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(2005/4/25 ;2004/7/7)

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. %15-5

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Effect of poly ethylene addition on thermodynamic stability of Asphalt – Sulphur blends

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ABSTRACT

Poly ethylene was added in different percentages to Asphalt-Sulphur blends that contain from 5-15% by weight Sulphur. Physical properties of Asphalt – Sulphur - Poly ethylene blends were determined. The effect of poly ethylene addition on the homogeneity of Asphalt - Sulphur blends was studied after an aging period of more than one year at ambient temperatures.

(Saylak & Gallawy.,1975(,

(Rahimian,1976), (Quarles et al.,1965)

(Garrigues et al.,1972)

(Kennepohl et al.,1974)

(Dah-Yinn . %50

Lee,1975)

(Sullivan et al.,1975)

(L`vov Morchan ,1981)

(Fromm et al.,1981)

(Al-Dobouni & Salih.,2002) (Al-Tai,1986)

(Samarai,1978)

(Phase Separation)

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. +100 55 45 3 / 1.02

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N₂

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8	7	6	5	4	3	2	1
53	51	47	46.8	47	43	47	45
53	74	104	104	+65	+100	91	55
15.5	40	73	+100	+100	+100	+100	+100
-033	0.04	-0.04	-0.1	-1.37	-2.03	-0.46	-2.32
→				→			

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%8			%4			%2			%1			
%15	%10	%5	%15	%10	%5	%15	%10	%5	%15	%10	%5	
20	19	18	17	16	15	14	13	12	11	10	9	
56	45	50	49	43	46.5	41.0	41.5	48.5	46.2	42	43	
76	39	73	75	108	111	151	173	107.0	38	86	124	
9	8	7	25	40	61	54	72	68	85	90	+100	
1.32	-0.85	-0.02	0.44	1.2	0.03	-0.8	-0.4	0.21	0.72	-2.20	-0.70	

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130

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(ASTM,1986)

(ASTM,1986)

(ASTM,1972)

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(4 3 2)
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(2,3,4)

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Al-Dobouni &)

(8 5,6,7)

(Salih,2002

(15 10 5)

(2) . %8 4 2 1

(2) .

(Fromm,et al.,1981)

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(Al-Tai,1986) ()

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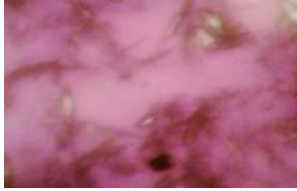
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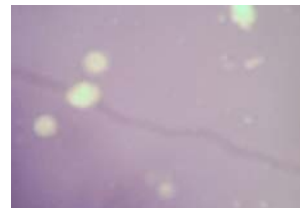
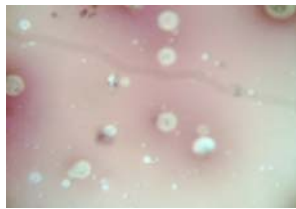
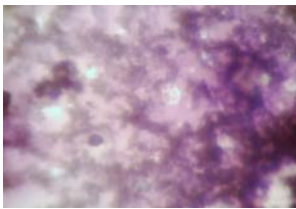


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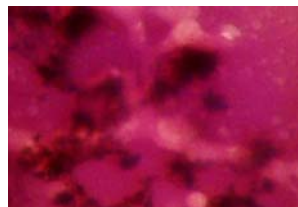
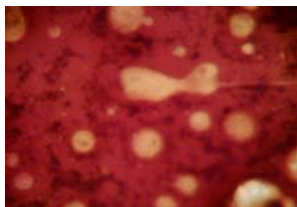


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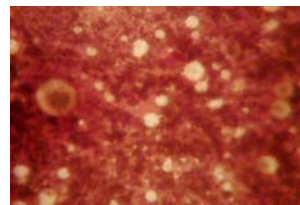
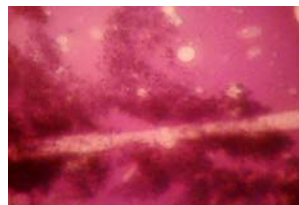


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(17 16 15) %4

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(17

(18,19,20) %8

(15,16,17)

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