



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2014_BJAST_13716
Title of the Manuscript:	Thermogravimetric and Kinetic of thermal degradation of Powdered Laboratory Examination Gloves: 2. Analysis of isotherm and thermal scan Traces from 307-450°C.

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
The authors have investigated the pyrolysis of powdered laboratory safety examination gloves (PLEG). They have generated enormous data which could have been better put into at least two parts for better understanding and concision of the results. The study would have provided a guideline for disposal of PLEG had authors given some clear cut remarks in the conclusion part of the paper. The paper is too large to read, number of figures and tables are too many. Instead of giving each and every figure some representative or relevant figures would have been given as other information could be provided in from of tables. In view of these observations I would recommend that the authors go through the whole manuscript once more carefully and resubmit. Some of the queries mentioned below should be seen carefully and response should be provided and included at appropriate part of the corrected manuscript.	Thanks!
1) Page 1 Abstract section line #11-13 "<i>The study was conducted in the Department of Biological and Physical Sciences at South Carolina State University (SCSU), Orangeburg, SC, USA, during the spring and summer of 2014</i>" can be removed.	This is required by the Journal guide lines. I do not know why!
2) Why authors write time and again twelve samples were analyzed (Page 1 line#13; Page 2 line #54; Page 2 line #62 etc.) just writing samples were analyzed would be OK.	We took care of this redundant by removing line 54-62 as you asked on item 6.



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3) Page 2 line #41 what is “[Error! Bookmark not defined.]”.	Thanks!
4) Page 2 line #42 put “to investigate” instead of “with a practical interest in the”	Thanks!
5) Page 2 line #48 replace “First” by “in first step”.	Thanks!
6) Page 2 line 54-56 remove the sentence “Twelve samples were analyzed higher temperature.	Removed!
7) Page 2 line 63 authors write “This was due to the chemical changes in” can author mention what type of chemical changes they envisage	Thank you! This is a good question. We are investigating the answer for it. Since we did not analysed the products of pyrolysis. Therefore, we do not know the kind of chemical changes in the structure of PLEG, for sure. However, we may visualize that the neoprene converted to a polydiene or other conjugated structures?
8) Page 3 line #77 put “with” instead of “by”.	Thanks!
9) Page 3 line #78 instead of “typical reaction such as reaction (1)” put “typical reaction (1)”.	Thanks!
10) Page 4 line #1 author write “molecularity order of n” it should be order as page 4 line #87 author mention it is order of reaction.	Thanks!
11) Page 4 line #2 put “can be” instead of “has been”.	Thanks
12) Equation (3) is straight line equation thus one can only find value of “n” from slope of linear portion of profiles but figure 3 does not show any straight lines, so how author can comment on order of reaction (n).	You are right! And thank you for observation we add explanation. Fig 3, instead of being one straight line as was expected; it has segments of straight lines. The slops of each segment vary depending on the initial and final temperature. Therefore there were many n values instead of one single n. Each n value was related to a particular reaction. We have may concurrent reactions instead of one single reaction.
13) Page 5& 6 line #97-123 authors have given some observation, they should comment on what different shape of curve signify at different isothermal temperatures with these observations.	Thank you! For appropriated comment. We added: The different shapes of the curve indicate that different type of decomposition and polymer modification chemical reactions were taking place at each given temperature. Identification of these types of reactions, products related to them at a given temperature is essential for a product driving pyrolysis process.



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14) Page 6 line #123 authors write “The wlr that reached to its maximum at temperatures $100^{\circ}\text{C} < t < 200^{\circ}\text{C}$ may be related to evaporation of the moisture in the PLEG or other lower molar mass compounds in the system” Why moisture loss should be in such wide temperature range from 100 to 200°C ? What lower molar mass compounds author expect in PLEG?	Thank you! We rewrite this section We did not identify the nature of volatile materials evolving from TGA. .However, a large scale pyrolysis of PLEG indicated that the composition of very first condensate drops were water, hydrochloric acid, CO_2 , NO, C2 to C5 hydrocarbons, and phthalic acid esters and its derivatives
15) Page 6 line #124-125 again what volatile compounds author expects pl. mention?	Thank you! We rewrite this section
16) Page 7 line #138 to page 12 line #236 this discussion can be shortened in few lines as all information from the graphs has been well summarised in table 1,2 and 3.	We remove Table 3 which was longer than table 2 and has similar data. Also we remove lines 215-220. Some of the material were summarize and moved und Table 2 since they were well related to the subject.
17) Page 12 line #249 and 251 what is MR unit? Pl. correct or explain.	M = 10^6 and R = 8.314 J/mol K added to the abbreviations
18)Page 12 line #252 to 255 from the sentence “Considering the values of bond energies of C-Cl (331 kJ/mol) and C-C (346 single bond and 602 C=C both in kJ/mol), the later value of E_a is smaller than the energy required for radical initiation reaction of neoprene at room temperature, but not at higher temperatures. The former values are much higher than the E_a values at room temperature” what information regarding decomposition of PLEG author get/interpret?	Thank you! We rewrite this section
19) The description given on page 12 to page 22 should be shortened drastically as all information is given in tables 5 to table 14.	We think this information are unique and cannot be shortened. If we delete pages 12-22, the paper would look like a lion with no body!
20) Figure 5 can a linear fitting can be given to data at initial temperature I think a linear fit to such set of data points may give huge errors.	We agree! The data are dispersed. However, a linear fit will give us some relative understanding of pyrolysis process at high and low temperatures.