(11) **EP 1 387 125 A3**

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: **20.04.2005 Bulletin 2005/16**

(51) Int Cl.⁷: **F23G 7/06**

(43) Date of publication A2: **04.02.2004 Bulletin 2004/06**

(21) Application number: 03016064.2

(22) Date of filing: 15.07.2003

(84) Designated Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR
Designated Extension States:

AL LT LV MK

(30) Priority: 29.07.2002 US 206759

(71) Applicant: NITREX METAL INC St Laurent (Quebec) H4R 2J5 (CA) (72) Inventors:

Korwin, Michel J.
 Westmount, Quebec H3Z 2L4 (CA)

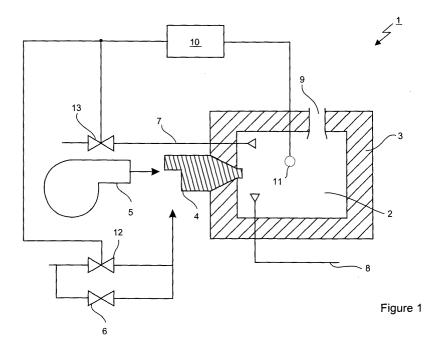
 Szymborski, Janusz Pointe claire, Quebec H9R 5V6 (CA)

(74) Representative: Kehl, Günther, Dipl.-Phys.
Patentanwaltskanzlei
Günther Kehl
Friedrich-Herschel-Strasse 9
81679 München (DE)

(54) Apparatus and method for thermal neutralization of gaseous mixtures

(57) A process gas incinerator (1) for neutralizing chemical non-innocent gaseous mixtures uses thermally induced neutralization reactions, and does not rely on the use of auxiliary compounds. In these reactions, chemical non-innocent gaseous mixtures are neutralized to form benign and environmentally friendly products. A plurality of flame breakers is disposed inside of

the reaction chamber (2) of the process gas incinerator. The flame breakers introduce variations in gas flow paths and flame patterns, and provide surfaces of elevated temperature inside the reaction chamber. The process gas incinerator is constructed in a way as to support neutralization of a wide range of amounts of non-innocent gaseous mixtures of arbitrary composition.





EUROPEAN SEARCH REPORT

Application Number EP 03 01 6064

Category	Citation of document with indica of relevant passages	tion, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
X	DE 93 06 924 U1 (GRACI NORDERSTEDT, DE) 16 December 1993 (1993 * page 7, line 27 - page 7	3-12-16)	1-5,7-9, 21-27, 31-33, 35-38, 40-43,45	F23G7/06
	figures 1,3 *			
X	US 6 138 586 A (REICH/ 31 October 2000 (2000- * column 2, line 65 - figures 2-5 *	-10-31)	1-3,7	
X	US 3 880 594 A (SHAW R 29 April 1975 (1975-04 * column 2, line 14 - figures 1-3 *	1-29)	1-3,7	
X	US 5 966 838 A (KREBS 19 October 1999 (1999- * column 7, line 38 - figures 3,4 *	-10-19)	12-15	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A	US 3 796 550 A (HALL 12 March 1974 (1974-03 * column 1, line 66 - figures 1,2 *	3-12)	1,12,21, 31,36,41	F23G
A	EP 0 040 690 A (KATEC LUFTTECHNIK BETZ GMBH 2 December 1981 (1981- * the whole document *	& CO) -12-02)		
	The present search report has been	drawn up for all claims Date of completion of the search		Examiner
	Munich	22 February 2005	The	is, G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category		T : theory or principle E : earlier patent doc after the filing date D : document cited in L : document cited fo	underlying the ir ument, but publis the application r other reasons	vention
A : technological background O : non-written disclosure P : intermediate document		& : member of the sa		

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 03 01 6064

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-02-2005

	Patent document ed in search report		Publication date		Patent family member(s)	Publication date
DE	9306924	U1	16-12-1993	NONE		
US	6138586	А	31-10-2000	DE DE	19808819 A 29823491 U	
US	3880594	Α	29-04-1975	NONE		
US	5966838	A	19-10-1999	AT AT EP	405644 B 170796 A 0832856 A	15-02-19
US	3796550	A	12-03-1974	AU DE JP	5355073 A 2314397 A 49017569 A	1 08-11-19
EP	0040690	A	02-12-1981	DE AT DE EP	3014269 A 5022 T 3161162 D 0040690 A	15-10-19 1 17-11-19

FORM P0459

© For more details about this annex : see Official Journal of the European Patent Office, No. 12/82