

Valorization of Bambara groundnut shell via intermediate pyrolysis: Products distribution and characterization

MOHAMMED, Isah Yakub, ABAKR, Yousif Abdalla, MUSA, Mukhtar, YUSUP, Suzana, SINGH, Ajit and KABIR, Feroz <<http://orcid.org/0000-0002-3121-9086>>

Available from Sheffield Hallam University Research Archive (SHURA) at:

<http://shura.shu.ac.uk/13402/>

This document is the author deposited version. You are advised to consult the publisher's version if you wish to cite from it.

Published version

MOHAMMED, Isah Yakub, ABAKR, Yousif Abdalla, MUSA, Mukhtar, YUSUP, Suzana, SINGH, Ajit and KABIR, Feroz (2016). Valorization of Bambara groundnut shell via intermediate pyrolysis: Products distribution and characterization. *Journal of Cleaner Production*, 139, 717-728.

Copyright and re-use policy

See <http://shura.shu.ac.uk/information.html>

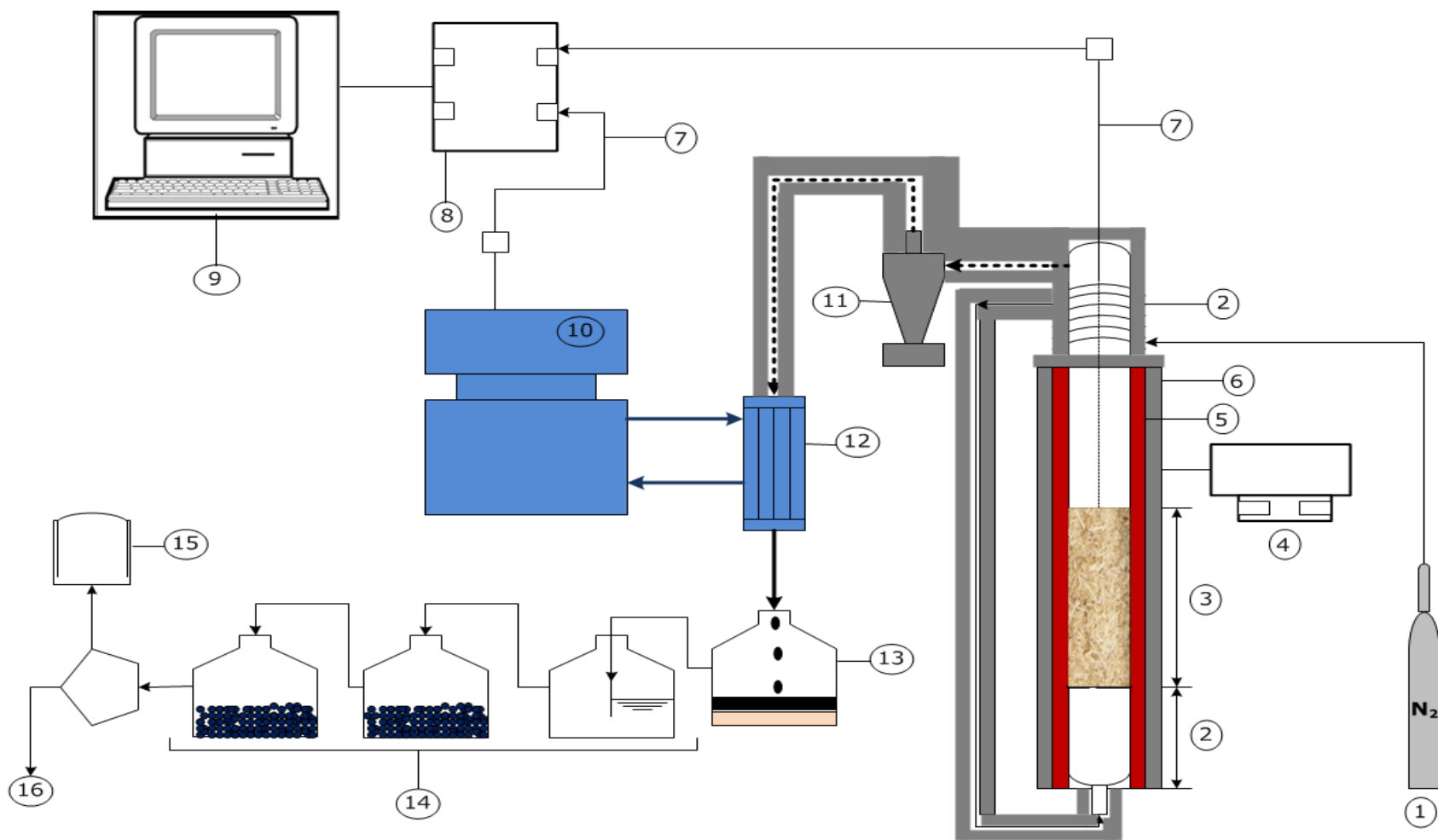


Fig. 1. Experimental set-up. (1) Nitrogen cylinder, (2) nitrogen preheating sections, (3) pyrolysis section, (4) furnace controller, (5) heater, (6) insulator, (7) thermocouples, (8) data logger, (9) computer, (10) water chiller, (11) cyclone, (12) condenser, (13) bio-oil collector, (14) gas scrubber, (15) gas sampling bag, (16) gas venting