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(54) **METHOD OF FABRICATING SILICON CARBIDE POWDER**

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(58) **Field of Classification Search**

None

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,370,854	A *	12/1994	Henley	B01J 8/087 423/344
5,863,325	A *	1/1999	Kanemoto et al.	117/105
6,217,841	B1 *	4/2001	Grindatto	B01J 27/22 423/249
6,503,572	B1 *	1/2003	Waggoner	C04B 35/565 427/228
6,627,169	B1 *	9/2003	Itoh	C01B 31/36 423/345
6,793,875	B1 *	9/2004	Shaw	B82Y 30/00 419/17

FOREIGN PATENT DOCUMENTS

JP	3174622	B2	6/2001
KR	10-2010-0071863	A	6/2010
KR	10-2011-0021530	A	3/2011

OTHER PUBLICATIONS

Translation of KR-10-2010-0071863 (Unexamined Publication No.).*

International Search Report in International Application No. PCT/KR2012/004992, filed Jun. 25, 2012.

* cited by examiner

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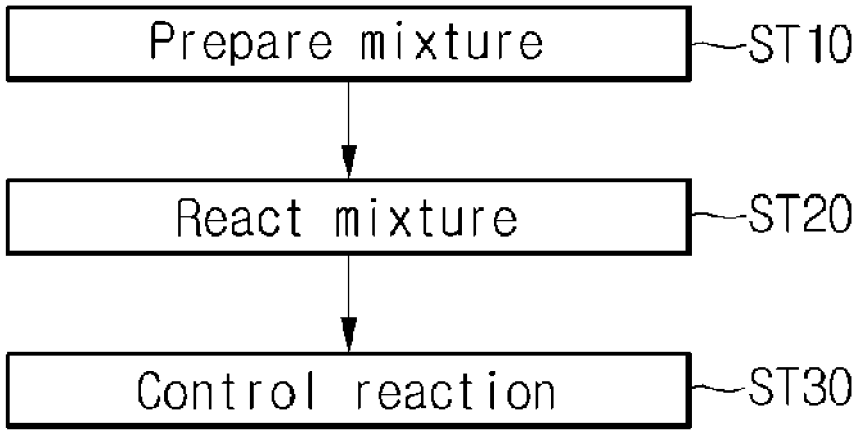
(57) **ABSTRACT**

A method of fabricating silicon carbide powder according to the embodiment comprises the steps of preparing a mixture by mixing a silicon source comprising silicon with a carbon source comprising a solid carbon source or an organic carbon compound; reacting the mixture; and controlling the reacting of the mixture, wherein the step of controlling the reacting comprises a step of supplying process gas or reaction product gas.

7 Claims, 1 Drawing Sheet