
TECHNICAL BULLETIN

MINILAB CHEMICAL GUIDE

Minilab processing

FUJIFILM

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I. INTRODUCTION

It goes without saying that if a minilab is to fully meet its client's demands, particular attention must be paid to the quality of photographic results.

The correct use and accurate management of chemicals are the most important factors in determining a quality result.

The use of FUJIFILM or Fuji Hunt chemicals will not only result in optimum photographic quality, but will also reap economic, practical and environmental benefits.

Fuji Hunt minilab chemicals allow for **odour-free** processing. In those products which carry the **Air control** logo, FUJIFILM Europe replaced the unpleasant smelling components by odour free ones. Additionally the characters 'AC' have been added in the product name. In other formulas where the smelly substances were not replaced, a chemical masking agent (lemon fragrance) has been introduced.

The purpose of this **Minilab Chemical Guide** is to provide essential information for minilab sales staff, engineers and minilab operators, and to illustrate the properties of FUJIFILM and Fuji Hunt chemicals, thus providing a sound basis for good laboratory management. Its aim is to explain in the simplest terms, all that is involved in the chemical management of a minilab.

For ease, the Guide is divided into this Introduction and 7 sections:

- Chemical Characteristics
- Control and Management of Processing Chemicals
- Safe handling of Processing Chemicals
- Process Options
- Mixing Instructions
- Environmental
- Product Listings

II. CHEMICAL CHARACTERISTICS

1. Function of the processing solutions

Every chemical bath has a precise function regarding the final image on the paper or on the negative. A constant quality level of the actual processing solutions will prevent, in most cases, problems originating from these chemical solutions. It is therefore necessary, before making changes to a processing solution, to verify the proper functioning of the processor (time, temperature, speed, etc.) thus avoiding unnecessary corrections. Being aware of the reactions that take place in a chemical solution can contribute to troubleshooting of possible processing problems.

Developer

The developer reacts with the silver salts in the emulsion of the film or paper. At the same time the developer combines with couplers and produces colour dyes. A black and white (silver) image and a colour image are formed. The black and white image will be removed in the bleach-fix (for the paper process), or in the bleach and the fix (for the negative process).

The quantity of dyes produced is proportional to the activity of the developer, which depends of the time, temperature, agitation, replenishment rate and concentration. When the developer is overactive, the quantity of dyes produced will be greater and thus the image will be darker.

The developer activity also has an influence on the final colours of the print or on the negative. When the developer is under-active you will end up with lighter prints having colour deviations in the black parts, or lighter films appearing underexposed.

Bleach

The bleach, used for the negative process C41, reacts with the metallic silver formed during development and converts it into soluble silver salts. In addition, the bleach also stops the development and avoids fogging.

Fixer

The function of the fixer is to remove the silver salts converted in the bleach.

Bleach-Fix

The bleach-fix, used for the paper process, has three fundamental functions: stopping the development, converting the black and white image back to soluble silver salts, and then removing them from the emulsion.

Superstabilizer

The Superstabilizer removes the residues of the chemicals used for negative and paper processing, thus ensuring long term keeping properties

2. Choosing the chemical products

Selecting the appropriate chemical products for a minilab is the first step in optimising the quality of the photographic results. The right choice also results in an economic advantage allowing the minilab to remain more competitive.

The factors that have to be taken into account when choosing the most appropriate products include the manufacturer of the minilab equipment, the design and the size of the tanks and the workload in terms of number of films and square meters of paper.

A. The Negative Process

The minilabs now on the market can be distinguished according to the process type used for the negative film treatment. FUJIFILM minilabs will use CN16Q, CN16FA, CN16L or CN16S chemicals. On other makes of machine the most common process types are C41 BNP and C41 RANP. The standard C41 process can still be found on older minilabs.

The differences between the C41 BNP and the C41 RANP process types are determined by the time: the first one takes up to 16 minutes, while the latter takes about 9 minutes from introduction of the film into the processor (including the entrance and drying time). The time saving is a result of much shorter bleach and fixer times.

Developer

An LR (low replenishment) developer is suitable for high throughput minilabs. Smaller units or those with lower throughput will benefit from using a standard replenishment rate (41 ml per film) developer. Many minilabs that have traditionally used LR and standard developers may need to think about switching to EnviroNeg Developer 60 AC (60ml/film) as film volumes continue to decrease – this new developer can be used with all non-Fuji processors, and also in all Fuji FP minilabs (except those using CN-16S chemistry) in place of existing Fuji CN-16 chemistry. If in doubt, please discuss with your FUJIFILM representative.

Bleach and Fix

The choice of the bleach and the fix depends on the different process types, their processing times and production volumes.

Stabilizer / Rinse

FUJIFILM minilabs use a separate rinse bath (NS or NQS), made with FHRSS water with a conditioner tablet, followed by a stabilizer (N4 safer). Most other minilabs use a single or mono-bath (MB) tank and require a combined rinse and stabilizer, commonly known as a superstabilizer.

B. The Paper Process

The choice of the chemical products for the paper process depends on the relationship between the size of the processor tanks and the paper throughput. As the paper process represents the major part of the chemical usage for the minilab, the choice of the most appropriate products must be taken from the point of view of minimising waste generation.

Developer

Replenisher rates can vary from as low as 45ml per square meter up to 160ml. It is essential to choose the right developer for the equipment and throughput. It is important to ensure that the temperature and replenisher rates are set correctly as CPRA developers operate at 35°C and EnviroPrint at a temperature between 38°C and 40°C, depending on the type of process.

Bleach-Fix

Bleach-Fix Replenisher with a standard replenishment rate is the best solution for minilabs with normal to low throughput. As with the developers, a range of bleach-fix products is available, with replenishment rates varying from 35 to 215 ml/m².

Superstabilizer

Either FHRSS water with a conditioner tablet or a regular superstabilizer can be used to rinse the paper. FUJIFILM minilabs must use FHRSS if the auto-evaporation compensation feature is used. Regular superstabilizer will contaminate the developer if used to replace evaporation loss.

III. CONTROL AND MANAGEMENT OF PROCESSING CHEMICALS

1. Factors affecting process control

A. Processing Temperature

The processing temperature greatly affects photographic characteristics. The temperature of the colour developer is particularly crucial. To maintain correct processing temperature, observe the following precautions :

Solution Temperature Settings

When first installing processing equipment or when replacing control circuit boards, be sure to input the correct processing solution temperatures.

Temperature Calibration

If you do not use an accurate thermometer to calibrate the electrical signals generated by the sensor that maintains the solution temperature, the actual temperature of the solution may not be correct even if the temperature settings appear to be correct.

B. Circulation

Inadequate circulation will cause temperature variations in the processing tank temperatures and also agitation effects, both of which will adversely affect photographic characteristics. To prevent this, do the following maintenance checks :

Circulation Filter

If the circulation filters clog, the circulation throughout is reduced and image contrast is lowered. To prevent this, replace the circulation filters once a month.

Circulation Pump

Since circulation failure is conceivable due to a malfunction or wears in the circulation pumps or an electrical short in the circulation pump circuit, it is important to visually verify that circulation is continuing.

C. Replenishment

The replenishment of processing solutions restores chemical concentration levels that have been consumed and/or exhausted during processing. The replenishment volume is set as a proportional amount (prescribed volume) which is added to particular processing solution. If the actual volume of replenisher added does not meet the prescribed volume, the processing capacity will be altered and the finished product quality will be affected. To prevent this, particular care should be paid to the following points :

Replenishment Settings

The replenishment rate settings must be entered correctly.

Replenisher Filter

If the replenisher filter clogs, the flow of the prescribed amount of replenisher will be impeded, resulting in lowered image sensitivity and contrast. To prevent this, clean or replace the replenisher filter once a month.

Replenishment Volume Check

Since the volume of replenisher provided by the replenisher pump changes according to the pump performance, replenisher flow rates should be checked once a month.

2. Management of processing solutions

A. Mixing processing solutions

If no mistakes have been made in the proper dilution of chemical components, then the pH and specific gravity values of the solutions should be within limits. If the pH and density of prepared processing solutions are not within these limits, the solutions cannot be used.

B. Evaporation Compensation

The working solutions in the processor have to be maintained at a relatively high temperature for the major part of the day. When no photographic materials are processed and therefore no fresh replenisher is added to the tank, the water in the solution tends to evaporate, while the chemicals stay in the solution. In addition, evaporation will continue even when the processor is shut down.

FUJIFILM Minilabs

The FUJIFILM Minilab processors have the ability to automatically replace water lost from the processing tanks through evaporation. This function automatically calculates the level of solution concentration caused by water evaporation and adds an appropriate amount of water to compensate for it, thereby maintaining uniform processing performance.

The water addition volume is set at the factory and basically needs no modification. If, however, the solution becomes more concentrated or diluted, follow the procedure outlined in the service manual to check and change the water addition volume setting.

Other Minilabs

If the minilab does not have auto evaporation compensation, it is essential each morning to replace any liquid lost as a result of evaporation. To do this refill the tanks with water back to the normal level.

Water should always be used to replace loss due to evaporation. If replenisher is used it will over-concentrate the developer. However, if a loss of level is due to a leak, then tank solution should be used to replace the missing volume. Repair the leak first. If water loss is greater than 3% of the tank volume, check for leaks.

Check solutions at least once during the day and clean top rollers with a water spray. Do not use too much water. Also wash down with a spray at the end of processing.

3. Equipment cleaning

Cleaning of the film processor, crossover rack and shaft receptor prevents the build up of crystals that may cause film abrasions and processing unevenness. These parts should be cleaned at the end of every production day.

FUJIFILM Europe has a range of tank cleaning fluids available. Tanclene is the most suitable for general use in minilabs.

At the solution surface of the developer there can be a build up of deposit on the tank walls and racks. Fuji Hunt TANCLENE is very effective in removing these deposits. This product is specially designed for the cleaning of photographic processing tanks.

Tanclene can be used at different dilution ratios according to the type of cleaning. For example:

- Cleaning of racks and working tanks: 250 ml Tanclene + 750 ml water
- Periodical cleaning of the working tanks: 100 ml Tanclene + 900 ml water

CAUTION! Concentrated Tanclene is a corrosive acid. All users should exercise the greatest care to avoid the chemical contacting the skin, eyes or other parts of the body. Always wear solution resistant gloves and effective eye protection. Do not inhale the vapours.

IV. PROCESS OPTIONS

1. Introduction

As already mentioned in the previous section, FUJIFILM and Fuji Hunt are offering a broad product range to satisfy all the needs of the minilab customers.

It will be the task of the operator to select the most appropriate products for his own specific minilab. Whenever it's necessary, FUJIFILM Europe Staff can help in selecting the right products.

The purpose of this section is to provide you with all the necessary information to make the right choice and will specifically refer to the following items for the negative and paper process:

- TIME
- REPLENISHMENT RATE
- AERATION
- AGITATION
- FILTRATION
- DRYING

2. The film process

Processing time

The time includes the immersion of the film and the transfer to the next tank. The times for the bleach, the fixer and the stabilizer are of less importance. It is possible to use longer times for these baths.

Replenishment rate

The given replenishment rates are based on a typical mix of negative film and should be considered as a starting point. The rate is given as ml per film (135 - 24 exposure).

Aeration/oxidation of the bleach (when applicable)

In order to maintain its activity, the bleach needs oxygen. It is very important to check the aeration on a regular basis. The air bubbles should be tiny and the intensity of the aeration needs to be limited to prevent excessive foaming. Too low aeration will cause leuco-cyan dye formation as well as silver retention problems, especially when the bleach is too diluted or under-replenished.

Filtration

Processing solutions will accumulate gelatine residues or other insoluble compounds coming from the emulsion. When these compounds are not filtered out, they will stick onto the films and build up on the rollers and racks, causing damage.

Drying

Keep the drying unit clean to avoid dust formation. When there are filters installed, clean or change them regularly. Do not let the drying temperature rise above 65°C. Films coming out with too much curl is an indication of excessive drying. In this case the drying temperature should be lowered.

3. The paper process

Processing time

The figures given include the immersion time and the time for the transfer to the next tank. The transfer time from one tank to another should be less than 6 seconds.

Development time should be between 20 and 33 seconds for Fast RA4 Processing and 44 and 48 seconds for standard RA4. Longer times for the bleach-fix or the stabilizer don't have any effect on the result. The time for the stabilizer is ~90 seconds, spread over 3 or 4 tanks – less on Fast Processing machines.

Replenishment rate

The replenishment rate is given in ml/m². This depends on developer types, throughput and paper type.

Agitation

Good agitation is important during the first seconds of immersion of the paper in the developer and in the bleach-fix. When the initial agitation of the developer is insufficient, the resulting image will not be uniform. Poor agitation in the bleach-fix does not stop the action of the developer and typically produces magenta stripes or patches.

This problem can become worse when there is an excessive carry over of the developer into the bleach-fix. The flow rate of the bleach-fix pump should be at least 0.75 times the tank volume per minute (e.g. when the tanks contain 20 litres, the flow rate of the pump should be at least 15 l/min). For the stabilizer tanks the flow of the circulation pump should be, in one minute, the same as the tank volume (e.g.: if the tank contain 20 litres, the flow rate of the agitation pump should be at least 20 l/min).

Filtration

Processing solutions will accumulate gelatine residues and other insoluble compounds coming from the emulsion. When these compounds are not filtered out, they will stick onto the paper and build up on the rollers and racks, causing damage. Use the filters recommended by the manufacturer of the minilab and replace them regularly. Normally use of filters with a pore size of 10 to 30 micron.

Drying

The temperature in the drying unit should not exceed 75 °C.

4. Choosing your developer

Choosing which developer to use is the most important decision and has a direct effect on the quality of processing and the ease of use and cleanliness of the developer.

The general rule for minilabs is that the developer turnover should not exceed three weeks. This means that you should use a volume of replenisher at least equal to the volume of the tank e.g. if the tank volume is 10 Litres you should use at least 10 Litres of replenisher within three weeks.

If you do not achieve this, then it is usually better to use a developer with a higher replenishment rate in order to prevent excessive developer oxidation and reduction in print quality.

FUJIFILM minilabs

Normally you should use the specific process that is designed for each machine i.e. for negative: CN-16Q, CN-16FA, CN-16L, CN-16S or for paper: CP-40,CP-43,CP-47,CP-48, CP-49.

However, if you do have low throughput it is better to ensure that you use a high replenishment rate developer. For FP film minilabs this means changing from CN-16FA or CN-16L N1 developer to CN-16Q N1 (don't forget to change the replenishment rate!). This can be done very simply and without retanking – with minimal impact on your minilab operation and great improvement in quality. Where you have exceptionally low throughput you may even want to consider changing to Fuji Hunt EnviroNeg Developer 60 AC in place of Fuji CN-16Q. For CN-16S users, a new low throughput chemistry cartridge system – CN-16SER – is available. Please consult your FUJIFILM representative about these low throughout options for your minilab.

Other minilabs

The chart on the next page acts as an easy to use calculator for the correct type of developer to use. Simply compare the tank size to the daily throughput (averaged over 3 weeks). It is unlikely that any but the very busiest film processors can now justify running an LR-type developer such as EnviroNeg Developer LR AC, and the standard replenishment rate EnviroNeg Developer AC should be considered as the normal option. If you have low film volumes – as is frequently the case – you should change to EnviroNeg Developer 60 AC from your current product. This will give a much improved film process with higher contrast, lower stain and high quality prints – please see the developer selection chart.

Noritsu, San Marco and Gretag minilabs which are designed for Kodak SM chemicals do not have conventional replenishing tanks. Conventional replenishing tanks contain (a) concentrate(s) diluted with the proper amount of water. The Kodak SM chemical kits for film and paper are used as disposable replenishment tanks containing concentrates only. These concentrates are dosed directly into the working tanks. The necessary amount of water is dosed separately and is injected directly to the working tanks. For the use of Fuji Hunt Chemistry, a Direct Inject System (DIS) is available.

The **FUJIFILM Europe DIS chemical system** consists of re-usable external replenisher tanks which can be refilled with the corresponding Fuji Hunt concentrates/ready-to-use chemicals. Only four external replenisher tanks are needed for each process (film and paper). For full details please ask for the separate FUJIFILM Europe Technical Information Sheet "DIS equipment".

For **Konica, KIS DKS550, 750, 15xx, 16xx and 17xx** minilabs, Fuji Hunt **EnviroPrint FP chemicals** and **EnviroPrint K15 developers** are available. For full details the DKS chemical system, please see the FUJIFILM Europe Technical Information Sheet "TIS KIS DKS-15xx conversion". This product line can also be used in the **Kodak System 89 DLS Digital Minilab**. For the **Konica film processors**, there is also a Fuji Hunt product range available.

For **Agfaphoto Easy chemicals**, used in **fp.210, d-lab.1 and d-lab.2 minilabs**, FUJIFILM Europe can provide the **ADM Cartridges for film and paper**. The ADM cartridge for paper can also be used for the **Kodak RP30 and SRP30 laser printers** as an alternative for the **Kodak Ektacolor Processing Cartridge 75**.

More details can be found on the next pages in this Technical Bulletin and also on our web site, www.fujifilm.eu/feb. Alternatively, contact your FUJIFILM representative.

A. How to choose your paper developer

Standard RA4 process

Tank Size

40 L	NR	NR	NR	NR	1	1	2	2	3	3	4	4	4	5	
35 L	NR	NR	NR	1	1	2	2	3	3	4	4	4	5	5	
30 L	NR	NR	NR	1	2	2	3	3	4	4	5	5	5	5	
25 L	NR	NR	NR	1	2	3	4	4	5	5	5	5	5	5	
20 L	NR	NR	1	2	3	4	4	5	5	5	5	5	5	5	
15 L	NR	NR	2	3	4	5	5	5	5	5	5	5	5	5	
10 L	NR	1	3	4	5	5	5	5	5	5	5	5	5	5	
5 L	1	3	5	5	5	5	5	5	5	5	5	5	5	5	
	120	240	480	720	960	1200	1440	1680	1920	2160	2400	2640	2880	3120	Prints/day
	1.8	3.6	7.2	10.8	14.4	18.0	21.6	25.2	28.8	32.4	36.0	39.6	43.2	46.8	m ²

- NR** = not recommended
- 1** = EnviroPrint Developer MP160
- 2** = EnviroPrint Developer MP108
- 3** = EnviroPrint Developer MP73 AC
- 4** = EnviroPrint Developer MP60 AC
- 5** = EnviroPrint Developer MP45 AC

Fast Processing

Tank Size

40 L	NR	NR	NR	NR	NR	1	1	1	1	1	2	2	2	2	
35 L	NR	NR	NR	NR	NR	1	1	1	2	2	2	2	2	2	
30 L	NR	NR	NR	NR	1	1	1	2	2	2	2	2	2	2	
25 L	NR	NR	NR	NR	1	1	2	2	2	2	2	2	2	2	
20 L	NR	NR	NR	1	1	2	2	2	2	2	2	2	2	2	
15 L	NR	NR	1	1	2	2	2	2	2	2	2	2	2	2	
10 L	NR	NR	1	2	2	2	2	2	2	2	2	2	2	2	
5 L	NR	1	2	2	2	2	2	2	2	2	2	2	2	2	
	120	240	480	720	960	1200	1440	1680	1920	2160	2400	2640	2880	3120	Prints/day
	1.8	3.6	7.2	10.8	14.4	18.0	21.6	25.2	28.8	32.4	36.0	39.6	43.2	46.8	m ²

- NR** = not recommended
- 1** = EnviroPrint FP Developer MR
- 2** = EnviroPrint Developer MP45 AC @ 60ml/m²

B. How to choose your film developer

Tank Size

50 L	NR	NR	NR	NR	NR	0	0	1	
40 L	NR	NR	NR	NR	0	0	0	1	
30 L	NR	NR	NR	0	0	0	1	1	
25 L	NR	NR	NR	0	0	0	1	1	
20 L	NR	NR	0	0	0	1	1	2	
15 L	NR	NR	0	0	1	1	2	3	
10 L	NR	0	1	1	2	2	3	3	
5 L	0	1	1	2	2	3	3	3	
	2	3	7	10	15	20	25	35	Films/day

- NR** = not recommended
- 0** = see "Very Low Throughput" on page 19
- 1** = EnviroNeg Developer Replenisher 60 AC @ 60ml/135-24
- 2** = EnviroNeg Developer Replenisher AC
- 3** = EnviroNeg Developer Replenisher LR AC

5. Chemical specifications

A. Chemical specifications - FUJIFILM Negative

FUJIFILM CN-16Q

Solution Name	Process Time Min:sec	Solution Temp °C	Replenishment Rate ml/24 exp 135
NQ1	3:15	38.0	45
NQ2	1:00	38.0	20
NQ3	3:15	38.0	30
NQS	1:40	35.0	30
NQ4	0:40	38.0	20

FUJIFILM CN-16FA

Solution Name	Process Time Min:sec	Solution Temp °C	Replenishment Rate ml/24 exp 135
N1	3:05	38.0	23
N2	0:50	38.0	5
N3-1	0:50	38.0	0
N3-2	0:50	38.0	16
NS	0:50	38.0	34
N4	0:20	38.0	20

FUJIFILM CN-16L

Solution Name	Process Time Min:sec	Solution Temp °C	Replenishment Rate ml/24 exp 135
N1	3:05	38.0	21
N2	0:50	38.0	5
N3-1	0:50	38.0	0
N3-2	0:50	38.0	8
NS	0:30	38.0	17
N4	0:40	38.0	15

FUJIFILM CN-16S

Solution Name	Process Time Min:sec	Solution Temp °C	Replenishment Rate* ml/24 exp 135
N1	3:05	38.0	15
N2	0:50	38.0	5
N3-1	0:50	38.0	0
N3-2	0:50	38.0	7.5
N4	1:10	38.0	30

*Rep Rate set: 100%

FUJIFILM CN-16S^{ER}

Solution Name	Process Time Min:sec	Solution Temp °C	Replenishment Rate** ml/24 exp 135
N1	3:05	38.0	25
N2	0:50	38.0	8.3
N3-1	0:50	38.0	0
N3-2	0:50	38.0	12.5
N4	1:10	38.0	50

**Rep Rate set: 166%

Minilab software v3.0 update needed

B. Chemical specifications - FUJIFILM Paper

Solution Name	Process Time Min:sec	Solution Temp °C	Replenishment Rate ml/m ²
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FUJIFILM CP-40FAII

P1	0:45	35.0	160
P2	0:45	35.0	215
PS	1:30	35.0	363

FUJIFILM CP-43FAII

P1	0:45	38.5	73
P2	0:45	35.0	61
PSR	1:30	35.0	250-364

FUJIFILM CP-47LII

P1	0:45	38.5	45
P2	0:45	38	35
PS	1:30	38	242*

FUJIFILM CP-48SII and FUJIFILM CP-48HVII

P1	0:45	38.5	45
P2	0:45	38	35
PS	1:30	38	175*

FUJIFILM CP-49E (Frontier 340)

P1	0:25	42	45
P2	0:25	40	35
PS	0:24	40	215

FUJIFILM CP-49E and FUJIFILM CP-49HVII

Frontier 500, 550, 570 & 590; Frontier LP7000, 7100, 7200, 7500, 7600, 7700 & 7900
Noritsu QSS-35 and QSS-37 series

P1	0:19	43	45
P2	0:19	40	35
PS	0:17	45	175

FUJIFILM CP-49LR (Frontier 340)

P1	0:25	45	40
P2	0:25	40	31.1
PS	0:24	40	215

FUJIFILM CP-49LR

Frontier 550 & 570 & 590; Frontier LP7000, 7100, 7200, 7500, 7600, 7700 & 7900
Noritsu QSS-35 and QSS-37 series

P1	0:19	43	40
P2	0:19	40	31.1
PS	0:17	45	175

* With a reverse osmosis RC50D unit fitted, this replenisher rate can be reduced to 121ml/m²

C. Chemical specifications – Fuji Hunt C41

Standard type minilabs

C41 – BNP

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg Developer LR AC	3'15"	37.8°C ± 0.15°C	21
or EnviroNeg Developer AC	3'15"	37.8°C ± 0.15°C	41
or EnviroNeg Developer 60 AC ⁽¹⁾	3'15"	37.8°C ± 0.15°C	60
EnviroNeg RA Bleach 10 AC	3' - 4'20"	38°C ± 3°C	5
Negacolor RA Fixer ⁽²⁾	4' - 4'20"	38°C ± 3°C	35
EnviroNeg FF Superflo Stabilizer MB AC ⁽³⁾	2'20"	38°C ± 3°C	40
<i>alternatively:</i>			
Negacolor Superflo Stabilizer ⁽²⁾	1'40"	38°C ± 3°C	40
+ EnviroNeg FF Superflo Stab. MB AC ⁽⁴⁾	40"	38°C ± 3°C	20

⁽¹⁾ see "Very Low Throughput" on page 19.

⁽²⁾ Two tank counter current cascade flow.

⁽³⁾ Three tank counter current cascade flow.

⁽⁴⁾ Professional films must be stabilised for a minimum of 60 seconds to ensure adequate dye stability. Alternatively increase concentration of replenisher by 50%. Note that Konica Impresa 50 Professional, Kodak Vericolor III Professional and Kodak Vericolor Slide Film 5072 are not compatible with **EnviroNeg FF Superflo Stabilizer** and will require after treatment with a formaldehyde-containing stabiliser. (Strictly follow Health & Safety regulations)

⁽⁵⁾ Please note that Negacolor Superflo Stabilizer is discontinued since 1 July 2009. It has been replaced by a simple EnviroNeg FF Superflo Stabilizer MB AC system.

The alternative recommendation is for machines using two tanks of super stabilizer followed by one tank of conventional stabilizer.

C41 – RANP: High film volumes

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg Developer LR AC	3'15"	37.8°C ± 0.15°C	21
or EnviroNeg Developer AC	3'15"	37.8°C ± 0.15°C	41
EnviroNeg RA Bleach AC	45" - 60"	38°C ± 3°C	5
Negacolor RA Fixer ⁽²⁾	1'30"	38°C ± 3°C	35
EnviroNeg FF Superflo Stabilizer MB AC ⁽³⁾	1'00"	38°C ± 3°C	40

C41 – RANP: Low film volumes

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg Developer AC	3'15"	37.8°C ± 0.15°C	41
or EnviroNeg Developer 60 AC ⁽¹⁾	3'15"	37.8°C ± 0.15°C	60
EnviroNeg RA Bleach 10 AC	45" - 60"	38°C ± 3°C	10
Negacolor RA Fixer ⁽²⁾	1'30"	38°C ± 3°C	50
EnviroNeg FF Superflo Stabilizer MB AC ⁽³⁾	1'00"	38°C ± 3°C	60

⁽¹⁾ see "Very Low Throughput" on page 19

⁽²⁾ Two tank counter current flow, equal times in both tanks

⁽³⁾ Three tank counter current flow, equal times in all tanks.

Very Low Throughput

EnviroNeg Developer 60 AC and EnviroNeg RA Bleach 10 AC have been designed to allow good quality C41 film processing in the range shown in yellow on the graph on page 15 – which covers most low throughput situations. If your film throughput is even lower – in the green region shown on the graph – it is still possible to run a satisfactory film process by increasing the replenishment rate of ALL baths – developer, bleach, fixer and stabiliser – by 15%. You will never have a perfect process with such low film volumes, but the results are very much improved from any other options you have available other than frequent processor retanking, and very acceptable for obtaining good quality prints. Bath temperatures and mixing instruction remain unchanged.

Agfa minilabs

Agfa Minilab series FP1-71 , FP2-71 , FP3-71 with Agfa AP71

PROCESS TYPE: C41 - BNP

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg Developer LR AC	3'15"	37.8°C ± 0.15°C	21
or EnviroNeg Developer AC	3'15"	37.8°C ± 0.15°C	41
or EnviroNeg Developer 60 AC ⁽¹⁾	3'15"	37.8°C ± 0.15°C	60
EnviroNeg RA Bleach 10 AC	3' - 4'20"	38°C ± 3°C	5
Negacolor RA Fixer ⁽²⁾	4' - 4'20"	38°C ± 3°C	35
EnviroNeg FF Superflo Stabilizer MB AC	2'20"	38°C ± 3°C	40

⁽¹⁾ see "Very Low Throughput" on page 19.

Agfa Minilab series FP100, FP200, FP1-72, FP2-72, FP3-72, MSC101 with Agfa AP72

PROCESS TYPE: C41 – RANP: High film volumes

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg Developer LR AC	3'15"	37.8°C ± 0.15°C	21
or EnviroNeg Developer AC	3'15"	37.8°C ± 0.15°C	41
EnviroNeg RA Bleach AC	45" - 60"	38°C ± 3°C	5
Negacolor RA Fixer	1'30" - 1'37"	38°C ± 3°C	35
EnviroNeg FF Superflo Stabilizer MB AC	1'00" - 1'15"	38°C ± 3°C	40

PROCESS TYPE: C41 – RANP: Low film volumes

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg Developer AC	3'15"	37.8°C ± 0.15°C	41
or EnviroNeg Developer 60 AC ⁽¹⁾	3'15"	37.8°C ± 0.15°C	60
EnviroNeg RA Bleach 10 AC	45" - 60"	38°C ± 3°C	10
Negacolor RA Fixer	1'30" - 1'37"	38°C ± 3°C	50
EnviroNeg FF Superflo Stabilizer MB AC	1'00" - 1'15"	38°C ± 3°C	60

⁽¹⁾ see "Very Low Throughput" on page 19.

Agfa Minilab series D-Lab.1

PROCESS TYPE: C41 – ADM

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg ADM Film Cartridge F1 Developer	3'15"	37.8°C ± 0.15°C	22.5
EnviroNeg ADM Film Cartridge F2.DL Bleach	46"	38°C ± 3°C	5
EnviroNeg ADM Film Cartridge F2.DL Fixer	1'37"	38°C ± 3°C	33
EnviroNeg ADM Film Cartridge F2.DL Stabilizer	1'15"	38°C ± 3°C	40

Agfa Minilab series FP210

PROCESS TYPE: C41 – ADM

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg ADM Film Cartridge F1 Developer	3'15"	37.8°C ± 0.15°C	22.5
EnviroNeg ADM Film Cartridge F2.FP Bleach	45"	38°C ± 3°C	5
EnviroNeg ADM Film Cartridge F2.FP Fixer	1'52"	38°C ± 3°C	33
EnviroNeg ADM Film Cartridge F2.FP Stabilizer	60"	38°C ± 3°C	40

Konica liquid type minilabs**Konica Minilab NPS 4, 5 & 6*-series with CNK-4-40**

(*except NPS 612QA minilab with CL PK50E processor)

PROCESS TYPE: C41

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg Developer AC ⁽¹⁾	3'15"	37.8°C ± 0.15°C	41
EnviroNeg RA Bleach 10 AC	3'15"	38°C ± 3°C	5
Negacolor RA Fixer	3'15"	38°C ± 3°C	35
Negacolor Superflo Stabilizer	2'40"	38°C ± 3°C	35
EnviroNeg FF Superflo Stabilizer MB AC	1'20"	38°C ± 3°C	35

⁽¹⁾ The replenishment rate of the developer must be lowered from 51ml/135-24 (CNK-4-40) to 41ml/135-24.

Konica Minilab NPS 8-series & the 612*QA film minilab with CNK-4-52 and CNK-4-52 LR ⁽³⁾

(*with CL PK50E processor)

PROCESS TYPE: C41 – RANP

Bath	Time	Temperature (°C)	Replenishment Rate (ml / 135-24 Film)
EnviroNeg Developer LR AC	3'15"	37.8°C ± 0.15°C	21
EnviroNeg RA Bleach AC	45"	38°C ± 3°C	5
Negacolor RA Fixer	1'30"	38°C ± 3°C	35
EnviroNeg FF Superflo Stabilizer MB AC	1'00"	38°C ± 3°C	40

⁽³⁾ Due to the large decrease in film processing volumes, very low replenishment rates are no longer recommended. FUJIFILM Europe recommend to run with increased replenishment rates for both the developer and the fixer to guarantee process stability.

With the process CNK-4-52 LR, FUJIFILM Europe recommends:

- **EnviroNeg Developer LR AC** running at 21 ml / 135-24 film instead of Konica's recommended 15ml/135-24
Or even **EnviroNeg Developer AC** running at 41 ml / 135-24 film in extreme low throughput cases.

-**EnviroNeg RA Fixer** running at 35 ml/ 135-24 film instead of Konica's recommended 21ml/135-24. If you decide to keep your replenishment rate at 21 ml/135-24 film, you must dilute EnviroNeg RA Fixer replenisher with a mix ratio of 2 parts water + 1 part EnviroNeg RA Fixer concentrate.

Noritsu and San Marco (Gretag) SM minilabs

All SM minilabs from Noritsu, San Marco and Gretag

PROCESS TYPE: DIS Film

Bath	Time	Temperature (°C)	Replenishment Rate (ml/m 35mm)	
			Conc.	Water
DIS Film N1 Developer 45	3'15"	37.8°C ± 0.15°C	41	0
DIS Film N2 Bleach 10 AC	1'00"	38°C ± 3°C	5.4	0
DIS Film N3 Fixer	2'00"	38°C ± 3°C	7.73	7.73
DIS Film N4 FF Superflo Stabilizer	1'00"	38°C ± 3°C	0.27	27

D. Chemical specifications - Fuji Hunt Standard RA4 Processing

Standard type minilabs

Standard RA4

Solution Name	Process Time Min:sec	Solution Temp °C	Replenishment Rate ml/m ²
EnviroPrint Developer MP160	0:45	38	160
EnviroPrint Developer MP108	0:45	38	108
EnviroPrint Developer MP73 AC	0:45	38	73
EnviroPrint Developer MP60 AC	0:45	38	60
EnviroPrint Developer MP45 AC	0:45	38.5	45
EnviroPrint Bleach Fix 215 AC	0:45	33	215
EnviroPrint Bleach Fix MP215 AC	0:45	33	215
EnviroPrint Bleach Fix 108 AC	0:45	33	108
EnviroPrint Bleach Fix 70 AC	0:45	33	70
EnviroPrint Bleach Fix 55 AC	0:45	33	55
EnviroPrint Bleach Fix VR AC	0:45	33	55 or 70 ⁽¹⁾
EnviroPrint Bleach Fix 35 AC	0:45	33	35
EnviroPrint Bleach Fix 35 RTU AC	0:45	33	35
EnviroPrint Super Stabilizer AC	1:30	34	250 ⁽²⁾

⁽¹⁾ depending on the mix ratio

⁽²⁾ Minilab with 4 tank counter current stabilizer.

Agfa minilabs

Agfa MSC / MSC2 / MSC3 / CLS13 / CLS23.

Standard RA4

Solution Name	Process Time Min:sec	Solution Temp °C	Replenishment Rate ml/m ²
EnviroPrint Developer MP108 <i>or EnviroPrint Developer MP60 AC</i>	0:45 <i>0:45</i>	38 <i>38</i>	108 <i>60</i>
EnviroPrint Bleach Fix 108 AC <i>or EnviroPrint Bleach Fix 70 AC</i>	0:45 <i>0:45</i>	33 <i>33</i>	108 <i>70</i>
EnviroPrint Super Stabilizer AC	1:30	34	250 ⁽⁴⁾ ~ 350 ⁽⁵⁾

⁽⁴⁾ Minilab with 4 tank counter current stabilizer.

⁽⁵⁾ Minilab with 3 tank counter current stabilizer.

Konica liquid type minilabs**Konica Minilab NPS 6-series paper minilabs with CPK-2-20**

Standard RA4

Solution Name	Process Time Min:sec	Solution Temp °C	Replenishment Rate ml/m ²
CPRA Developer AC	0:45	35	160
EnviroPrint Bleach Fix 215 AC	0:45	35	215
EnviroPrint Super Stabilizer AC	1:30	35	250

E. Chemical specifications – Fuji Hunt RA4 Fast Processing**Standard type minilabs****RA4 Fast Processing**

Solution Name	Process Time sec	Solution Temp °C	Replenishment Rate ml/m ²
EnviroPrint FP Developer MR*	33	39.0	70 ~ 80
	27	39.5	75 ~ 90
	20-22	40.0	80 ~ 100
EnviroPrint FP Bleach-Fix MR**	33	36 - 40	70 ~ 90
	27	36 - 40	75 ~ 100
	20	36 - 40	75 ~ 100
EnviroPrint FP Super Stabilizer	50 ~ 90	34 - 40	200 ~ 400

* there is also a low replenishment rate version available for high throughput minilabs only:

Solution Name	Process Time sec	Solution Temp °C	Replenishment Rate ml/m ²
EnviroPrint Developer MP45 AC	33	39.0	60
	27	39.5	60
	20-22	40.0	70 ~ 75

** there is also a high replenishment rate version available: EnviroPrint FP Bleach-Fix HR, running at 20-33 sec, 36-40°C and 200ml/m².

The wide variety of "fast" processing equipment as well as the different paper brands on the market makes it difficult to standardise the process parameters. The table above shows recommended replenishment rates and processing temperatures. As with other chemistries, differences between paper brands and processing equipment may mean that you need to fine-tune your process. On the following pages the recommended products for Agfa, KIS DKS and SM-minilabs Noritsu, San Marco, Gretag are shown.

Agfa minilabs**Agfa MSC 100 / 101 / 101.d and Agfa MSC 200**

Solution Name	Process Time sec	Solution Temp °C	Rep. Rate ml/m ²
EnviroPrint FP Developer MR <i>or EnviroPrint Developer MP45 AC</i>	33 33	39 39	75 60
EnviroPrint FP Bleach-Fix MR	33	36 - 40	80 (70~90)
EnviroPrint FP Super Stabilizer	66 ~ 76	34 - 40	200

Agfa D-lab.3 and MSC 300

Solution Name	Process Time sec	Solution Temp °C	Rep. Rate ml/m ²
EnviroPrint FP Developer MR <i>or EnviroPrint Developer MP45 AC</i>	27 27	39.5 39.5	90 60
EnviroPrint FP Bleach-Fix MR	27	36 - 40	90 (75~100)
EnviroPrint FP Super Stabilizer	54	34 - 40	200

Agfa D-Lab.1 and D-Lab.2-series ⁽¹⁾

Solution Name	Process Time sec	Solution Temp °C	Rep. Rate ml/m ²	
			Conc.	water
EnviroPrint ADM Paper Cartridge Developer	33	D.lab-1: 38°C D.lab-2: 40°C	41	10
EnviroPrint ADM Paper Cartridge Bleach-Fix	33	38	68	0
EnviroPrint ADM Paper Cartridge Stabilizer	69	37	41	159

⁽¹⁾ EnviroPrint ADM Paper Cartridge processes 110m² of paper on a Agfa d-lab.1, d-lab.2 and d-lab.2 Plus

Kodak minilabs**RP30 and SRP30 laser printers ⁽²⁾**

Solution Name	Process Time sec	Solution Temp °C	Rep. Rate ml/m ²	
			Conc.	Water
EnviroPrint ADM Paper Cartridge Developer	33	40	54	0
EnviroPrint ADM Paper Cartridge Bleach-Fix	33	38	90	0
EnviroPrint ADM Paper Cartridge Stabilizer	69	37	54	126

⁽²⁾ EnviroPrint ADM Paper Cartridge processes 83m² of paper on a Kodak RP30 and SRP30 laser printer.

System 89 DLS Digital minilabs ⁽¹⁾

Solution Name	Process Time sec	Solution Temp °C	Replenishment Rate ml/m ²	
			Conc.	water
EnviroPrint K15 Developer MP90	20	40	18 (20%)	72 (80%)
EnviroPrint Bleach-Fix 70 AC part A	20	35 - 38	23.8 (22%)	64.8 (60%)
EnviroPrint Bleach-Fix 70 AC part B			19.4 (18%)	
EnviroPrint FP Super Stabilizer	60	35 - 38	3.2 (1%)	396.8 (99%)

⁽¹⁾ Running with Ektacolor Rapide.

KIS Photo-me minilabs**KIS DKS 550 and 750 minilabs**

Solution Name	Process Time sec	Solution Temp °C	Replenishment Rate ml/m ²
EnviroPrint FP Developer MR	20	40	108
EnviroPrint FP Bleach-fix MR	20	35 - 38	108
EnviroPrint FP Super Stabilizer	60	35 - 38	400

KIS DKS15xx, 16xx and 17xx minilabs

Solution Name	Process Time sec	Solution Temp °C	Replenishment Rate ml/m ²	
			Conc.	water
EnviroPrint K15 Developer MP90	20	40	18 (20%)	72 (80%)
EnviroPrint FP Bleach-Fix MR	20	35 - 38	37.5 (50%)	37.5 (50%)
EnviroPrint FP Super Stabilizer	60	35 - 38	3.2 (1%)	396.8 (99%)

Noritsu and San Marco (Gretag) SM minilabs**All SM-minilabs from Noritsu, San Marco and Gretag SM minilabs**

Solution Name	Process Time sec	Solution Temp °C	Replenishment Rate ml/m ²	
			Conc.	water
EnviroPrint Developer MP45 AC (260ml conc. + 740ml water)	25	38	52 ~ 60	0
EnviroPrint Bleach-Fix 35 AC – part A conc.	25	38	13.3 pt A	13.4
EnviroPrint Bleach-Fix 35 AC – part B conc.			13.3 pt B	
EnviroPrint Super Stabilizer AC	90	38	1.9	188

Konica liquid type minilabs

NPS 8-serie minilabs and R1* Super1400 paper with CPK-2-22LR (SQA)process

* with PP8610 processor

Solution Name	Process Time sec	Solution Temp °C	Rep. Rate ml/m ²
EnviroPrint FP Developer MR			
With processor CL PP8xx	27	38	80 ⁽¹⁾
With processor CL PP8xxx	22	39.8	80 ⁽¹⁾
EnviroPrint FP Bleach-Fix MR			
With processor CL PP8xx	27	38	80~100
With processor CL PP8xxx	22	39.8	80~100
EnviroPrint FP Super Stabilizer	66 ~ 81	34 - 40	200

⁽¹⁾ Depending on daily/weekly minimum required volumes, it may be necessary to increase the replenishment to 90ml/m² to maintain a correct process activity and stability.

NPS 8-serie minilabs and R1* Super 1400 paper with CPK-2-22 (SQA)

*with PP8610 processor

Solution Name	Process Time sec	Solution Temp °C	Rep. Rate ml/m ²
EnviroPrint FP Developer MR			
With processor CL PP8xx	27	38	115 ⁽²⁾
With processor CL PP8xxx	22	39.8	125 ⁽²⁾
EnviroPrint FP Bleach-Fix MP HR AC			
With processor CL PP8xx	27	38	200 ⁽³⁾
With processor CL PP8xxx	22	39.8	200 ⁽³⁾
EnviroPrint FP Super Stabilizer AC	66 ~ 81	34 - 40	200

⁽²⁾ Depending on daily/weekly minimum required volumes, it may be necessary to increase the replenishment to 90ml/m² to maintain a correct process activity and stability.

⁽³⁾ Depending on daily/weekly minimum required volumes, it may be necessary to increase the replenishment to 215 ~ 250 ml/m² to maintain a correct bleach-fix activity and process stability.

6. Ancillary chemicals

Tanclene

An excellent cleaner for processing tanks.

A strong acid solution, it is extremely effective at removing build up of deposits. See the section on Cleaning Equipment for further details.

Processor Cleaner

A graphic arts cleaner that is very effective for removing silver deposits from fixer tanks. Not normally required for minilab use but can be useful if silver deposits form in developer tanks and on rollers.

Banstatic Plus

Dust is a major problem in minilabs. This product is added to the final bath of the film processor and will automatically reduce static on the film.

7. Ancillary equipment

Digital Mixer

Compact, fully automatic and wall mounted 2-solution mixer designed for Fuji Hunt Paper Chemistry. The **Digital Mixer** automatically mixes a Developer (1-part or 2-part) and a 2-part Bleach-fix.

Digital Mixer accessories

Stabilizer unit is an optional, single concentrate mixing unit for stabilizer mounted on the side or the back of the mixer. The mixer control panel operates this unit.

Stand Optional framework for mounting the Digital Mixer when wall mounting is not possible.

DIS (Direct Injection System)

The FUJIFILM Europe DIS chemical system consists of re-usable external replenishing tanks which can be refilled with the corresponding Fuji Hunt concentrates/ready-to-use chemicals. Only four external replenishing tanks are needed for the film process. For full details on the **DIS (Direct Injection System)**, please ask for the separate **FUJIFILM Europe** Technical Information Sheet "DIS".

8. Quality Control Software

OASIS Pro

OASIS Pro is a software program for process monitoring. All parameters can be set by the user to meet his personal requirements. With Oasis Pro Lite (suitable for most users), data can be transferred through modem or Internet to users of Oasis Pro/Oasis Pro Monitor for follow-up. Further information on this, and on the new OASIS Remote system for internet-based process monitoring and technical support directly from FUJIFILM Europe, is available on the FUJIFILM Europe NV web site, www.fujifilm.eu/feb.

V. MIXING INSTRUCTIONS

1. Water

Standard tap water is acceptable for solution preparation. When well water is used for mixing chemical solutions, water analysis and testing should be considered as a check for water hardness, dissolved solids and other impurities. Depending upon water quality, softening or de-ionising water to prepare chemical solutions may be necessary. It is essential that filters (25-micron rating) be used in water supply systems.

2. Process solution preparation-mixing and storage

A. Concentrates

Keep chemicals completely out of the reach of children. Store at a safe height for easy handling. Unopened chemical containers should be kept in dry locations at temperatures between 5°-30°C. Storage of chemical concentrates below recommended temperatures can result in crystallisation or formation of precipitates. If this should happen these precipitates can sometimes be dissolved back into solution by heating the bottle in hot water. However, it is probably safer not to use chemicals that have crystallised or precipitated as some chemical activity may be lost.

Storage above recommended temperatures may cause accelerated deterioration of product and may result in reduced shelf life.

B. Processing solutions

Most FUJIFILM and Fuji Hunt products are supplied as liquid concentrates and need to be mixed with water before use. It is essential to closely follow the mixing instructions and always ensure that **adequate mixing of one part is completed before the next part is added**. Mixing of each part should be at least 30 seconds or 20 plunges of a replenisher mix paddle. Some chemicals are provided in a "Ready to Use" format.

None of these products, used under normal conditions, is particularly subject to oxidation. The quantity of prepared developer replenisher, however, should not be more than the amount normally used within a week. Keeping it longer than the recommended time can cause oxidation, and reduce the developer activity. The guideline for Monopart Developers is that each drum of **Monopart Developer concentrate should be consumed preferably within 1 week** (and **definitely** within a maximum of 2 weeks).

Because all chemical solutions can be affected by air, there are certain recommendations for proper storage of all chemical replenisher solutions. Solution storage containers should be equipped **with floating lids and tank covers for protection against dust/dirt, evaporation and excessive chemical oxidation**.

It is recommended that mixed chemical solutions are stored at temperatures above 15°C and below 30°C. When the tank or replenisher solution storage temperature falls below 15°C, the dissolved chemicals become less soluble and begin to precipitate out. Excessive precipitation may cause abrasions in the sensitised materials and/or equipment malfunction. It is therefore important to avoid an excessive drop in the storage temperature during the winter. Temperatures of more than 30°C may degrade solution performance. Also store processing chemicals away from direct sunlight.

Do not mix or store developer in tanks which have contained fixer or bleach-fix, as there will be a greater possibility of contamination.

The greatest caution should be taken to avoid the following chemical or solution mixtures as they may result in the generation of noxious gases :

FUJIFILM Super Conditioner (FSC) Tablets

You must never mix FUJIFILM Super Conditioner Tablets with acidic compounds or solutions (Bleach-fix) as this will result in the generation of noxious chlorine gas.

Fixer

You must never mix the fixer with alkaline compounds or solutions (colour developer) as this will result in the generation of noxious ammonia gas.

Bleach-Fix

You must never mix the bleach-fix with alkaline compounds or solutions (colour developer) as this will result in the generation of noxious ammonia gas.

3. Mixing Replenisher – FUJIFILM negative

Process	Product	To Mix	Water	+ Parts
FUJIFILM CN-16Q	NQ1-RS Colour Developer	5L	4L	+ A+B+C
	NQ1-R Colour Developer	10L	8L	+ A+B+C
	NQ2-RS Bleach	4L	2L	+ A+B
	NQ2-R Bleach	8L	4L	+ A+B
	NQ3-RS Bleach-Fix	4L	2L	+ A
	NQ3-R Bleach-Fix	8L	4L	+ A
	NQS-R Super Rinse ⁽¹⁾	8L	8L	+ A
	N4 Safer Stabilizer ⁽³⁾	4L	4L	+ 40ml dosing
	N4 Safer Stabilizer ⁽³⁾	8L	8L	+ 80ml dosing
FUJIFILM CN-16FA	N1-R Colour Developer	10L	8L	+ A+B+C
	N1-R Colour Developer	5L	4L	+ A+B+C
	N2-R Bleach	4L	-	2 x A
	N3-R Fixer	4L	-	2 x A
	NS-R Super Rinse ⁽²⁾			
	N4 Safer Stabilizer ⁽³⁾	8L	8L	+ 80ml dosing
FUJIFILM CN-16L	N1-CR Colour Developer	10L	8L	+ A+B+C
	N2-R Bleach	4L	-	2 x A
	N3-R Fixer	4L	-	2 x A
	NS-R Super Rinse ⁽²⁾			
	N4 Safer Stabilizer ⁽³⁾	4L	4L	+ 40ml dosing
	N4 Safer Stabilizer ⁽³⁾	8L	8L	+ 80ml dosing
FUJIFILM CN-16S and CN-16S^{ER}				
Mixing is automatically done by the processor. Minilab software update is needed before using CN16S ^{ER} . Chemicals packed in dedicated cartridges CN-16S NC1 & NC2 for easy loading. Processing capacity of CN-16S NC1 = 200 films 135-24 , CN-16S NC2 = 1000 films 135-24. Processing capacity of CN-16S ^{ER} NC1 = 120 films 135-24 , CN-16S ^{ER} NC2 = 600 films 135-24. NC1 cartridge contains 1 unit Colour Developer concentrate part A,1 unit Bleach,1 unit Fixer NC2 cartridge contains 1 unit Colour Developer concentrate part B and 1 unit Stabilizer				

NOTES:

- ⁽¹⁾ NQS-R Super Rinse is available as a liquid concentrate for dilution with tap water if an FRSS unit is not available.
⁽²⁾ 5L NS-R is made using 5L demineralised water + 1 FSC 100 tablet
⁽³⁾ N4 Safer Stabilizer is available in a dosing bottle. Fill the indicated amount into the measure on the dosing bottle for preparation of new working solution.

FHRSS-11 Cartridge

The Fuji Hunt Rinse Saving System – 11 cartridge is the new generation “de-ionising” (water softening) unit. It is fully compatible with Fujicolor **Negative/Paper processes** and the FRSS-10 body. This unit must be used in combination with the FUJIFILM Superconditioner tablets.

4. Mixing Replenisher – FUJIFILM paper

Process	Product	To Mix	Water	+ Parts
FUJIFILM CP-40FAII	P1-RS Colour Developer	5L	4L	+ A+B+C
	P2-RS Bleach-Fix	5L	3L	+ A+B
	PS-R Super Rinse ⁽¹⁾			
FUJIFILM CP-43FAII	P1-LRM Colour Developer	10L	7L	+ A+B+C
	P2-LRM Bleach-Fix	4.1L	-	+ A+B
	PS-R Super Rinse ⁽¹⁾			
FUJIFILM CP-47LII	P1-R Colour Developer	2.5L	-	+ A
	EnviroPrint 47 Developer AC	10L	7,4L	+ A
	P2-R Bleach-Fix	4L	-	+ A+B
	PS-R Super Rinse ⁽¹⁾			
FUJIFILM CP-48SII & FUJIFILM CP-48HVII				
<p>Mixing is automatically done by the processor. Chemicals are packed in a dedicated cartridge CP-48SII PC and CP-48HVII PC for easy loading. Processing capacity of 1 cartridge is 111 m². Cartridge contains : 1 unit Colour Developer concentrate , 1 unit BF part A and 1 unit BF part B CP-48SII PC is the standard chemistry for use in FUJIFILM Frontier 330, 350, 355, 370, 375 and 390 series. For high processing volume minilabs, CP-48HVII PC can be used. CP-48HVII can be replenished on top of CP-48SII. Both products are interchangeable.</p>				
FUJIFILM CP-49E and CP-49HVII				
<p>Mixing is automatically done by the processor. Chemicals are packed in a dedicated cartridge CP-49E PC and CP-49HVII PC for easy loading. Processing capacity of 1 cartridge is 111 m². Cartridge contains : 1 unit Colour Developer concentrate , 1 unit BF part A and 1 unit BF part B For use in current FUJIFILM Frontier 340, 500, 550, 570 and 590. Frontier LP7000, 7100, 7200, 7500, 7600, 7700 & 7900 Noritsu QSS-35 and QSS-37 series</p>				
FUJIFILM CP-49LR				
<p>Mixing is automatically done by the processor. Chemicals are packed in a dedicated cartridge CP-49LR PC for easy loading. Processing capacity of 1 cartridge is 125 m². FJ CP-49LR can be used at high volume processing customers only. Cartridge contains : 1 unit Colour Developer concentrate , 1 unit BF part A and 1 unit BF part B For use in FUJIFILM Frontier 340, 550 and 570. FUJIFILM Frontier LP7000, 7100, 7200, 7500, 7600, 7700 & 7900 Noritsu QSS-35 and QSS-37 series</p>				

NOTE:

⁽¹⁾ 5L PS-R is made using 5L demineralised water coming from the FRSS body (more info on page 30) + 1 FSC 100 tablet.

5. MIXING REPLENISHER - Fuji Hunt C41

EnviroNeg and Negacolor Chemicals

To mix 1L	Water ml	Part A Ml	Part B ml	Part C ml
DEVELOPER				
EnviroNeg Developer 60 AC	863.6	100	13.7	22.7
EnviroNeg Developer AC	889.6	80	10	20.4
EnviroNeg Developer LR AC	887	80	11	22
BLEACH				
EnviroNeg RA Bleach 10 AC*	-	1000	-	-
EnviroNeg RA Bleach AC	-	1000	-	-
FIXER				
Negacolor RA Fixer*	750	250	-	-
STABILIZER				
EnviroNeg FF Superflo Stab MB AC	990	10	-	-

NOTE:

* these products are used in the C41RA(NP) and C41B(NP) process.
Where there is only one part this is shown as part A.

EnviroNeg ADM Film Cartridge

Mixing is done automatically by the processor. See correct settings for the **EnviroNeg ADM Film Cartridge F1**, **EnviroNeg ADM Film Cartridge F2.DL** and **EnviroNeg ADM Film Cartridge F2.FP** on page 19
Chemicals are packed in a dedicated cartridge for easy loading.

EnviroNeg ADM Film Cartridge F1

Processing capacity of 1 cartridge is 400 films.
Cartridge contains : 3- part Colour Developer concentrate

EnviroNeg ADM Film Cartridge F2.DL and EnviroNeg ADM Film Cartridge F2.FP

1 unit Bleach part, 1 unit Fixer part and 1 unit Stabilizer concentrate.
Processing capacity of 1 cartridge is 200 films.

EnviroNeg ADM Film Cartridge F2.DL for use in Agfa d-lab.1

EnviroNeg ADM Film Cartridge F2.FP for use in Agfa fp.210

DIS Film chemicals

The **DIS film** concentrates are dosed directly into the working tanks. The necessary amount of water is dosed separately and is injected directly to the working tanks. For the correct volumes see page 21.

6. Mixing Replenisher – Fuji Hunt Standard RA4 Processing

EnviroPrint Chemicals

To mix 1L	Water ml	Part A ml	Part B ml	Part C ml
DEVELOPER				
CPRA Developer AC	875	50	25	50
EnviroPrint Developer MP160	800	200	-	-
EnviroPrint Developer MP108	800	200	-	-
EnviroPrint Developer MP73 AC	800	200	-	-
EnviroPrint Developer MP60 AC	800	200	-	-
EnviroPrint Developer MP45 AC	740	260	-	-
BLEACH-FIX				
EnviroPrint Bleach-Fix 215 AC	760	120	120	-
EnviroPrint Bleach-Fix MP215 AC	700	300	-	-
EnviroPrint Bleach-Fix 108 AC	670	180	150	-
EnviroPrint Bleach-Fix 70 AC	600	220	180	-
EnviroPrint Bleach-Fix 55 AC	550	250	200	-
EnviroPrint Bleach-Fix VR AC* @70ml/m ²	600	220	180	-
EnviroPrint Bleach-Fix VR AC* @55ml/m ²	550	250	200	-
EnviroPrint Bleach-Fix 35 AC	330	335	335	-
EnviroPrint Bleach-Fix 35 RTU AC	-	500	500	-
* mix ratio depends on rep rate				
STABILIZER				
EnviroPrint Super Stabilizer AC	990	10	-	-

NOTE: Where there is only one part this is shown as part A.

7. Mixing Replenisher – Fuji Hunt RA4 Fast Processing

EnviroPrint FP Chemicals MP AC

	Water ml	concentrate ml
To mix 1L		
DEVELOPER		
EnviroPrint FP Developer MR	800	200
EnviroPrint Developer MP45 AC ^(*)	740	260
BLEACH-FIX		
EnviroPrint FP Bleach-Fix HR	650	350
EnviroPrint FP Bleach-Fix MR	500	500
STABILIZER		
EnviroPrint FP Super Stabilizer	992	8

^(*) high throughput minilabs only.

EnviroPrint ADM Paper Cartridge

Mixing of replenisher is automatically done by the processor. For correct settings of **EnviroPrint ADM Paper Cartridge**, see page 24

Chemicals are packed in a dedicated cartridge for easy loading.

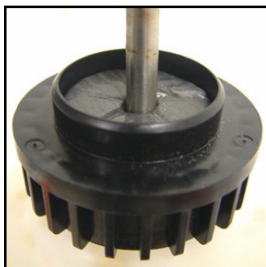
EnviroPrint ADM Paper Cartridge processes 110m² of paper on a Agfa D-Lab.1, D-Lab.2 and D-Lab.2 Plus

EnviroPrint ADM Paper Cartridge On processes 83m² of paper on a Kodak RP30 and SRP30 Laser minilab.

Each cartridge contains : 1 unit Colour Developer concentrate , 1 unit Bleach-Fix part A, 1 unit Bleach-Fix part B and 1 unit Stabilizer concentrate.

EnviroPrint K15 Developers AC

Like the DIS system, the KIS Photo-me DKS 15xx, 16xx and 17xx minilabs and Kodak 89 DLS Digital Minilabs are pumping the correct volumes of concentrates and water directly into the working tanks. The correct volumes can be found on page 25. Thanks to the special K15-cap, the life-time of the developer concentrate is extended during use. When positioning the **EnviroPrint K15 Developer MP90** the K15-cap should not be removed. Position the stainless steel punching and suction tube right above the "pre-cut" opening. Perforate the seal by lowering the suction tube into the drum.



To handle the empty drum in a safe manner, replace the original black K15-cap with the red cap supplied with each drum.

8. Mixing tank solution – FUJIFILM Negative

TO MAKE 1L

FUJIFILM CN-16Q	Replenisher	Water	starter
NQ1 Colour Developer	833ml NQ1-R	147ml	19.6 ml NQ1-S
NQ2 Bleach	= NQ2-R		
NQ3 Bleach-Fix	600ml NQ3-R		400ml NQ2-R
NQS Super Rinse	= NQS-R		
N4 Safer Stabilizer	= NQ4-R		

FUJIFILM CN-16FA		Water	starter
N1 Colour Developer	747ml N1-R	198ml	55 ml N1-S
N2 Bleach	666ml N2-R	334ml	
N3-1 Bleach-Fix	370ml N3-R	556ml	74ml N2-R
N3-2 Fixer	333ml N3-R	667ml	
NS Super Rinse	= NS-R		
N4 Safer Stabilizer	= N4-R		

FUJIFILM CN-16L	Replenisher	Water	starter
N1 Colour Developer	747ml N1-R	198ml	55ml N1-S
N2 Bleach	667ml N2-R	333ml	
N3-1 Bleach-Fix	385ml N3-R	577ml	38ml N2-R
N3-2 Fixer	333ml N3-R	667ml	
NS Super Rinse	= NS-R		
N4 Safer Stabilizer	= N4-R		

FUJIFILM CN-16S and CN-16S^{ER}

A dedicated start-up kit to make 5.2L Colour Developer, 3.6L Bleach, 3.6L Fixer and 1.9L Stabilizer is available. Colour developer starter is already incorporated in the start-up chemicals. Before starting to use CN16S^{ER} the minilab software must be updated.

9. Mixing tank solution – FUJIFILM Paper

TO MAKE 1L

<u>FUJIFILM CP-40FAII</u>	Replenisher	Water	Starter
P1 Colour Developer P2 Bleach-Fix PS Super Rinse	700ml P1-R = P2-R = PS-R	250ml	50 ml starter

<u>FUJIFILM CP-43FAII</u>	Replenisher	Water	Starter
P1 Developer P2 Bleach-Fix PS Super Rinse	463ml P1-LRM 400ml P2-LRM = PS-R	463ml 600ml	74 ml P1-SLRM

<u>FUJIFILM CP-47LII</u>	Replenisher	Water	Starter
P1 Colour Developer <i>or EnviroPrint 47 Developer AC</i> <i>or EnviroPrint 47 Developer AC</i> P2 Bleach-Fix PS Super Rinse	300ml P1-R <i>300ml P1-R</i> <i>300ml P1-R</i> 500ml P2-R = PS-R	610ml <i>610ml</i> <i>570ml</i> 500ml	90 ml P1-S <i>90 ml P1-S</i> <i>130ml EP starter AC*</i>

* EnviroPrint Developer starter AC

FUJIFILM CP-48SII & FUJIFILM CP-48HVII

A dedicated kit of start-up chemicals for CP-48SII and CP-48HVII Cartridges is available. This kit makes 4.2L Colour Developer and 4.2L Bleach-Fix. Colour developer starter is already incorporated in the start-up chemicals.

FUJIFILM CP-49E, FUJIFILM CP-49HVII & FUJIFILM CP-49LR

A dedicated kit of start-up chemicals to make 3.7L Colour Developer and 3.7L Bleach-Fix is available. Colour developer starter is already incorporated in the start-up chemicals.

10. Mixing tank solution – Fuji Hunt C41

EnviroNeg and Negacolor chemicals

	Replenisher	Water	Starter
To mix 1L	ml	ml	ml
DEVELOPER			
EnviroNeg Developer 60 AC	800	185	15 ml EnviroNeg Universal Starter AC
EnviroNeg Developer AC	850	135	15 ml EnviroNeg Universal Starter AC
EnviroNeg Developer LR AC	750	220	30 ml EnviroNeg Universal Starter AC
BLEACH			
EnviroNeg RA Bleach 10 AC*	667	333	-
EnviroNeg RA Bleach AC	667	333	-
FIXER			
Negacolor RA Fixer*	1000	-	-
STABILIZER			
EnviroNeg FF Superflo Stab MB AC	1000	-	-

* these products are used in the C41RA(NP) and C41B(NP) process.

EnviroNeg ADM Film Cartridge

Fresh tank solutions for Agfa D-lab.1 and fp.210 where EnviroNeg ADM Film Cartridge F1, EnviroNeg ADM Film Cartridge F2.DL and EnviroNeg ADM Film Cartridge F2.FP are used

	Replenisher	Water	Starter
To mix 1L	ml	ml	ml
EnviroNeg Developer LR AC	750	220	30 ml EnviroNeg Universal Starter AC
EnviroNeg RA Bleach AC	667	333	-
Negacolor RA Fixer	1000	-	-
EnviroNeg FF Superflo Stab MB AC	1000	-	-

DIS Film Chemicals

Due to the direct injection system it is not possible to make fresh tank solution starting from replenisher. A fresh tank can be mixed with the concentrates:

	Conc.	Water	Starter
To mix 1L	ml	ml	ml
DIS Film N1 Developer 45	850	135	15 ml EnviroNeg Universal Starter AC
DIS Film N2 Bleach 10	667	333	-
DIS Film N3 Fixer	500	500	-
DIS Film N4 Superflo Stabilizer	10	990	-

11. Mixing tank solution – Fuji Hunt Standard RA4 Processing

EnviroPrint Chemicals

To mix 1L	Replenisher ml	Water ml	Starter ml
DEVELOPER			
CPRA Developer AC	600	350	50ml EnviroPrint Developer Starter AC
EnviroPrint Developer MP160	700	250	50ml EnviroPrint Universal Starter
EnviroPrint Developer MP108	600	350	50ml EnviroPrint Universal Starter
EnviroPrint Developer MP73 AC	500	390	110ml EnviroPrint Developer Starter AC
EnviroPrint Developer MP60 AC	400	480	120ml EnviroPrint Developer Starter AC
EnviroPrint Developer MP45 AC	300	570	130ml EnviroPrint Developer Starter AC
BLEACH-FIX			
EnviroPrint Bleach-Fix 215 AC	1000		-
EnviroPrint Bleach-Fix MP215 AC	830	147	20 ml EnviroPrint Bleach-Fix MP Starter AC
EnviroPrint Bleach-Fix 108 AC	666	334	-
EnviroPrint Bleach-Fix 70 AC	545	455	-
EnviroPrint Bleach-Fix 55 AC	500	500	-
EnviroPrint Bleach-Fix VR AC @ 70 ml/m ²	545	455	-
EnviroPrint Bleach-Fix VR AC @ 55 ml/m ²	500	500	-
EnviroPrint Bleach-Fix 35 AC	500	500	-
EnviroPrint Bleach-Fix 35 RTU AC	500	500	-
STABILIZER			
EnviroPrint Superflo Stabilizer AC	1000	-	-
EnviroPrint Super Stabilizer AC	1000	-	-

12. Mixing tank solution – Fuji Hunt RA4 Fast Processing

EnviroPrint FP Chemicals MP AC

To mix 1L	Water ml	Part A ml	Part B ml	Starter* ml
DEVELOPER				
EnviroPrint FP Developer MR				
33 sec – 39.0 °C	840	100	-	60
27 sec – 39.5 °C	850	100	-	50
20 sec – 40.0 °C	860	100	-	40
EnviroPrint Developer MP45 AC				
33 sec – 39.0 °C	840	100	-	60
27 sec – 39.5 °C	850	100	-	50
20 sec – 40.0 °C	860	100	-	40
BLEACH-FIX				
EnviroPrint FP Bleach-Fix HR				
	705	275	-	20
EnviroPrint FP Bleach-Fix MR				
	705	275	-	20
STABILIZER				
EnviroPrint FP Super Stabilizer				
	992	8	-	-

* The developer starter to be used is RA4 Quick Starter / The bleach-fix starter to be used is EnviroPrint Bleach-Fix MP Starter AC

EnviroPrint ADM Paper Cartridge

EnviroPrint ADM Paper tank kit CD is the dedicated kit of start-up chemicals for Agfa d-lab.1 and d-lab.2 minilabs and makes 9.5L Colour Developer tank solution. This means that you need one kit to mix a fresh tank solution for the D-lab.1 and 2 kits for the D-lab.2. Colour developer starter is already incorporated in the start-up chemicals.

EnviroPrint ADM Paper tank kit BX is the dedicated kit of start-up chemicals for Agfa d-lab.1 and d-lab.2 minilabs and makes 9.5L Bleach-Fix tank solution. Like with the developer you need one kit to mix a fresh tank solution for the D-lab.1 and 2 kits for the D-lab.2.

EnviroPrint K15 Developers AC

	Water	Part A	Part B	Starter⁽¹⁾
To mix 1L	ml	ml	ml	ml
DEVELOPER				
EnviroPrint K15 Developer MP90	860	100	-	40
BLEACH-FIX				
EnviroPrint FP Bleach-Fix MR	705	275	-	20
EnviroPrint Bleach-fix 70 AC ⁽²⁾	700	160	160	-
STABILIZER				
EnviroPrint FP Super Stabilizer	992	8	-	-

⁽¹⁾ The developer starter to be used is RA4 Quick Starter / The bleach-fix starter to be used is EnviroPrint Bleach-Fix MP Starter AC

⁽²⁾ To be used in Kodak System 89 DLS Digital Minilab

VI. SAFE HANDLING OF PROCESSING CHEMICALS

IMPORTANT : Always read the MSDS and Product Label : They will provide information concerning the necessary precautions for safe handling of any chemical product.

1. Chemical handling

Chemical concentrates contain ingredients that may be harmful if allowed to contact skin or eyes. It is highly recommended that all lab personnel be protected from fumes and splashing as noted in the section on handling chemicals. Similar precautions should be exercised when handling mixed replenishers and working tank solutions. All those who work with such chemicals must take great care to avoid contact with the skin, the eyes, and other parts of the body.

In case of accidental contact with processing chemicals, wash the affected part with large amounts of running water. In case of contact with developer, wash with an acid soap, and then liberally with water. It is advisable to see a doctor.

Some photographic solutions give off an unpleasant vapour, so it is essential that ventilation is adequate. Never inhale processor solutions.

2. Protective equipment

Always wear protective gloves, and adequate eye protection.

Gloves: Tight fitting, chemical resistant disposable gloves provide protection for short use requirements. Disposable gloves should be discarded after one use and not rinsed for reuse. Reusable, unlined nitril, butyl rubber or neoprene gloves are the best choice for mixing and working with chemical concentrates and mixed solutions.

Goggles: Goggles are recommended for mixing chemicals. The goggles should be tight fitting and should not have any openings that would allow chemicals to contact the eye. Safety glasses are not adequate for working with liquid chemicals.

Aprons: A protective neoprene apron should always be worn to avoid splashing of chemicals when mixing and pouring.

3. Work environment and ventilation

While working with chemicals, you should always open a window or turn on a ventilation fan to provide adequate ventilation.

Symptoms of a poor ventilation problem include scratchy and/or dry throat, itchy irritated eyes, irritated and/or bloody nose, headache, fatigue, nausea, vomiting and loss of consciousness. Though these symptoms are not specific enough to rule out other causes, persistent symptoms may indicate the need to examine the ventilation system.

A ventilation rate of $\pm 1 \text{ m}^3$ per person or a general room change over rate of 12-15 times per hour, with a minimum of 20% fresh air introduction, is generally considered adequate for general ventilation of photographic operations where a moderate to low volume of chemical mixing occurs.

A general rule to follow to minimise odours and air pollutants is to keep lids on storage containers, treatment containers and processing equipment, whenever possible.

4. Emergency procedures

If you should get any chemical substances on your skin or in your eyes, flush the affected areas with large amounts of running water.

If you should ingest chemical substances or get some in your eyes, take the label of the offending substance and seek medical attention immediately.

In all instances, the MSDS will provide additional information with regard to precautions and safety data.

5. Contact dermatitis

Dermatitis is a broad term used to describe skin inflammation of any kind. Direct irritants like acids, alkalis, solvents and soaps can cause dermatitis. Dermatitis can also be due to sensitisers (allergic substances). In the case of sensitisers, dermatitis occurs after repeated contact and can involve a remote or larger skin area than the contacted skin location. Dermatitis can be the result of a chemical in the workplace or it may be the result of a household chemical, bacteria or plant.

In the case of workers in the photographic industry, dermatitis is usually due to an allergic response (caused by a sensitising chemical) after prolonged or repeated contact with the chemical. The precautionary health hazard information on the MSDS indicates whether the chemical or chemical solution will cause adverse skin reactions and if that chemical is considered a sensitiser.

VII. GLOSSARY

Listed below are brief explanations of the terms used in this publication, so that what follows is more easily understood.

Concentrates

Products that need to be diluted with water before the preparation of replenisher or tank solution.

Replenisher

A solution which is added regularly to the processor (usually by means of an automatic measuring system) in order to maintain the working strength tank solution at a constant level of activity.

Starter

A concentrate mixed with the replenisher, to prepare working strength solution. For some solutions it is necessary to add water as well.

TTO

(Tank Turn Over). A TTO is defined as the consumption of a volume of replenisher equal to the volume of the processor tank.

Overflow

A solution discharged from the processor during the work cycle.

Working Strength Solution

The solution used in the processor tank. Is often called 'Tank Solution'.

Replenisher Tanks

Storage tanks containing replenisher for each processing bath.

Processor tanks

The tanks in which paper or films are immersed during processing.

Replenishment Rate

The amount of replenisher added to the processor tank for each square metre of paper, or for each film processed.

Control Strip

Strips of paper or film, exposed but not developed, supplied for process control by the photographic material manufacturer. With each packet a reference strip is provided, which has been pre-developed in optimal conditions.

Densitometer

A piece of equipment for measuring the values of the processed control strips, as against those of the reference strip.

Carryover

The solution which is transferred, during the course of processing, from one processor tank to the next, on the surface of the film, the paper or leaders.

Seasoned Solution

Processor solution that, after a certain throughput, assumes the physical and chemical characteristics for which it was designed.

Throughput

The amount of film or paper processed during a period of time.

MSDS

Material Safety Data Sheet provides detailed information on the chemicals, their properties and safety and environmental information.

VIII. MINILAB PRODUCT RANGE

1. Fuji Hunt product list

A. C41 Film Process

Product	Conc.	To Make	Cat N°
PROCESS KIT			
EnviroNeg ADM Film Cartridge F1		4x400films	995 027
EnviroNeg ADM Film Cartridge F2.DL		2x200films	995 035
EnviroNeg ADM Film Cartridge F2.FP		2x200films	995 043
Film X-press Kit		5L	914 085
ENVIRONEG DEVELOPERS			
EnviroNeg Universal Starter AC	6 x 1 L		972 497
EnviroNeg Developer Replenisher Kit AC		2 x 10 L	954 693
EnviroNeg Developer Replenisher Kit AC		2 x 50 L	954 701
EnviroNeg Developer Replenisher LR Kit AC		2 x 5 L	990 101
EnviroNeg Developer Replenisher LR Kit AC		2 x 10 L	954 743
EnviroNeg Developer Replenisher LR Kit AC		2 x 50 L	954 750
NEGACOLOR BLEACHES			
Negacolor Ultra Bleach 3 Starter	6 x 500 ml		951 350
EnviroNeg Bleach Starter AC	2 x 5 L		971 143
Negacolor Ultra Bleach 3		2 x 10 L	951 392
Negacolor RA Bleach Replenisher		2 x 5 L	947 192
EnviroNeg RA Bleach Replenisher 10 AC		2 x 5 L	998 534
EnviroNeg RA Bleach Replenisher AC		2 x 5 L	971 135
NEGACOLOR FIXERS			
Super Unilec Fixer	4 L		919 407
Negacolor RA Fixer & Replenisher		4 x 5 L	992 016
Negacolor RA Fixer & Replenisher	4 x 10 L		992 024
ENVIRONEG FF STABILIZERS			
EnviroNeg FF Superflo Stabilizer MB AC	2x1L dosing	2x(10x10L)	991 596
EnviroNeg FF Stabilizer AC	2x1L dosing	2x(10x10L)	993 519
DIS CHEMICALS			
DIS Film N1 Developer Replenisher 45		4 x 2 L	999 582
DIS Film N2 Bleach Replenisher 10 AC		6 x 1 L	999 585
DIS Film N3 Fixer & Replenisher		4 x 2 L	979 682
DIS Film N4 FF Superflo Stabilizer		6 x 1 L	979 690

B. RA4 paper Process

Product	Conc.	To Make	Cat N°
PROCESS KIT			
EnviroPrint ADM Paper Cartridge		2 x 110m ²	997 569
EnviroPrint ADM Paper tank kit Colour developer		1 x 9.5 L	993 808
EnviroPrint ADM Paper tank kit Bleach-Fix		1 x 9.5 L	993 816
ENVIROCHEM DEVELOPERS			
EnviroPrint Universal Developer Starter	6 x 1 L		979 328
EnviroPrint Developer Starter AC	6 x 1 L		971 655
EnviroPrint Developer Replenisher		2 x 50 L	949 420
EnviroPrint Developer Replenisher MP45 AC		6 x 2,5L	997 353
EnviroPrint Developer Replenisher MP45 AC		4 x 10L	997 361
EnviroPrint Developer Replenisher MP45 AC		40 L	997 379
EnviroPrint Developer Replenisher MP45 AC Empty Mix Bottles		4 bottles	979 765
EnviroPrint Developer Replenisher MP60 AC		4 x 10 L	994 343
EnviroPrint Developer Replenisher MP60 AC		50 L	994 368
EnviroPrint Developer Replenisher MP73 AC	10 L	50 L	992 917
EnviroPrint Developer Replenisher MP73 AC	4 x 2 L	4 x 10 L	992 909
EnviroPrint Developer Replenisher MP108		4 x 10 L	990 911
EnviroPrint Developer Replenisher MP108	10 L	50 L	990 994
EnviroPrint Developer Replenisher MP160		4 x 10 L	991 273
EnviroPrint Developer Replenisher MP160	10 L	50 L	991 281
CPRA DEVELOPERS			
CPRA Developer Replenisher Kit AC		4 x 10L	970 632
EnviroPrint FP DEVELOPERS MP AC			
RA4 Quick Starter	6 x 1 L		961 904
EnviroPrint FP Developer Replenisher MR	6 x 1L	6 x 5L	994 186
EnviroPrint FP Developer Replenisher MR	4 x 2L	4 x 10L	995 282
EnviroPrint K15 DEVELOPERS AC			
EnviroPrint K15 Developer Replenisher MP90	4 x 2.5L	4 x 12.5L	995 472

Product	Conc.	To Make	Cat N°
ENVIROPRINT BLEACH-FIXES AIRCONTROL			
EnviroPrint Bleach-Fix & Replenisher 215 AC Kit		2 x 10 L	995 746
EnviroPrint Bleach-Fix & Replenisher 215 AC Kit		50 L	995 753
EnviroPrint Bleach-Fix Replenisher MP 215 AC		4 x 10 L	999 622
EnviroPrint Bleach-Fix Replenisher 108 AC Kit		2 x 10 L	995 712
EnviroPrint Bleach-Fix Replenisher 108 AC Kit Part A		50 L	995 720
EnviroPrint Bleach-Fix Replenisher 108 AC Kit Part B		50 L	995 738
EnviroPrint Bleach-Fix Replenisher 70 AC Kit		2 x 5 L	995 662
EnviroPrint Bleach-Fix Replenisher 70 AC Kit		2 x 10 L	995 670
EnviroPrint Bleach-Fix Replenisher 70 AC Part A		50 L	995 688
EnviroPrint Bleach-Fix Replenisher 70 AC Part B		50 L	995 696
EnviroPrint Bleach-Fix Replenisher 55 AC		2 x 10 L	995 654
EnviroPrint Bleach Fix Replenisher 35 RTU AC		2 x 4 L	997 502
EnviroPrint Bleach Fix Replenisher 35 AC		2 x 10 L	997 510
EnviroPrint Bleach-Fix Replenisher 35 AC part A	8.4 L	25 L	997 528
EnviroPrint Bleach-Fix Replenisher 35 AC part B	8.4 L	25 L	991 562
EnviroPrint Bleach-Fix Replenisher VR AC Part A	10 L		995 803
EnviroPrint Bleach-Fix Replenisher VR AC Part B	10 L		995 811
EnviroPrint Bleach-Fix MP Starter AC	6 x 500 ml		992 420
ENVIROPRINT FP BLEACH-FIXES MP AC			
EnviroPrint Bleach-Fix MP Starter AC	6 x 500 ml		992 420
EnviroPrint FP Bleach-Fix Replenisher MR	2 x 5 L	2 x 10 L	992 487
EnviroPrint FP Bleach-Fix Replenisher MR	4 x 2.5 L	4 x 5 L	994 178
EnviroPrint FP Bleach-Fix Replenisher HR		2 x 10 L	995 324
ENVIROPRINT STABILIZERS			
EnviroPrint Super Stabilizer & Replenisher AC	2x1L dosing	2x(10x10L)	990 630
ENVIROPRINT FP STABILIZERS AC			
EnviroPrint FP Super Stabilizer & Replenisher	6 x 1 L	750 L	994 228
EnviroPrint FP Super Stabilizer & Replenisher	2 x 1 L dosing	2x (25x5L)	994 426

2. FUJIFILM product list

A. C41 Film Process

	Product	Conc.	To Make	Cat N°
CN16Q	FJ CN16Q NQ1S		6 x 12 L	972 893
	FJ CN16Q NQ1RS Developer Replenisher		4 x 5 L	931 246
	FJ CN16Q1R Colour Developer Replenisher		2 x 10 L	922 757
	FJ CN16Q2R Bleach Replenisher		2 x 8 L	922 765
	FJ CN16Q2RS Bleach Replenisher		4 x 4 L	993 600
	FJ CN16Q3R Bleach-Fix Replenisher		2 x 8 L	922 773
	FJ CN16Q3RS Bleach-Fix Replenisher		4 x 4 L	931 261
	FJ CN-16 N4-R Safer Stabilizer	2x1L dosing	2x(8Lx12)	990 598
	FJ CN16QRS Super Rinse Replenisher		10 x 8 L	922 781
CN16FA	FJ CN16FA N1S Colour Developer Starter		6 x 10 L	948 299
	FJ CN16FA N1R Colour Developer Replenisher		2 x 10 L	948 307
	FJ CN16FA N2R Bleach Replenisher		4 x 2 L	994 574
	FJ CN16FA N3R Fixer & Replenisher		4 x 2 L	948 323
	FJ CN-16 N4-R Safer Stabilizer	2x1L dosing	2x(8Lx12)	990 598
CN16L	FJ CN16L N1-S		6 x 10 L	972 901
	FJ CN16L N1CR Colour Developer Replenisher		4 x 5 L	957 589
	FJ CN16L N1CR Colour Developer Replenisher		2 x 10 L	954 438
	FJ CN16L N2R Bleach Replenisher LQ		4 x 2 L	992 966
	FJ CN16L N3R Fixer & Replenisher		4 x 2 L	958 694
	FJ CN-16 N4-R Safer Stabilizer	2x1L dosing	2x(8Lx12)	990 598
CN16S	FJ CN16S NC1 Replenisher Kit x 2			967 026
	FJ CN16S NC2 Replenisher Kit x 2			990 077
	FJ CN16S N1		1 x 5,2 L	975 003
	FJ CN16S N2		1 x 3,6 L	975 011
	FJ CN16S N3		6 x 3,6 L	975 029
	FJ CN16S N4		24 x 1,9 L	990 069
	FJ CN16S ^{ER} NC1 Replenisher Kit x 2			998 484
	FJ CN16S ^{ER} NC2 Replenisher Kit x 1			998 492

B. RA4 Paper Process

	Product	Conc.	To Make	Cat N°
CP40 FA II	FJ CP40FAII P1SS Developer Starter		10 x 8,5 L	943 969
	FJ CP40FAII P1SS Developer Starter		6 x 8,5 L	972 927
	FJ CP40FAII P1RS Developer Replenisher		4 x 5 L	943 944
	FJ CP40FAII P2RS Bleach-Fix Replenisher		4 x 5 L	961 813
CP43 FA II	FJ CP43FAII P1SLRM Developer Starter		6 x 20 L	942 110
	FJ CP43FAII P1LRM LQ Developer Replenisher		2 x 10 L	994 566
	FJ CP43FAII P2LRM LQ Bleach-Fix Replenisher		2 x 4 L	994 525
CP47 L II	FJ CP47LII P1S Developer Starter		6 x 10 L	995 076
	FJ CP47LII P1R Developer Replenisher		4 x 2,5 L	995 092
	FJ CP47LII P2R Bleach-Fix Replenisher		2 x 4 L	995 100
CP48 HV II	FJ CP48 HVII Kit x 2			995 118
CP48 S II	FJ CP48SII PC Kit x 2			994 475
	FJ CP48SII P1		1 x 4,2 L	994 483
	FJ CP48SII P2		1 x 4,2 L	994 509
	FJ CP48SII P1		10 L	994 491
	FJ CP48SII P2		10 L	994 517
CP49 E	FJ CP49E PC EZII Kit x 2 LQ			992 990
	FJ CP49E P1 Start-up Colour Developer		1 x 3,7 L	992 206
	FJ CP49E P2 Start-up Bleach-Fix		1 x 3,7 L	992 214
CP49 LR	FJ CP49LR PC x 2			995 126
	FJ CP49E P1 Start-up Colour Developer		1 x 3,7 L	992 206
	FJ CP49E P2 Start-up Bleach-Fix		1 x 3,7 L	992 214
CP49 HV II	CP49HV II PC Kit x 2			999 516
	FJ CP49E P1 Start-up Colour Developer		1 x 3,7 L	992 206
	FJ CP49E P2 Start-up Bleach-Fix		1 x 3,7 L	992 214

3. Miscellaneous product list

Product	Conc.	To Make	Cat N°
MISCELLANEOUS SUPPLIES			
FHRSS-11 Cartridge			992 081
FJ Superconditioner Tablets - 100 pieces			961 847
ADDITIVES			
Banstatic Plus	6 x 250ml		958 959
Anti-Calcium 8	10 L		940 171
Ultra Bleach-Fix Extender	10 L		928 127
CLEANING PRODUCTS			
Tanclene	5 L		942 169
QUALITY CONTROL SOFTWARE			
Oasis Pro Lite			499 939
DIS			
DIS C41 Tank 2121			990 184
DIS RA4 Tank 2111			990 200
DIS Adapter Kit			995 209
MIXERS			
Digital Mixer: Stabilizer unit			994 111