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02.08.95 Bulletin 95/31(71) Applicant: **MORTON INTERNATIONAL, INC.**
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BARON & WARREN
18 South End
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London W8 5BU (GB)(54) **Additive approach to ballistic and slag melting point control of azide-based gas generant compositions.**

(57) Gas generant pyrotechnic compositions especially suitable for inflating vehicle occupant restraint systems with nitrogen gas are described. The compositions are comprised (in wt.%) of 65-74% of an azide, preferably sodium azide; 17-29.5% of a metal oxide selected from iron, chromium, manganese, cobalt, copper and vanadium oxides, preferably ferric oxide; and 1.0-6% metal nitrite or nitrate co-oxidizer, preferably sodium nitrate; to which base composition is added 0.5-8% silica, alumina, titania or mixtures thereof; up to 6% bentonite and up to 4% molybdenum disulfide. Preferred driver and passenger side formulations are disclosed. The compositions burn from 20 to 38 mm per second and have excellent slag and clinker properties, as well as excellent aging and mechanical strength characteristics when formed into cylindrical pellets or wafers. The formulation ingredients are amenable to water slurry mixing, spray drying and machine pressing

into cylindrical pellets or wafers for insertion into a suitable gas generating device.

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EUROPEAN SEARCH REPORT

Application Number
EP 93 30 0253

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X	EP-A-0 329 293 (MORTON THIOKOL, INC.)	2-4,6-9, 14	C06D5/06 C06B35/00
Y	* claims; tables III,IV *	1,5, 10-13, 15-18	
D	& US-A-4 836 255 ---		
D,X	US-A-4 806 180 (G.W. GOETZ ET AL.)	2-4,6-9, 12,14	
Y	* column 3, line 66 - column 4, line 21; claims 1,6,8 *	1,5,10, 11,13, 15-18	
D,Y	US-A-4 604 151 (G.D. KNOWLTON ET AL.) * claims; example 7 *	1-18	
Y	US-A-4 931 111 (D.R. POOLE ET AL.) * column 3, line 29 - line 39; claims *	1-18	
Y	US-A-4 376 002 (LECHOSLAW A.M. UTRACKI) * column 1, line 6 - line 16; claim 1 * * column 6, line 53 - column 7, line 12 *	1-18	TECHNICAL FIELDS SEARCHED (Int.Cl.5)
Y	FR-A-2 193 801 (CANADIAN INDUSTRIES LIMITED) * claims *	1-3,10, 11,13, 16-18	C06D C06B
D	& US-A-3 883 373 ---		
Y	US-A-5 035 757 (D.R. POOLE) * column 4, line 44 - column 5, line 5; claim 1 *	10	
D,A	US-A-4 547 235 (F.E. SCHNEITER ET AL.) * column 3, line 8 - line 22 * -----	1-18	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12 June 1995	Examiner Schut, R
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document			