

- () (1) -

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	.	1~3	-	, .
	1 가 1~2	0~3	Cr, Co	
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	가	1~3	-	~

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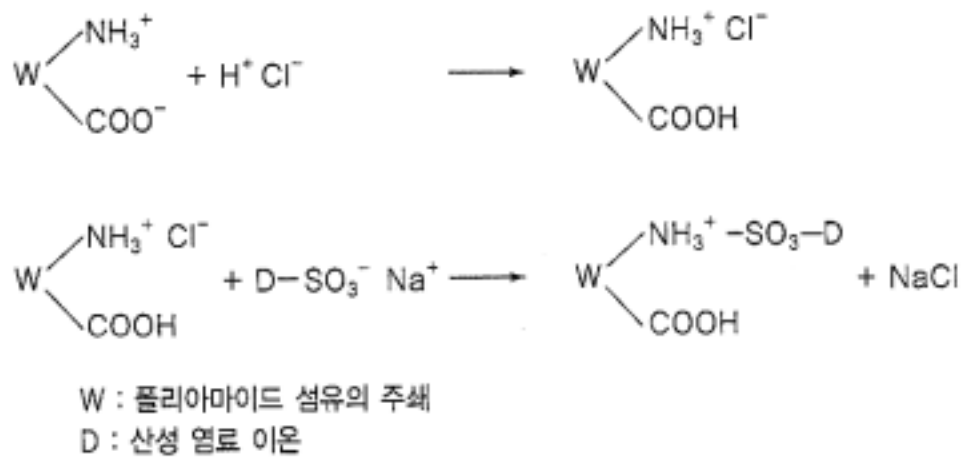
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Acid Dye

1.2

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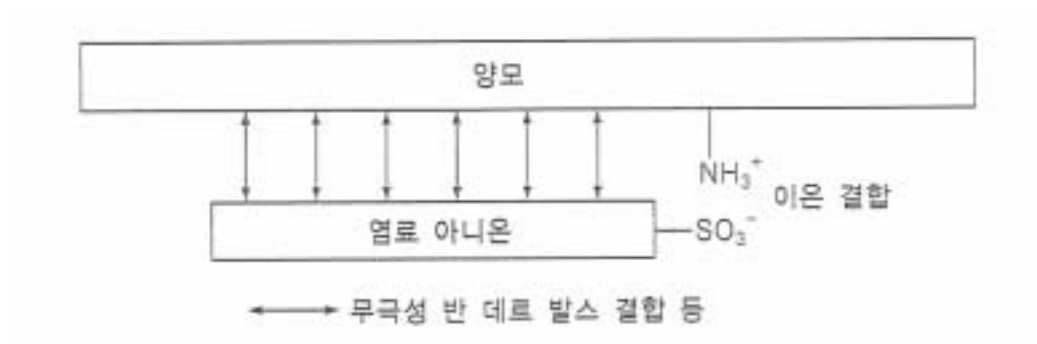
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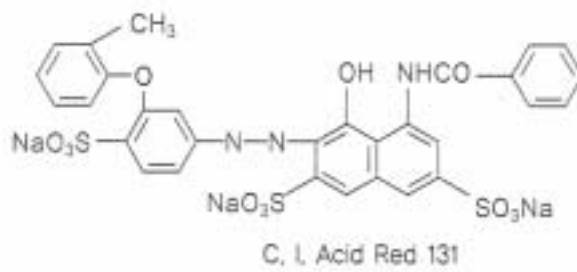
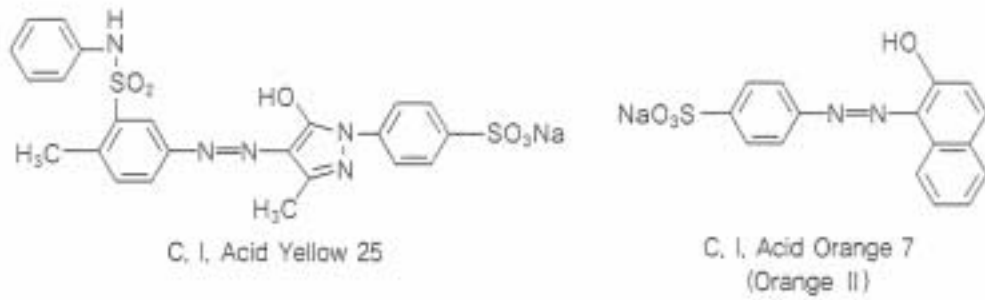
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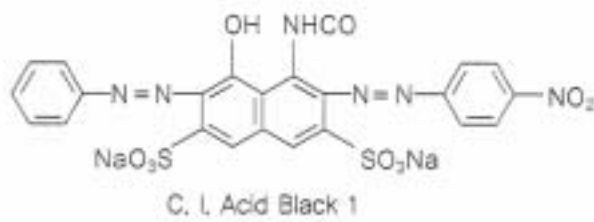
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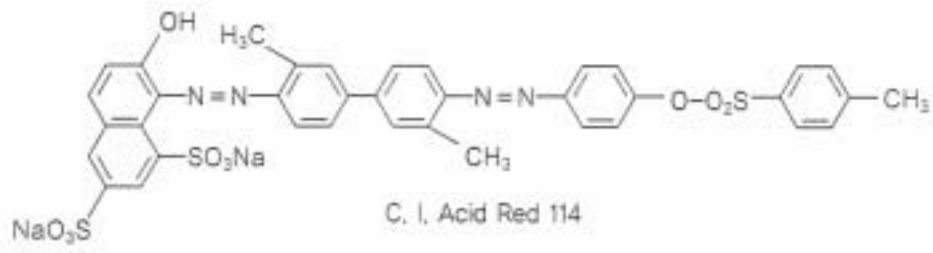
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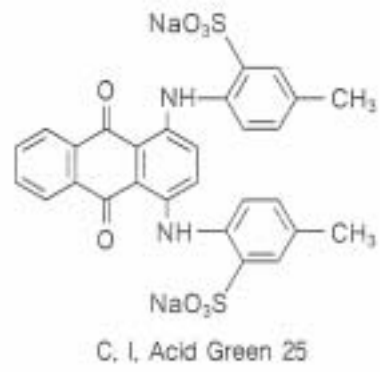
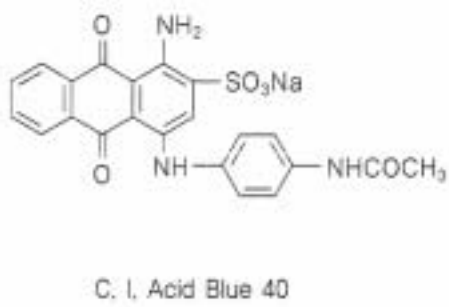
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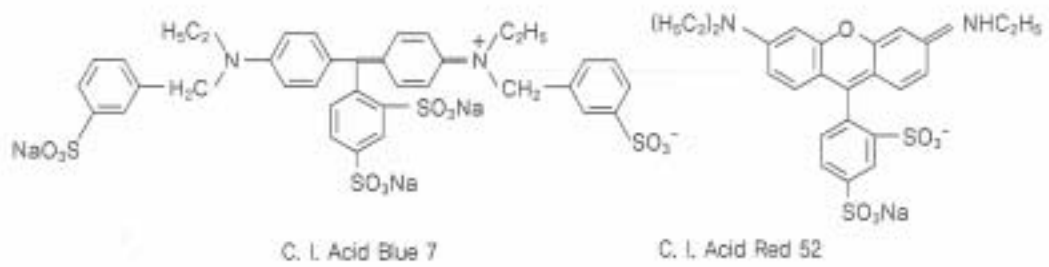
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1.3

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pH

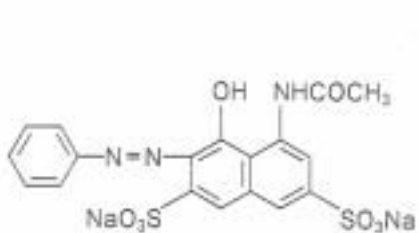
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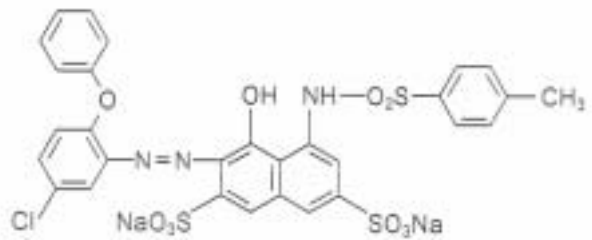
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< 2>

	Leveling	Fast	Milling
			,
pH	2~4	4~5	6~7
pH			



C. I. Acid Red 1



C. I. Acid Red 249

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2가

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	pH				
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佳友/田岡	Solar/Acid	Suminol Leveling	Suminol Fast	Suminol Milling	Aminyl E	Aminyl F/FD
日本化薬		Kayacyl	Kayanol	Kayanol Suminol		
保土谷	Aizen Acid					
DyStar		Mitsui Acid	Mitsui Acid Fast	Carbolan Mitsui Acid Milling	Telon Nylomine A/B	Telon Nylomine C/D

					Mitsui Nylon Fast	Mitsui Nylon
Ciba				Polar	Tection	Erionyl
Clariant		Sandolan E	Sandolan N	Sandolan Milling	Nylosan E	Nylosan F/N

1.5

(1)

1) pH

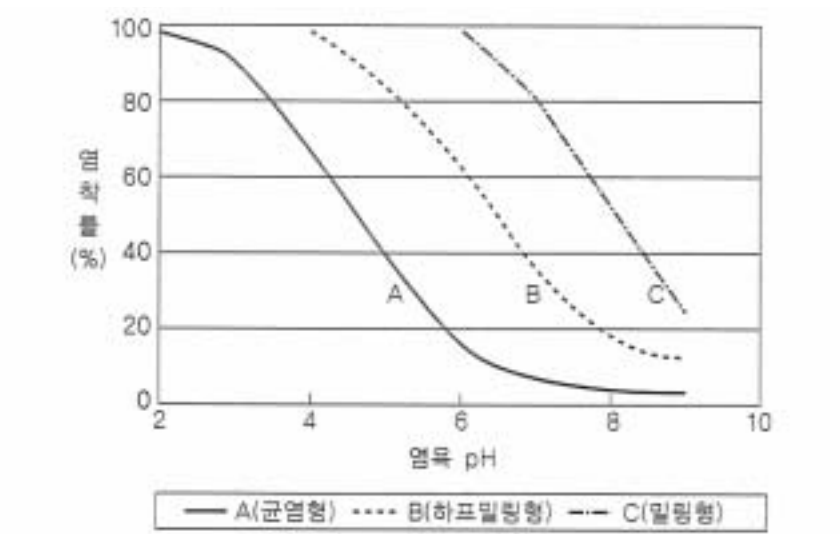
pH .

pH가 가

가 , pH가 가

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가 . pH < 3> .



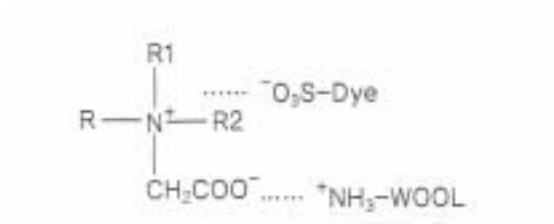
< 3> pH

2)

가 . , pH 5
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< 5> pH

PH		
2~4		$\text{Na}_2\text{SO}_4 \rightarrow 2\text{Na}^+ + \text{SO}_4^{2-}$ $\text{SO}_4^{2-} \rightarrow \text{NH}_3^+ \leftarrow \text{DSO}_3^-$
4~5		
5~7		$\text{DSO}_3\text{Na} \rightarrow \text{DSO}_3^- + \text{Na}^+$ $\text{Na}_2\text{SO}_4 \rightarrow 2\text{Na}^+ + \text{SO}_4^{2-}$



< 4> ,

3)

pH 6~7
pH 4~5

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X% owf

2~4% (85%), pH 2~3

1~3% (60%), pH 4~5

2~5%

5~10%

100 40~60 .

1.6 .

(1)

가 가

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가 .

가 .

C. I. Acid Red 114가 .

(2) PRTR ,

PRTR C. I. Acid Violet 49, C. I. Acid Red 114가 2

(81) . MSDS

MSDS .