## **Accepted Manuscript**

Geopolymers from fly ash and their gamma irradiation

Laura Leay, Alex Potts, Thomas Donoclift

PII: S0167-577X(18)30842-5

DOI: https://doi.org/10.1016/j.matlet.2018.05.088

Reference: MLBLUE 24388

To appear in: Materials Letters

Received Date: 13 February 2018 Revised Date: 30 April 2018 Accepted Date: 19 May 2018



Please cite this article as: L. Leay, A. Potts, T. Donoclift, Geopolymers from fly ash and their gamma irradiation, *Materials Letters* (2018), doi: https://doi.org/10.1016/j.matlet.2018.05.088

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## **ACCEPTED MANUSCRIPT**

## Geopolymers from fly ash and their gamma irradiation

Laura Leay<sup>1,2\*</sup>, Alex Potts<sup>1,3</sup> and Thomas Donoclift<sup>1,3</sup>

- Dalton Cumbrian Facility, Westlakes Science and Technology Park, Moor Row, Cumbria, UK. CA24 3HA
- School of Mechanical, Civil and Aerospace Engineering, The University of Manchester, Oxford Road, Manchester, UK. M13 9PL
- 3. School of Chemistry, The University of Manchester, Oxford Road, Manchester, UK. M13 9PL
- \* Corresponding author: laura.leay@manchester.ac.uk

### **Highlights**

- The radiolytic H<sub>2</sub> generation from fly ash based geopolymers is presented
- A dose rate effect is observed
- Minimal change in pore structure is seen
- The effect of surface area and energy transfer from the geopolymer to the pore water is discussed

Declaration of interest: none

#### **Abstract**

In order to assess the suitability of geopolymers produced from fly ash for use in nuclear waste encapsulation, their behaviour when exposed to gamma radiation has been examined. Irradiation (400 KGy at 4 kGy/hr) was found to have had minimal effect on the

#### Download English Version:

# https://daneshyari.com/en/article/8012737

Download Persian Version:

https://daneshyari.com/article/8012737

<u>Daneshyari.com</u>