

International and National Patent Database

(All "Open Source" Information)

1.	WO	WO/2012/123380 - PRODUCTION AND USE OF CYANO GUANIDINE AND CYANAMIDE	20.09. 2012	C01C 3/16 	PCT/EP2012/0541 73	PUREGENERAT ION (UK) LTD	GRAUPNER, Robert Kurt
<p>The present invention is concerned with a method of generating energy from water and a composition comprising cyanoguanidine, the method comprising (a) reacting the composition with water to form ammonia and (b) oxidizing the ammonia formed in step (a) to form water and nitrogen thereby generating energy or (b') converting the ammonia formed in step (a) into nitrogen and hydrogen; and oxidising the said hydrogen to form water thereby generating energy. Thus, cyanoguanidine can be used as a transportation fuel (e.g. for cars, trucks and marine vehicles). Particularly effective conversion of cyanoguanidine to ammonia can be achieved when step (a) occurs in the presence of a catalyst comprising vanadium and zinc, particularly when the vanadium is vanadium pentoxide and the zinc is metallic zinc. The ammonia can be combusted in internal combustion engine or an external combustion engine. The ammonia can also be oxidised in an ammonia fuel cell.</p>							
2.	W O	WO/2012/123378 - PRODUCTION AND USE OF CYANO GUANIDI NE AND CYANAMIDE	20.09.2012	C01C 3/16 	PCT/EP2012/054 171	PUREGENERATION (UK) LTD	GRAUPNER, Robert Kurt
<p>The present invention is concerned with a method of producing a composition comprising cyanoguanidine, the method comprising (a) using a source of energy to react a metal oxide with a source of carbon to produce a finely divided metal carbide at an elevated temperature and immediately reacting the hot finely divided metal carbide with nitrogen gas to form a metal cyanamide. In embodiments the method comprises the step of (b) reacting the metal cyanamide, together with any unreacted metal carbide, with water to decompose the metal carbide into acetylene and acetylene-related compounds and metal hydroxide. Furthermore, energy can be derived from the reaction by (c) combusting the acetylene and acetylene-related compounds to release energy. Furthermore metal hydroxide can be recovered from the process by (d) separating the metal cyanamide and the metal hydroxide for recycling in the production process. The cyanoguanidine can then be used, for example, as a fertilizer.</p>							
3.	W O	WO/2009/056888 - FUEL SYNTHESIS METHOD	07.05.2009	C01D 7/07 	PCT/GB2008/051 020	PUREGENERATION (UK) LIMITED	HULTINE, Dustin, J.
<p>A method of making a fuel comprising a nitrogen-based compound, said method comprises the steps of: (a) producing hydrogen and metal hydroxide by electrolysis of an aqueous solution containing a metal chloride wherein said solution comprises components selected from the group consisting of water, NaCl, KCl, MgCl₂, sea water, salt well brine, calcium chloride, and a combination thereof; (b) exposing the metal hydroxide obtained by the electrolysis to an atmospheric fluid flow to sequester carbon dioxide from the atmosphere and produce at least one of metal carbonate and metal bicarbonate; and (c) reacting nitrogen with the hydrogen produced from the electrolysis to form ammonia. The invention also provides for uses of the by-products of the electrolysis which include chlorine or hydrochloric acid or hypochlorous acid, and metal hydroxides.</p>							
4.	US	20080307794 - GUANIDINE BASED FUEL SYSTEM AND METHOD OF OPERATING A COMBUSTION SYSTEM	18.12.2008	F02B 43/00 	11764063	GRAUPNER ROBERT KURT	Graupner Robert Kurt
<p>A guanidine based fuel delivery system and method of powering a combustion engine or furnace may be operable to supplying a guanidine-based composition consisting substantially of water, ethanol and guanidine into a reactor chamber. Guanidine and water of the guanidine-based composition may react in the reactor chamber to produce ammonia and carbon dioxide. The products from the reactor chamber may be delivered to a combustion chamber of the combustion based energy conversion system and combusted therein. A controller may control the injecting of product from the reacted composition into the combustion chamber according to at least one attribute of the group consisting of: a level of power predetermined for desired operation of the combustion based energy</p>							

conversion system, a performance parameter of the combustion based energy conversion system determined during operation thereof, and a concentration determined for at least one of the reactants/products in the reactor chamber and the reactants/products from the combustion chamber.

5.	US	20080286165 - Guanidine Based Composition and System for Same	20.11.2008	C01C 1/00	 11568629	GRAUPNER ROBERT K	Graupner Robert K.
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A method and apparatus for generating energy from a composition containing guanidine and a method for providing the composition containing guanidine. The apparatus includes a container such as tank (1) for providing the composition, and a container such as tank (2) for providing water. The composition is delivered from tank (1) to a container such as reactor (3) for reacting the guanidine composition with water, supplied from tank (2), to form ammonia. The apparatus may also include buffer tank (4) for storing the ammonia produced by the reactor. The ammonia produced from the reactor of the guanidine composition with water is delivered from the buffer tank (4) to a container such as chamber (5) for oxidizing ammonia to form water and nitrogen generating energy

6.	US	20080248435 - Devices For High Voltage Ignition of Combustible Gas	09.10.2008	F23Q 3/00	 11665763	CLARK TERRY	Clark Terry
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High voltage gas igniters are described, including a hand held portable gas torch igniter of the piezoelectric-type which includes a finger grip housing body actuated by inward depression of the push button igniter to generate a spark-producing voltage when held near the combustible gas exiting the bum tube of a torch or combustible gas exit of a heating device. The igniter has a tube electrode for easy construction, and deflector shield for user protection and gas mixing. Other igniters have multiple spark gaps for increased effective spark length.

7.	W O	WO/2008/115662 - CARBON DIOXIDE SEQUESTERING FUEL SYNTHESIS SYSTEM AND USE THEREOF	25.09.2008	C25B 3/04	 PCT/US2008/054 929	PUREGENERATION (UK) LTD.	GRAUPNER, Robert, Kurt
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A carbon dioxide sequestering, fuel synthesis system comprises an electrolyzer to electrolyze saltwater for producing hydrogen and metal hydroxide. The hydroxide solution obtained by the electrolysis is passed to an osmotic exchanger, for flow within channels defined by gas permeable walls of the osmotic exchanger. External surfaces of the permeable walls are exposed to atmosphere fluid flow, wherein carbon dioxide of the atmosphere permeates the permeable walls for sequestering via reaction with the metal hydroxide.

8.	BR	PI0510234 - método e aparelho para gerar energia, método e aparelho para obter uma composição que contém guanidina	23.10.2007	C01C 1/00	 PI 0510234-0	GRAUPNER ROBERT K	GRAUPNER ROBERT K
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9.	IL	178989 - GUANIDINE BASED COMPOSITION AND SYSTEM FOR SAME	08.03.2007	C01C /	 178989	GRAUPNER, ROBERT, K.	
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10.	KR	1020070022297 - GUANIDINE BASED COMPOSITION AND SYSTEM FOR SAME	26.02.2 007	C07C 277/00		10200670 25445	GRAUPNER ROBERT K.	GRAUPNER ROBERT K.
A method and apparatus for generating energy from a composition containing guanidine and a method for providing the composition containing guanidine. The apparatus includes a container such as tank (1) for providing the composition, and a container such as tank (2) for providing water. The composition is delivered from tank (1) to a container such as reactor (3) for reacting the guanidine composition with water, supplied from tank (2), to form ammonia. The apparatus may also include buffer tank (4) for storing the ammonia produced by the reactor. The ammonia produced from the reactor of the guanidine composition with water is delivered from the buffer tank (4) to a container such as chamber (5) for oxidizing ammonia to form water and nitrogen generating energy								
11.	EP	1742871 - GUANIDINE BASED COMPOSITION AND SYSTEM FOR SAME	17.01. 2007	C01C 1/08		05746871	GRAUPNER ROBERT K	GRAUPNER ROBERT K
A method and apparatus for generating energy from a composition containing guanidine and a method for providing the composition containing guanidine. The apparatus includes a container such as tank (1) for providing the composition, and a container such as tank (2) for providing water. The composition is delivered from tank (1) to a container such as reactor (3) for reacting the guanidine composition with water, supplied from tank (2), to form ammonia. The apparatus may also include buffer tank (4) for storing the ammonia produced by the reactor. The ammonia produced from the reactor of the guanidine composition with water is delivered from the buffer tank (4) to a container such as chamber (5) for oxidizing ammonia to form water and nitrogen generating energy								
12.	WO	WO/2006/044866 - DEVICES FOR HIGH VOLTAGE IGNITION OF COMBUSTIBLE GAS	27.04. 2006	F23Q 3/00		PCT/US2005/0373 86	EARTHCRAFT, LLC	CLARK, Terry
High voltage gas igniters are described, including a hand held portable gas torch igniter of the piezoelectric-type which includes a finger grip housing body actuated by inward depression of the push button igniter to generate a spark-producing voltage when held near the combustible gas exiting the bum tube of a torch or combustible gas exit of a heating device. The igniter has a tube electrode for easy construction, and deflector shield for user protection and gas mixing. Other igniters have multiple spark gaps for increased effective spark length.								
13.	WO	WO/2005/108289 - GUANIDINE BASED COMPOSITION AND SYSTEM FOR SAME	17.11. 2005	C01B 33/04		PCT/US2005/0159 20	GRAUPNER, Robert, K.	GRAUPNER, Robert, K.
A method and apparatus for generating energy from a composition containing guanidine and a method for providing the composition containing guanidine. The apparatus includes a container such as tank (1) for providing the composition, and a container such as tank (2) for providing water. The composition is delivered from tank (1) to a container such as reactor (3) for reacting the guanidine composition with water, supplied from tank (2), to form ammonia. The apparatus may also include buffer tank (4) for storing the ammonia produced by the reactor. The ammonia produced from the reactor of the guanidine composition with water is delivered from the buffer tank (4) to a container such as chamber (5) for oxidizing ammonia to form water and nitrogen generating energy								
14.	CA	2565636 - GUANIDINE BASED COMPOSITION AND SYSTEM FOR SAME	17.11. 2005	C01C 1/08		2565636	GRAUPNER, ROBERT K.	GRAUPNER, ROBERT K.
A method and apparatus for generating energy from a composition containing guanidine and a method for providing the composition containing guanidine. The apparatus includes a container such as tank (1) for providing the composition, and a container such as tank (2) for providing water. The composition is delivered from tank (1) to a container such as reactor (3) for reacting the guanidine composition with water, supplied from tank (2), to form ammonia. The apparatus may also include buffer tank (4) for storing the ammonia produced by the reactor. The ammonia produced from the reactor of the guanidine composition with water is delivered from the buffer tank (4) to a container such as chamber (5) for oxidizing ammonia to form water and nitrogen generating energy								

Open Source Priority Data

(WO2012123380) PRODUCTION AND USE OF CYANO GUANIDINE AND CYANAMIDE

Priority Data:

61/464,980 11.03.2011 US
61/517,521 21.04.2011 US

61/519,574	25.05.2011	US
61/520,236	06.06.2011	US
61/571,289	24.06.2011	US

(WO2012123378) PRODUCTION AND USE OF CYANO GUANIDINE AND CYANAMIDE

Priority Data:	61/464,980	11.03.2011	US
	61/517,521	21.04.2011	US
	61/519,574	25.05.2011	US
	61/520,236	06.06.2011	US
	61/571,289	24.06.2011	US

(WO2009056888) FUEL SYNTHESIS METHOD

Priority Data:	60/984,346	31.10.2007	US
	PCT/US2008/054929	26.02.2008	US
	61/067,939	04.03.2008	US

(US20080307794) GUANIDINE BASED FUEL SYSTEM AND METHOD OF OPERATING A COMBUSTION SYSTEM

(US20080286165) Guanidine Based Composition and System for Same

Priority Data:	60568551	05.05.2004	US
	60572677	20.05.2004	US
	60579904	15.06.2004	US
	60584707	30.06.2004	US
	US05015920	03.05.2005	WO

(US20080248435) Devices For High Voltage Ignition of Combustible Gas

Priority Data:	60619968	19.10.2004	US
	US05037386	19.10.2005	WO

(WO2008115662) CARBON DIOXIDE SEQUESTERING FUEL SYNTHESIS SYSTEM AND USE THEREOF

Priority Data:	60/903,439	25.02.2007	US (Priority Withdrawn 11.12.2008)
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(IL178989) GUANIDINE BASED COMPOSITION AND SYSTEM FOR SAME

Priority Data:	60/568551	05.05.2004	US
	60/572677	20.05.2004	US
	60/579904	15.06.2004	US
	60/584707	30.06.2004	US

(KR1020070022297) GUANIDINE BASED COMPOSITION AND SYSTEM FOR SAME (South Korea)

Priority Data: 2004 568551 05.05.2004 US
2004 572677 20.05.2004 US
2004 579904 15.06.2004 US
2004 584707 30.06.2004 US

**(EP1742871) GUANIDINE BASED COMPOSITION AND SYSTEM FOR SAME
(European Union – 36 countries, including:**

Designated States: AL,AT,BA,BE,BG,CH,CY,CZ,DE,DK,EE,ES,FI,FR,GB,GR,HR,HU,IE,IS,IT,LI,LT,LU,LV,MC,
MK,NL,PL,PT,RO,SE,SI,SK,TR,YU

Priority Data: 2005015920 03.05.2005 US
56855104 05.05.2004 US
57267704 20.05.2004 US
57990404 15.06.2004 US
58470704 30.06.2004 U

**(WO2005108289) GUANIDINE BASED COMPOSITION AND SYSTEM FOR
SAME**

Priority Data: 60/568,551 05.05.2004 US
60/572,677 20.05.2004 US
60/579,904 15.06.2004 US
60/584,707 30.06.2004 US