



Water Colors Solubility (%) Chart

WATER COLORS		Solubility							
		Water (%)	Water/EGL* = 1/1 (%)	pH	pH Stability (pH, 1% Dye)	Water Fastness	Light Fastness	Registration	Safety (GDR)
Product Name	C.I. Name								
YELLOW 1	Acid Yellow 23	7.5	12.5	7.0±1	1~14	E ³	A ³	O	O
YELLOW 2	Food Yellow 3	1	5	9.5±1	1~14	E ¹	C ¹	O	O
YELLOW 6	Acid Yellow 42 deriv.	17.5	17.5		1~14	E	A	X1	O
YELLOW 6C	Acid Yellow 42 deriv.							X1	O
YELLOW 6C-L	Acid Yellow 42 deriv.			7.5±1				X1	O
ORANGE 18	Mixture	1	1						
ORANGE 25	Mixture	2.5	2.5						
RED 1	Acid Red 18	>30.0	12.5	10.0±1	1~14	E	A	O	O
RED 2	Acid Red 87	>30.0	>30.0	8.0±1	5~9	E	A	O	O
RED 2S	Acid Red 87	>30.0	>30.0						
RED 3	Acid Red 73	1	1	10.0±1	1~14	E ¹	A~B ¹	O	X
RED 9	Mixture	25	17.5	8.5±1	5~9	E	B	O	O
RED 27	Acid Red 52	7.5	20	8.0±1	1~14	E ³	C ³	O	O
RED 28	Basic Red 1	1	2						
SCARLET	Acid Red 18	25	7						
PINK 2	Acid Red 92	>30.0	>30.0	7.5±1	4~8	E	C	O	O
PINK 2S	Acid Red 92	>30.0	>30.0	7.5±1	5~8	E	C	O	O
GREEN 8	Mixture	12.5	17.5	6.5±1	1~14	E	C	O	O
BLUE 3	Direct Blue 87	25	25	10.5±1	1~14	D	A	O	O
BLUE 9	Acid Blue 9	>30.0	>30.0	6.0±1	1~14	E	A	O	O
BLUE 105	Acid Blue 90			6.0±1				O	
BLUE 105S	Acid Blue 90	>30.0	>30.0	6.0±1	1~14	B	A	O	O
BLUE 116	Acid Blue 15			5.0±1				O	
SOLUBLE OBB	Acid Blue 93	>30.0	>30.0	5.0±1	1~14	E	B	O	O
VIOLET 6	Acid Violet 49			6.5-8.5				O	O
VIOLET 7	Acid Violet 17			4.0-7.0				O	
BLACK 21	Mixture	10	10						
BLACK 31	Mixture	25	12.5						
BLACK 187LM	Direct Black 154	LIQUID	LIQUID	9.0±1	1~14	A	A	O	X
BLACK 191L	Direct Black 19	LIQUID	LIQUID	10.5±1				O	
BLACK 256-L	Proprietary	LIQUID	LIQUID	8.5±1	5~14	C ³	A	X2	O
BLACK R-455	Acid Black 2	>30.0	>30.0	8.5±1	1~14	C	A	O	O
BLACK R-510	Acid Black 2	17.5	>30.0	9.0±1	1~14	B	A	O	O
Orient Black 2	Acid Black 2	16.0	4	3.5-6.5				O	
Orient Black SP		LIQUID	LIQUID	9.0±1				O	O

Solubility in water: Tested stability after keeping one night at 4°C.
EGL=Ethyleneglycol

pH Stability: checked precipitation with 1% dye content in water.

Water fastness: tested by dipping dye coated paper* for 1 hr & drying the paper for one night.
*dye-coated paper: paper coated by 10% dye solution

(in case of note 5 in the above list, 5% dye; in case of note 1, 1% dye) and dried for one night.

Rating (1=color strength before dipping, 2=color strength after dipping)
A:2/1=more than 0.8
B:2/1=0.6-0.8
C: 2/1=0.4-0.6
D: 2/1=0.2-0.4
E: 2/1=less than 0.2

Light Fastness: tested by light the dye=coated paper* with xenon lamp *42w/m2) for 24 hrs.

Registration (registration at JP, EU, US, CA, AU, KR, CH, & PH)

- O: registered in every country
- X1: not registered at PH only
- X2: not registered at JP, CA, AU, KR, CH & PH

Safety (GDR): German regulation of safety for daily goods (control azo dyes which may make a carcinogenic amine by decomposition)
O: conformed
X: not conformed