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PART A:

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	**MS: 2012/BJAST/1901**
Title of the Manuscript:	**PHOTOCATALYTIC DETOXIFICATION OF CHLOROBENZENE IN AQUEOUS SOLUTIONS**

(Note: Title of different sections as proposed below may differ in case of review paper)

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PART B: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part and write here 'Corrected'/ if not agreed, give suitable justifications)*
General comment:		
Specific comments:		
Title and abstract		
Introduction *(Is the problem/objective of this study original, important and well defined?)*	**a. Number of references mentioned in this part did not exist within the reference list.** **b. The introduction is not suitable to this important title although there are many references present in the literature about this subject didn't mention here.** **c. The author gave only general information about the uses of chlorobenzene which is well known.**	a. The references had been updated with more recent citations in the field b. The introduction had been re-written in line with the general objective of the study. Very recent works had been consulted and appropriately cited c. More information had been provided on chlorobenzene as a priority pollutant
Are all the references cited relevant, adequate? Are there any other suitable current references authors need to cite?		
Materials & methods *(Kindly comment on the suitability of the methods. Sufficient details of the methods should be provided to allow peers to evaluate and/or replicate the work)*		
Results & discussion (Kindly comment on: 1. Are the data well controlled and robust? 2. Authors should provide relevant references during discussion. 3. Discussion and conclusions should be based on actual facts	**1) In the experimental and discussion part:** **a. The FT-IR used in this study cannot**	a. The main aim of this part of the experiments was to determine

and figures. Biased claims should be pointed out. 4. Are statistical analyses must for this paper? If yes, have sufficient and appropriate statistical analyses been carried out?)	**identify or detect the type and percentage of elements in the compounds; instead he must use Atomic Absorption or other technique to identify the elements.** **b. In page (3) The spectra of FT-IR for the two ashes do not appear any peaks belong to the functional groups which are discussed in page(4).** **c. As we see in the preparation of standard solution the author used chlorobenzene-ethanol solution but in this technique the presence of alcohol stop the degradation process.** **d. The author does not mention the range and the results of pH additions, in addition did not discuss why the neutral pH suitable in this process.** **e. I did not see the type of Sunlight apparatus and the temperature effect used in this study.** **f. The mean properties to the ash used as adsorbent are the particle size and surface area which are not present in**	only the transition metals that aid photocatalysis. It is not aimed at identifying types or percentages of all the constituents/compounds in the ashes. Therefore, the use of the FT-IR was appropriate as it was able to pick these metals b. The spectra of FT-IR for the two ashes show weak peaks indicating very low values for the functional groups which are discussed c. We do not agree that alcohol stop the degradation process. Alcohol especially methanol is biodegradable producing methane and carbon dioxide when degraded. As a result most workers employ methanol for the preparation of standard solutions for experiments involving photodegradation of priority pollutants such as chlorobenzene. Studies had shown that methanol stimulates degradation of priority pollutants instead of stopping it. d. The effects of varying pH on the

	the study. **g. The absence of wavelength measurements in this process which is very important.** **h. The study of the mechanism of photo degradation not exist in any part of the study.** **i. The author consider the same mechanisms for all compounds used in this process and this theoretically not true because the properties of ashes differs from semiconductors.**	degradation rate of all catalysts used had been discussed thoroughly e. The apparatus used were specially designed boron-silica glass column reactors and the reaction temperature were 35°C for dark (laboratory experiment) and 65°C for sunlight irradiation f. The BET surface area of the catalysts were determined and used for the discussion of the results of the degradation efficiency of the catalysts g. The absorbance of chlorobenzene was determined at a wavelength of 258 nm h. The photodegradation mechanism was not repeated here as this had been exhaustively discussed by other workers. These works were appropriately cited i. The same mechanism was used for all catalysts because the work

		is a comparative study
Are there any ethical or competing interest issues?		
Conclusion (Is the conclusion supported by the data, discussed inside the manuscript? Conclusions should not be biased and should be based on the data, presented inside the manuscript only)	**a. In item-3 , the author mentioned the addition of H_2O_2 to the solution but did not give any result in the study.** **b. In item-4 ,the result of degradation is 89% but in abstract the maximum percentage was 46% for TiO_2 and for Ashes is 26%.**	a. H_2O_2 was used for the modification of the locally prepared powders and the activity compared with that of the pure powders as well as TiO_2. This result was well enumerated and discussed b. The proper conclusion have been drawn based on further experimentation and analyses
References		