## CHEMICALS FOR KODAK PROFESSIONAL BLACK-AND-WHITE FILMS

<table>
<thead>
<tr>
<th>KODAK PROFESSIONAL FILM</th>
<th>Typical Dilution</th>
<th>Solution Temperature/Time Range</th>
<th>Packaged Powder</th>
<th>Packaged Liquid Concentrate</th>
<th>Replenisher Available</th>
<th>Use For In</th>
<th>Stock or Concentrate Solution in Closed Container (Full)</th>
<th>Working Solution in Tray/Tank</th>
<th>8 x 10 Sheets per Gal/L in a Tray</th>
<th>Useful Capacity</th>
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**DEVELOPER**

- **Developer D-76**
  - Typical Dilution: Full strength 1:1
  - Solution Temperature/Time Range: 65 to 75°F (18 to 24°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: 6 months
  - Use For In: 24 hours/1 month
  - Stock or Concentrate Solution in Closed Container (Full): 16/4
  - Working Solution in Tray/Tank: 16/4*

- **T-MAX Developer**
  - Typical Dilution: 1:4
  - Solution Temperature/Time Range: 65 to 75°F (18 to 24°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: Indefinite (conc)
  - Use For In: 24 hours/1 month
  - Stock or Concentrate Solution in Closed Container (Full): NR
  - Working Solution in Tray/Tank: 16/4*

- **T-MAX RS Developer and Replenisher**
  - Typical Dilution: Stock (working strength)
  - Solution Temperature/Time Range: 65 to 75°F (18 to 24°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: Indefinite (conc) 6 months (working tank sol)
  - Use For In: 24 hours/1 month
  - Stock or Concentrate Solution in Closed Container (Full): NR
  - Working Solution in Tray/Tank: 16/4*

- **XTOL Developer**
  - Typical Dilution: Full strength 1:1
  - Solution Temperature/Time Range: 65 to 75°F (18 to 24°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: Indefinite (conc)
  - Use For In: 24 hours/2 months
  - Stock or Concentrate Solution in Closed Container (Full): 19/5
  - Working Solution in Tray/Tank: 19/5

- **HC-110 Developer**
  - Dilution A: 1:3
  - Dilution B: 1:7
  - Solution Temperature/Time Range: 65 to 75°F (18 to 24°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: Indefinite (conc)
  - Use For In: 24 hours/1 month
  - Stock or Concentrate Solution in Closed Container (Full): 19/5
  - Working Solution in Tray/Tank: 19/5

- **Developer D-19**
  - Typical Dilution: Full strength 1:1
  - Solution Temperature/Time Range: 65 to 75°F (18 to 24°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: Indefinite (conc)
  - Use For In: 24 hours/1 month
  - Stock or Concentrate Solution in Closed Container (Full): 19/5
  - Working Solution in Tray/Tank: 19/5

**STOP BATH**

- **Indicator Stop Bath**
  - Typical Dilution: 1:63
  - Solution Temperature/Time Range: 65 to 70°F (18 to 21°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: Indefinite
  - Use For In: 3 days/month
  - Stock or Concentrate Solution in Closed Container (Full): Indefinite
  - Working Solution in Tray/Tank: 120/32
  - 8 x 10 Sheets per Gal/L in a Tray: 120/32
  - Useful Capacity: NA
  - Discard when color changes to purplish/blue

**FIXERS**

- **Rapid Fixer**
  - Typical Dilution: 1:3 plus Part B (hardener)
  - Solution Temperature/Time Range: 65 to 70°F (18 to 21°C)
  - Packaged Powder: Tanks, tray, machine
  - Packaged Liquid Concentrate: Tanks, tray, machine
  - Replenisher Available: Indefinite
  - Use For In: 1 week/month
  - Stock or Concentrate Solution in Closed Container (Full): 120/32
  - Working Solution in Tray/Tank: 120/32

- **Fixer**
  - Typical Dilution: Working strength see package
  - Solution Temperature/Time Range: 65 to 70°F (18 to 21°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: Indefinite
  - Use For In: 1 week/month
  - Stock or Concentrate Solution in Closed Container (Full): 120/32
  - Working Solution in Tray/Tank: 120/32

**WASHING AID**

- **Hypo Clearing Agent**
  - Typical Dilution: 1:4 from stock solution
  - Solution Temperature/Time Range: 65 to 70°F (18 to 21°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: Indefinite
  - Use For In: 3 months
  - Stock or Concentrate Solution in Closed Container (Full): Indefinite
  - Working Solution in Tray/Tank: 50-60 (12-15) without pre rinse; 150-200 (35-50) with pre rinse

**DRYING AID**

- **PHOTO-FLO Solution 200**
  - Typical Dilution: 1:200
  - Solution Temperature/Time Range: 65 to 70°F (18 to 21°C)
  - Packaged Powder: Small or large tank, tray, rotary-tube
  - Packaged Liquid Concentrate: Small or large tank, tray, rotary-tube
  - Replenisher Available: Indefinite
  - Use For In: Indefinite

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* Useful capacity can be increased by replenishment.
† Keeping properties will vary depending on conditions of use.
NA = Not applicable
NR = Not recommended
### DEVELOPERS

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<tr>
<th>Chemical</th>
<th>Description</th>
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| Developer D-76† | • For general use  
• Yields full emulsion speed and good shadow detail with normal contrast  
• Moderately fine grain, excellent development latitude  
• Replenish with KODAK PROFESSIONAL Replenisher D-76R  
• For normal or push processing |
| T-MAX Developer | • Designed for non-replenished systems  
• Produces enhanced shadow detail  
• For use with roll films only  
• For normal or push processing |
| T-MAX RS Developer and Replenisher* | • Recommended for replenished systems  
• Produces enhanced shadow detail  
• For normal or push processing of roll and sheet films |
| XTOL Developer | • Suitable for most professional black-and-white films  
• Ascorbic acid developer  
• Very high image quality at full emulsion speed  
• Convenient, room-temperature mixing  
• Stable performance through a range of temperatures, dilutions, and agitation methods  
• Fine grain and high sharpness  
• Provides more emulsion speed (shadow detail) than most developers for normal and push processing |
| HC-110 Developer | • Extremely versatile  
• Can be used in both replenished and nonreplenished systems  
• Replenish with KODAK PROFESSIONAL HC-110 Developer Replenisher  
• For normal or push processing |

### DEVELOPERS (Cont.)

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<th>Chemical</th>
<th>Description</th>
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| Developer D-19 | • High capacity, clean working, fast acting  
• Provides higher than normal contrast and speed, higher than average graininess |
| DURAFLLO RT Developer Replenisher | • Designed for roller-transport processors  
• Replenished system  
• Produces fine grain  
• Long storage life  
• Good sheet-film transport |
| Indicator Stop Bath | • Non-hardening, general-purpose stop bath for use with films and papers  
• Contains an indicator to signal exhaustion  
• Dilute 1 part concentrate with 63 parts water |
| Rapid Fixer | • A fast-acting hardening fixer  
• For machine, tray, or tank processing  
• Consists of two liquid concentrates: Solution A (the fixer concentrate) and Solution B (the hardener concentrate)  
• For use with film and paper |
| Fixer | • A general-purpose hardening fixer for films and papers  
• Mixes to working strength |
| KODAFIX Solution | • General-purpose, single-solution hardening fixer for films and papers  
• Long life, high capacity  
• Dilute 1 part concentrate to 3 parts water for use with film  
• 1 part concentrate to 7 parts water for use with paper |

### STOP BATHS

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| Hypo Clearing Agent | • Promotes removal of fixer from films and fiber-base papers to shorten wash times and make washing at lower wash-water temperatures practical  
• Dilute 1 part stock solution to 4 parts water |
| PHOTO-FLO 200 Solution | • Decreases water-surface tension  
• Minimizes water marks and streaks on film  
• Promotes faster, more uniform drying |

### FIXERS

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| T-MAX 100 Direct Positive Film Developing Outfit | • Produces positive black-and-white slides from KODAK PROFESSIONAL T-MAX 100 Film  
• For use in small or large tanks and rotarytube processors |

Note: To obtain consistent results from Kodak powdered chemicals, mix the full volume marked on the package. Kodak supplies powdered photographic chemicals in a variety of sizes that make it easy to choose the volume you need. Therefore, we do not recommend mixing smaller-than-package-size amounts of powdered KODAK Processing Chemicals.

For the latest version of technical support publications for KODAK PROFESSIONAL Products, visit Kodak on-line at: [http://www.kodak.com/go/professional](http://www.kodak.com/go/professional)

If you have questions about KODAK PROFESSIONAL Products, call Kodak.

In the U.S.A.:  
1-800-242-2424, Ext. 19, Monday–Friday  
9 a.m.–5 p.m. (Eastern time)

In Canada:  
1-800-465-6325, Monday–Friday  
8 a.m.–5 p.m. (Eastern time)

In other regions of the world, check with Kodak in your country.