CALBE CHEMIE

PRODUCT INFORMATION

RA-4 CD-LR 80
Colour Developer Replenisher *Low Rate*

RA-4 CD-LR 80 is a 1-part colour developer, designed for the processing of RA-4 compatible colour papers in minilabs and leaderbelt developing machines. Recommend for labs with high to very high utilisation.

RA-4 CD-LR 80	**Pack with 4 x 1 L conc. for 4 x 10 L replenisher**	**for 500 m²**	**REF 12310**
	Canister with 10 L conc. for 100 L replenisher	**for 1.250 m²**	**REF 12315**
RA-4 CD-S	**Colour Developer Starter, 2 L concentrate**	**for 44 litres**	**REF 12810**
CD-Additiv Plus	**Antioxidant, 2 x 0.5 L concentrate**	**for 250-500 L**	**REF 16222**

LR 80 stands for the low replenishment rate of 80 ml/m².

The modern, highly concentrated 1-part formula CD-LR 80 enables particularly economical work with a high yield and at the same time low disposal volumes. With an assumed carry-over rate of 40ml/m², the overflow to be disposed of, is only 40 ml/m². CD-LR 80 is designed and intended for machines with high to very high utilisation.

A high utilisation is given, when the working tank of the machine can be exchanged with CD-LR 80 replenisher within approx. 2 weeks - corresponding to consumption of approx. 13 m² colour paper per every litre of CD-LR working solution within approx. 2 weeks.

Colour Developer Starter CD-S is required, when colour developer working solution is to be prepared fresh.

CD-Additiv Plus is an optional antioxidant. It protects the colour developer from premature oxidation at low utilisation.

MIXING OF REPLENISHER

Water		**CD-LR 80 Conc.**		**Replenisher**
	+		=	
900 ml		100 ml		1 L
9 L		**1 L**		**10 L**
90 L		10 L		100 L

Warm water (> 25 °C) promotes fast and good mixing.
Mixing time: approx. 1-2 minutes. Only as much replenisher should be prepared, as will be used up within 1-2 weeks. The tank must be covered and protected from access of air.

OPTIONAL USE OF CD-ADDITIV PLUS

Addition of CD-Additiv Plus:

One time after mixing of replenisher as well as weekly directly to the working solution.

Replenisher: 4 ml CD-Additiv Plus per litre of CD-LR 80, one-time after mixing

Working solution: 2 ml CD-Additiv Plus per litre of CD-LR 80, once per week

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MIXING OF WORKING SOLUTION

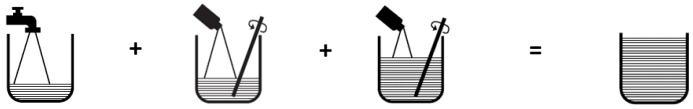
Mixing of working solution is required when the working tank of the machine is to be refilled, e.g. when installing a machine or after cleaning the tank during maintenance work.

For mixing of working solution 2 different options are possible :

Option 1: Direct, by using concentrate

Option 2: Indirect, by using previously mixed replenisher

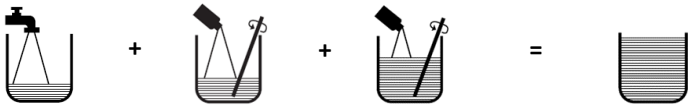
Water > 25 °C + **Starter CD-S REF 12810** + **CD-LR 80 Conc.** = **Working solution**



905 ml + **45 ml** + **50 ml** = **1 L**

OPTION 1: DIRECT WITH CONCENTRATE

Water > 25 °C + **Starter CD-S REF 12810** + **CD-LR 80 Replenisher** = **Working solution**



455 ml + **45 ml** + **500 ml** = **1 L**

OPTION 2: INDIRECT WITH REPLENISHER

Corresponding to the size of the respective colour developer working tank, the quantities for water, Starter CD-S and CD-LR 80 concentrate, resp. CD-LR 80 replenisher are to be multiplied.

Always start mixing with the full amount of water, then add Starter CD-S and concentrate or replenisher. Mixing time approx. 1-2 minutes.

PROCESSING PARAMETERS

Time: 45 s **Temperature:** 38°C ± 0,3°C **Replenishment rate**: 80 ml/m²

The data given are guideline values that may deviate in practice, depending on the individual developing machine used, on the type of colour paper and on the utilisation. The specifications for time and temperature should not be undercut; slightly longer time or higher temperature is possible.

Tempered working solution is subject to continuous evaporation of water. Accordingly, the evaporation should be compensated for by a daily addition of water to avoid an increase in the concentration of the working solution. The daily addition of water to the working solution is approx. 0.5 -1 % of the tank volume - e.g. for a tank with 20 litres tank capacity, the addition is approx. 100-200 ml.

Any tempering has a stressing effect on the shelf life of the chemicals, therefore the processor should be switched off immediately after the end of work, the timer should be programmed accordingly.

HIGH SPEED PROCESSING

Minilabs with High Speed mode allow processing at a shortened developing time, e.g. of 33 seconds. The temperature of the colour developer working solution must then be set to 40°C.

For minilabs with particularly short processing times of approx. 20 -22 seconds, such as KIS DKS 15xx, 16xx, 17xx, we recommend the use of Calbe RA-4 3000 chemicals, which are specially designed for shortest processing time.

OCCUPATIONAL SAFETY

Handling of photographic chemicals is safe, if used properly and protective measures are followed. Hazard and precautionary information can be found on the label (H and P phrases, hazard symbol) and in the safety data sheet. Personal protective equipment should include safety goggles or face shield, protective gloves and a lab coat or apron.

STORAGE

RA-4 CD-LR 80 concentrates should be stored dry, frost-proof and out of the reach of children. The maximum temperature range is between 5°C and 25°C. Storage temperatures between 10°C and 20°C are ideal.

SHELF LIFE

RA-4 CD-LR 80 concentrates in unopened, originally sealed bottles and canisters have a shelf life of approx. 2 years.

DISPOSAL

Photographic chemicals - concentrates or used baths - must not be discharged into the public sewer system. These chemicals must be discarded by commercial waste treatment companies, who properly treat and dispose of in accordance with legal regulations. Further information can be found in the safety data sheet.

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