



(51) International Patent Classification:

B01J 37/20 (2006.01) **B01D 53/86** (2006.01)
B01J 20/32 (2006.01) **B01J 20/28** (2006.01)
B01J 20/30 (2006.01) **B01J 20/02** (2006.01)
B01D 53/64 (2006.01) **B01J 20/08** (2006.01)

(21) International Application Number:

PCT/GB2013/050453

(22) International Filing Date:

25 February 2013 (25.02.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

1204650.4 16 March 2012 (16.03.2012) GB

(71) Applicant: **JOHNSON MATTHEY PUBLIC LIMITED COMPANY** [GB/GB]; 5th floor, 25 Farringdon Street, London EC4A 4AB (GB).

(72) Inventors: **COUSINS, Matthew John**; 14 Metcalfe Close, Blackburn, Lancashire BB2 4FQ (GB). **DAVIS, David**; Durley, Monk End, Croft, Darlington, Durham DL2 2SW (GB). **RAFFERTY, Paul**; 20 Intrepid Close, Hartlepool, Cleveland TS25 1GE (GB). **RIDLEY, Sarah**; 36 Croxton Avenue, Hartlepool, Cleveland TS25 2QF (GB). **TAPSTER, Alan Gordon**; 20 Barberry Close, Ingleby Barwick, Stockton on Tees, Cleveland TS17 0TF (GB).

(74) Agent: **RIDLAND, John**; Johnson Matthey Catalysts, Intellectual Property Department, PO Box 1, Belasis Avenue, Billingham Cleveland TS23 1LB (GB).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: A METHOD FOR PRODUCING A SULPHIDED COPPER SORBENT

(57) Abstract: A method for producing a sulphided copper sorbent is described, comprising the steps of: (i) contacting a sorbent precursor material containing one or more sulphidable copper compounds, with a sulphiding gas stream comprising hydrogen sulphide to form a sulphided sulphur-containing sorbent material, and (ii) subjecting the sulphided sulphur-containing sorbent material to a heating step in which it is heated to a temperature above that used in the sulphiding step and $\geq 110^\circ\text{C}$, under an inert gas selected from nitrogen, argon, helium, carbon dioxide, methane, and mixtures thereof, said inert gas optionally comprising hydrogen sulphide. The method provides sulphided copper sorbents that have reduced levels of elemental sulphur.

