger than 1.62 mm are kept in the net. Later on particles are categorized by size in 1 mm steps ranging from 1 to 5 mm. So it seems the 1-2 mm size category is not completely captured by the method. Sediment samples were taken from an 0.1 m^2 are. But I do not find information about the amount of sediment (m^3 or mg or whatever) sampled. If sediment mass was measured I would like to know if it is dry or wet mass. For retaining micropellets from the sediment samples a 0.5 mm sieve was used. So it seems the sediment samples contained the complete smallest size class of particles. The chemical cleaning and pre-analytical procedures sound plausible to me but I am not expert enough to assess the details. Analysis of PAH and PCB was done by GC and detection by FID and ECD. ECD is more sensitive than FID but both are not specific. So specification of chemicals can only be done by retention time. So findings can be confounded by other unspecified contaminants with similar retention time. I do not know if this is a serious problem in this analysis.	

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PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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