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## EUROPEAN PATENT APPLICATION

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54 **Water/melt-in-oil emulsion explosive composition.**

57 A detonator sensitive, stable water-in-oil or melt-in-oil emulsion explosive comprises an oxidiser containing discontinuous phase, a fuel containing continuous phase, and an emulsifier. To increase the safety of the explosive in flammable atmospheres, such as in coal mines, from 7% to 15% w/w of at least one of the following cooling agents is dissolved in the discontinuous phase: sulphonate, phosphonate, ammonium halide, alkali metal halide, alkaline earth metal halide, or a soluble phosphate salt. Preferably at least 20% of cooling agent is distributed between the continuous and discontinuous phases, with at least about 7% preferably about 12% present in the discontinuous phase.

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**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)
Y	DE-A-2 350 605 (INDIAN DETONATORS LTD.) * page 3, line 1 - line 7; claims * ---	1,7	C06B47/14 C06B23/04 C06B45/00
D,X	WORLD PATENTS INDEX LATEST Week 8202, Derwent Publications Ltd., London, GB; AN 82-03211E & JP-A-56 155 087 (NIPPON KAYAKU KK ET AL.)	1-6,8, 10,11	
Y	* abstract * ---	7,9, 12-14	
D,Y	EP-A-0 142 271 (NIPPON OIL AND FATS COMPANY, LIMITED) * page 17, line 2 - line 24; claims; tables 1B,1D * * page 19, line 27 - page 20, line 4 * ---	7,9,12, 13	
X	US-A-4 394 198 (F. TAKEUCHI ET AL.) * column 4, line 41 - column 5, line 5; table 1 * * column 5, line 40 - line 42 * * column 2, line 58 - column 3, line 30 * ---	1-3,8-13	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
Y	CHEMICAL ABSTRACTS, vol. 103, no. 26, December 1985, Columbus, Ohio, US; abstract no. 217727X, 'Water-in-oil type emulsion explosives with improved storage stability' & JP-A-8590888 (Nippon Oils and Fats Co., Ltd.)(22-05-1985) * abstract * ---	1,7	C06B
Y	'Encyclopedia of explosives and related items' 1966, US, SPRINGFIELD, N.T.I.S. Vol. 3, page C511 --- -/--	1	

The present search report has been drawn up for all claims

Place of search <b>THE HAGUE</b>	Date of completion of the search <b>17 MARCH 1992</b>	Examiner <b>SCHUT R, J.</b>
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**CATEGORY OF CITED DOCUMENTS**

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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)
Y	CHEMICAL ABSTRACTS, vol. 109, no. 2, 11 July 1988, Columbus, Ohio, US; abstract no. 11047R, T. CHOI ET AL.: 'Studies in coal dust explosions: influence of additives on extinction of high intensity coal dust flames' page 288 ; Symp. (Int.) Combust., (Proc.) 1986 (Pub. 1988). 21st., 345-55 * abstract *	1	
Y	US-A-3 725 154 (C.R. MCCULLOCH ET AL.) * column 2, line 70 - line 72 *	1	
Y	GB-A-2 096 590 (IRECO CHEMICALS) * page 3, line 27 - line 32 *	13, 14	
A	EP-A-0 250 224 (IRECO INCORPORATED) * claims *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
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The present search report has been drawn up for all claims			
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CATEGORY OF CITED DOCUMENTS		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	
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