

# CHEMICALS FOR KODAK PROFESSIONAL BLACK-AND-WHITE FILMS

## KODAK PROFESSIONAL Film

KODAK Chemicals	CONTINUOUS-TONE—										HIGH CONTRAST—										Typical Dilution (stock or concentrate: water)	Solution Temperature /Time Range	Packaged Powder	Packaged Liquid Concentrate	Replenisher Available	For Use In	Keeping Properties Without Use		Useful Capacity						
	T-MAX 100 Professional	T-MAX 400 Professional	T-MAX 3200 Professional	PLUS-X Pan	PLUS-X Pan Professional	Technical Pan	TRI-X Pan	TRI-X Pan Professional	VERICHROME Pan	EKTAPAN	Contrast Process Ortho	SPECIAL PURPOSE—	EASTMAN Fine Grain Positive 5302	Fine Grain Positive 7302	High Speed Infrared	Professional BW Duplicating SO-132	Professional Copy	Rapid Process Copy	Stock or Concentrate Solution in Closed Container (Full)	Working Solution in Tray/Tank							8 x 10 Sheets per Gal/L in a Tray	Tank							
<b>Developer</b>																																			
Developer D-76	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																	full strength 1:1	65 to 75°F (18 to 24°C) See instructions packaged with product	●	●	small or large tank, tray, rotary-tube, rack-and-tank	6 months NA	24 hours/1 month 24 hours/NR	16/4 8/2	16/4* 8/2
T-MAX Developer	✓	✓	✓	✓	✓	✓	✓	✓	✓																	1:4		●	small or large tank, rotary-tube	6 months	NR/1 month	NR	16/4		
T-MAX RS Developer and Replenisher	✓	✓	✓	✓	✓	✓	✓	✓	✓																	stock (working strength)		●	●	small or large tank, tray, rotary-tube, rack-and-tank	Indefinite (concentrate) 6 months (working strength solution)	24 hours/1 month	16/4	16/4*	
XTOL Developer	✓	✓	✓	✓	✓	✓	✓	✓	✓																	full strength 1:1		●	●	small or large tank, tray, rotary tube	6 months	24 hours/2 months	19/5	19/5	
HC-110 Developer Dilution A Dilution B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓															1:3 (A) 1:7 (B) from stock solution		●	●	small or large tank, tray, rotary-tube, rack-and-tank	6 months (stock) —	24 hours/1 month (A) 12 hours/2 weeks (B)	20/5 (A) 10/2.5 (B)	40/10 (A)* 20/5 (B)*		
MICRODOL-X Developer	✓	✓		✓	✓	✓	✓	✓	✓	✓															full strength 1:3		●	●	●	small or large tank, tray	6 months NR	24 hours/1 month NR	16/4 8/2	16/4* 8/2	
Developer DK-50				✓	✓	✓	✓	✓	✓																full strength 1:1		●	●	small or large tank, tray	6 months	24 hours/1 month 12 hours/2 weeks	20/5 10/2	40/10* 20/5		
TECHNIDOL Liquid Developer																									working strength		●	small tank, tray	Indefinite	1 week in full closed container	12 4 x 5 sheets/qt 8 120 roll	16 135-36 roll 8 120 roll			
Developer D-19																									full strength		●	large tank, tray	6 months	24 hours/1 month	45/12	60/16*			
DURAFLO RT Developer Replenisher	✓	✓	✓	✓	✓	✓	✓	✓	✓																See instructions packaged with Part B	80 ±0.5°F (26.5 ±0.3°C)	●	●	roller-transport	6 weeks (replenisher tank with cover)	6 weeks for replenisher in tank	NA	NA		
<b>Stop Bath</b>																																			
Indicator Stop Bath	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓															1:63	65 to 70°F (18 to 21°C) 30 seconds	●	●	small or large tank, tray, rotary-tube	Indefinite	3 days/1 month	discard when color changes to purplish blue			
EKTAFLO Stop Bath	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓															1:31		●								
<b>Fixers</b>																																			
Rapid Fixer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓															1:3 plus Part B (hardener)	65 to 70°F (18 to 21°C) 2 to 10 minutes depending on film and fixer combination	●	●	tank, tray, machine	Indefinite	1 week/1 month	120/32	120/32*		
Fixer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓															working strength see package		●	●	small or large tank, tray, rotary-tube	2 months	1 week/1 month	100/26	100/26		
POLYMAX T or KODAFIX Solution	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓															1:3		●	●	small or large tank, tray, rotary-tube	Indefinite	1 week/1 month	120/32	120/32		
<b>Washing Aid</b>																																			
Hypo Clearing Agent	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓															1:4 from stock solution	65 to 70°F (18 to 21°C) 1 to 2 minutes	●	●	small or large tank, tray, rotary-tube, rack-and-tank	3 months	24 hour/1 month	50–60 (12–15) without pre-rinse 150–200 (35–50) with pre-rinse			
<b>Drying Aid</b>																																			
PHOTO-FLO Solutions (200, 600, 2100)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓															1:200 1:600 1:2100	65 to 70°F (18 to 21°C) 30 seconds	●	●	small or large tank, tray, rack-and-tank	Indefinite	Indefinite†	—	—		

\* Useful capacity can be increased by replenishment.

† Keeping properties will vary depending on conditions of use.

NA = Not Applicable    NR = Not recommended

## MORE INFORMATION

KODAK Chemical	Description
<b>DEVELOPERS</b>	
KODAK Developer D-76†	<ul style="list-style-type: none"> <li>For general use</li> <li>Yields full emulsion speed and good shadow detail with normal contrast</li> <li>Moderately fine grain, excellent development latitude</li> <li>Replenish with KODAK Replenisher D-76R</li> <li>For normal or push processing</li> </ul>
KODAK T-MAX Developer	<ul style="list-style-type: none"> <li>Designed for non-replenished systems</li> <li>Produces enhanced shadow detail</li> <li>For use with roll films only</li> <li>For normal or push processing</li> </ul>
KODAK T-MAX RS Developer and Replenisher*	<ul style="list-style-type: none"> <li>Recommended for replenished systems</li> <li>Produces enhanced shadow detail</li> <li>For normal or push processing of roll and sheet films</li> </ul>
KODAK XTOL Developer	<ul style="list-style-type: none"> <li>Suitable for most professional black-and-white films</li> <li>Ascorbic acid developer</li> <li>Very high image quality at full emulsion speed</li> <li>Convenient, room-temperature mixing</li> <li>Stable performance through a range of temperatures, dilutions, and agitation methods</li> <li>Fine grain and high sharpness</li> <li>Provides more emulsion speed (shadow detail) than most developers for normal and push processing</li> </ul>
KODAK HC-110 Developer	<ul style="list-style-type: none"> <li>Extremely versatile</li> <li>Can be used in both replenished and non-replenished systems</li> <li>Replenish with KODAK HC-110 Developer Replenisher</li> <li>For normal or push processing</li> </ul>
KODAK MICRODOL-X Developer‡	<ul style="list-style-type: none"> <li>Produces fine grain and a high degree of sharpness; maximum enlargement</li> <li>Produces a slightly brownish image tone</li> <li>Replenish with KODAK MICRODOL-X Replenisher</li> <li>For most roll and sheet films</li> </ul>
KODAK Developer DK-50	<ul style="list-style-type: none"> <li>Moderately fast developer that can be used straight or diluted 1 part concentrate to 1 part water</li> <li>Provides normal contrast, average to slightly higher than average graininess</li> <li>Replenish with KODAK Replenisher DK-50R</li> </ul>

KODAK Chemical	Description
KODAK TECHNIDOL Liquid Developer	<ul style="list-style-type: none"> <li>Produces exceptionally fine grain</li> <li>For use with KODAK Technical Pan Films</li> <li>Yields a high degree of sharpness, and images with enhanced edge effect</li> </ul>
KODAK Developer D-19	<ul style="list-style-type: none"> <li>High capacity, clean working, fast acting</li> <li>Provides higher than normal contrast and speed, higher than average graininess</li> </ul>
KODAK DURAFLO RT Developer Replenisher	<ul style="list-style-type: none"> <li>Designed for roller-transport processors</li> <li>Replenished system</li> <li>Produces fine grain</li> <li>Long storage life</li> <li>Good sheet-film transport</li> </ul>
<b>STOP BATHS</b>	
KODAK Indicator Stop Bath	<ul style="list-style-type: none"> <li>Non-hardening, general-purpose stop bath for use with films and papers</li> <li>Contains an indicator to signal exhaustion</li> <li>Dilute 1 part concentrate with 63 parts water</li> </ul>
KODAK EKTAFLOR Stop Bath	<ul style="list-style-type: none"> <li>A liquid concentrate with built-in color indicator to signal exhaustion</li> <li>Dilute 1 part concentrate with 31 parts water</li> <li>Also for use with paper</li> </ul>
<b>FIXERS</b>	
KODAK Rapid Fixer	<ul style="list-style-type: none"> <li>A fast-acting hardening fixer</li> <li>For machine, tray, or tank processing</li> <li>Consists of two liquid concentrates: Solution A (the fixer concentrate) and Solution B (the hardener concentrate)</li> <li>For use with film and paper</li> </ul>
KODAK Fixer	<ul style="list-style-type: none"> <li>A general-purpose hardening fixer for films and papers</li> <li>Mixes to working strength</li> </ul>
KODAK POLYMAX T Fixer or KODAFIX Solution	<ul style="list-style-type: none"> <li>General-purpose, single-solution hardening fixer for films and papers</li> <li>Long life, high capacity</li> <li>Dilute 1 part concentrate to 3 parts water for use with film; 1 part concentrate to 7 parts water for use with paper</li> </ul>

KODAK Chemical	Description
<b>WASHING AID</b>	
KODAK Hypo Clearing Agent	<ul style="list-style-type: none"> <li>Promotes removal of fixer from films and fiber-base papers to shorten wash times and make washing at lower wash-water temperatures practical</li> <li>Dilute 1 part stock solution to 4 parts water</li> </ul>
<b>DRYING AID</b>	
KODAK PHOTO-FLO Solution	<ul style="list-style-type: none"> <li>Decreases water-surface tension</li> <li>Minimizes water marks and streaks on film</li> <li>Promotes faster, more uniform drying</li> </ul>
<b>DIRECT POSITIVE OUTFIT</b>	
KODAK T-MAX 100 Direct Positive Film Developing Outfit	<ul style="list-style-type: none"> <li>Produces positive black-and-white slides from KODAK T-MAX 100 Professional Film and KODAK Technical Pan Film</li> <li>For use in small or large tanks and rotary-tube processors</li> </ul>

\* Use the mixed solution as a working tank solution or a replenisher.

† For greater sharpness, you can use this developer diluted 1:1. Using the diluted developer requires longer development times, which may result in a slight increase in graininess.

‡ For greater sharpness, you can use this developer diluted 1:3. Using the diluted developer requires longer development times which results in increases in graininess and film speed.

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