



How to refill Samsung CLP-310, CLP-315W

And CLP-310n, CLP-315. Before use, familiarise with the safety data on pages 4, 5 and 6.

Black cartridge: with or without chips?

Although this starter kit includes a chip of the appropriate colour, black cartridges will tolerate being refilled (to an extent) without changing the chip. We found the following chip less refilling behaviour for black cartridges:

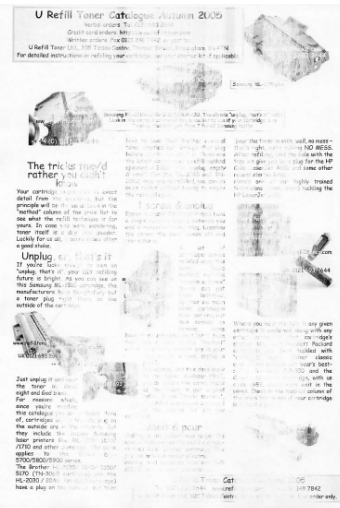
Black starter cartridge: 2 refills possible (chip stopped printing during third refill)

Black bought cartridge: 3 refills possible (chip stopped printing during fourth refill)

The downside of refilling without changing the chip is continual nag messages and the fact that toner and chip life will be out of sync when the machine does eventually decide to kick in and stop the cartridge. However, if you want to get at least some chip less refilling life from your black cartridge, the following paragraph explains how to do it. The easier option is to just refill the black and put the new chip on, which is what's actually represented in the flow of the instructions. For cyan, magenta and yellow, the chip always has to be changed: there's no chip less option.

Chip less refilling for black

Ignore the computer screen pop-up messages that say "replace black toner". Ignore the blinking red light on the printer. Only refill when the print actually starts to fade out due to lack of toner. Fade out develops progressively as shown in these three prints.



As you can see, the faded area gets wider and more pronounced with each print, but even on the last very faded page, the print at the edges is still the same blackness as on the first print. If you take out the cartridge and give it a shake at this point, perfect print will return for a few more prints – but then the fade out will return again. This pattern of progressively widening fade out bands which can be temporarily cured by shaking is the hallmark true fade out due to toner exhaustion.

You're going to be ignoring pop-ups and the red blinking lights for a long time because refilling doesn't get rid of them. Stand firm. The cartridge will carry on printing if there's toner powder in it and the "exhausted" status on the chip hasn't been reached.

When the machine refuses to print anymore with a black cartridge, you can stick on one of our compatible chips and carry on. But some of the chip life is likely to be lost because it would be pure luck if the cartridge was anywhere near full when the machine decides to make you do this.

The "starter cartridge" refers to the black cartridge that arrives with the new machine. It contains less toner than the cartridge you subsequently buy, but the refill technique is exactly the same.

When to refill

For the colours (cyan, magenta and yellow) do the refill procedure when you get the popup message "Toner exhausted [colour] toner". The machine also refuses to print at this point.

For black, if you don't fancy a "chip less" approach (see section above), do the refill procedure when you get the popup message "Replace black toner" together with a blinking red light on the printer.



How to refill it

1. Turn on melting tool and leave to heat for at least 5 minutes (for full information on the use and safety of the melting tool, see page 4).
2. Melt hole as shown below. Note whether your cartridge is more raised type or flat type.

Raised type

Stay above this line to avoid interior bulkheads



flat type



3. Shake unopened bottle vigorously for 5 seconds.
4. Open toner bottle and screw on spout.
5. To avoid leakage of micro fine toner, wrap any kind of tape around join between spout and bottle: selotape, brown parcel tape, gaffa tape etc.
6. Hold cartridge near vertical with one hand. Use other hand for bottle.
7. Keeping bottle below horizontal, marry spout with hole. Up-end bottle into hole for a slow count of 5, leaning cartridge back to about a 45 degree angle.



8. Bring cartridge near vertical again, rotating bottle back down to horizontal position and disengaging from cartridge as you do so.
9. Shake bottle with finger firmly over end. Repeat pouring until no toner left in bottle.
10. Clean surfaces around hole with swab. Allow alcohol to evaporate.
11. Unpeel Gaffa tape patch from backing and apply to hole as shown. To avoid leaks, aim for a firm contact to all flat surfaces near entrance of hole.



Note: Gaffa tape patches are included with this kit for completeness, but this isn't an exacting application and practically any adhesive tape wide enough to cover the hole will do the job.

12. Peel off self-adhesive backing from compatible chip and stick into position as shown.





Other consumables used by the printer

Besides the four toner cartridges, the printer also uses an imaging unit and a toner waste box (also referred to as the "waste bin").

These components have their own life-cycle which isn't affected by whether or not you refill the toner cartridges. Refer to your manual for full details.

We were surprised when our first imaging unit packed in after only 6473 colour prints. It turns out that the quoted "24,000 images" are used 4-at-a-time when you print a full colour page. Hence, $24K/4 = 6K$! Ouch!

We found that on getting the message:

"Replace/install waste bin"

which also stops you from printing, we could, in fact, just take the waste bin out and shake the waste toner out. Our 2 machines accepted this, but we offer this information as a suggestion only. Take precautions not to inhale waste toner dust if you want to try emptying the waste bin. Refer to your manual for details of where to find it.

Limits to refilling a cartridge

Our extensive testing shows that 3 to 5 refills of these cartridges can normally be expected.

The defect that stops the fun will be different depending on what fails: doctor blade, dev roller, retaining blade or something else. Suffice to say, if you've got a persistent print defect that isn't attributable to toner fade out as (as described on page 1) then there's not much you can do but buy a new cartridge and start again. If that doesn't fix the problem, you need to think seriously about whether it's actually the imaging unit that needs replacing: but this is more expensive.



Use and safety of the melting tool



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The tool needs at least 5 minutes to reach an efficient melting temperature.

To melt a hole, apply a light force similar to pressing on paper with a ballpoint pen. Ease off the pressure as the tool sinks into the plastic.

During the first 6 minutes of the first ever use, smoke will come out of the heated part of the tool as manufacturing lubricants burn off. This is normal.

Use a screwdriver to push out the residual plastic plug while the tool is still hot.

Occasionally, the plastic plug falls inside the cartridge. Try and get it out using tweezers or pliers if you can. A piece of

plastic this size inside the toner compartment doesn't usually do any harm, but be aware that it's there and retire the cartridge if it shows signs of physically jamming.

Important safety information

To be used only by a competent, risk-aware adult.

Use only in a well-ventilated situation. As with the combustion of any organic substance (such as petrol or tobacco) a cocktail of gases can be produced and some of these are harmful or at least irritant.

All metal parts of the tool get dangerously hot. Never touch any metal part of the tool, including the steel shaft near the plastic handle.



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When not in hand, the tool is designed to be rested at an angle created by the flange of the handle, keeping the hot parts suspended above your surface. But take care that the power cable doesn't force the handle to rise and the hot end of the tool to dip.

Take care not to melt through the tool's own electric cable.

Do not use the tool with the end-piece or blank filler tip removed.

Turn off and unplug the tool as soon as you've melted your hole. Leave to cool at least 2 metres away from your toner pouring area.

Do not leave on for more than 30 minutes at a time.

After use, allow the tool to cool down naturally. Do not immerse in water.

Take all precautions for the use of a powered hand tool. Use eye and hand protection.

Assumption of risk notice

We ourselves have no hesitation in researching and refilling cartridges using the melting technique in a well-ventilated room. However, the company gives no warranties, neither explicit nor implicit, as to the safety of melting holes in toner cartridges or the use of the melting tool. Any activity or process has an element of risk. The onus is on you, the purchaser, to assess any possible risk, including the inaccuracy or incompleteness of currently available information. If you decide not to go ahead, return the product to us and we'll cheerfully refund your money. This offer is additional to your statutory rights.

©® Ownership of all intellectual property relating to the melting tool has been asserted and secured.



Safety Data Samsung CLP-310 type toner

Only to be used by a competent risk-aware adult. Not to be used by children. Avoid inhalation of product. Avoid eye and skin contact. Do not ingest. Avoid sources of ignition while pouring and at all times.

1 Identification of the substance and the company

| | |
|--------------|--|
| Product name | Samsung CLP-310 type refill toner |
| Part no. | SA310BOTB, SA310BOTC, SA310BOTM, SA310BOTY |
| Supplier | U Refill Toner Ltd. Contact details as per page header |

2 Hazards identification

| | |
|--------------------------|--|
| Classification | Not believed to be classified as hazardous according to OSHA CFR 1910.1200 or EU Directive 1999/45/EC, as amended. |
| Acute health effects | |
| Skin contact | Unlikely to cause skin irritation |
| Eye contact | May cause irritation |
| Inhalation | Irritation to respiratory tract if exposed to large amounts of toner dust |
| Ingestion | Unlikely when used as intended. Acute oral toxicity is believed to be low |
| Potential health effects | |
| Routes of exposure | Skin contact, eye contact and inhalation. Ingestion unlikely. |
| Chronic health effects | Prolonged inhalation of excessive amounts of any dust may cause lung damage |
| Carcinogenicity | Carbon black is classified by IARC as group 2B (possible human carcinogen). Carbon black in this preparation, due to its bound form, is not believed to present this risk. |

3 First aid measures

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| Inhalation | Move person to fresh air. If breathing is difficult, obtain medical assistance |
| Eye contact | Flush with plenty of low pressure water for at least 15 minutes. Do not rub eyes. Remove contact lenses to ensure thorough flushing. |
| Skin | Wash with water, obtain medical attention if ill effects occur |
| Ingestion | Rinse out mouth with water. Drink one or two glasses of water. If large quantity swallowed seek medical advice |

4 Fire fighting measures

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|----------------------------------|---|
| Hazardous combustion products | Carbon monoxide and carbon dioxide |
| Extinguishing media | Water, dry chemical, carbon dioxide or foam |
| Special fire fighting procedures | Avoid inhalation of smoke. A self contained breathing apparatus and suitable protective clothing should be worn. |
| Unusual fire & explosion hazards | Toner is a combustible powder; formation of an explosive dust-air mixture is possible. Avoid all ignition sources if toner has been dispersed in air. |

5 Accidental release measures

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| Spill/leak procedure | Sweep up or vacuum spilled toner and transfer into sealable waste container. Sweep slowly to minimize generation of dust. If vacuum is used, the motor must be rated as dust tight and safely applicable to the vacuuming of toner dust. Residue can be removed with soap and cold water. Garments may be washed or dry-cleaned after removal of loose toner. |
| Environmental precautions | Do not flush into surface water or sanitary sewer systems. Dispose of waste material in accordance with all applicable laws. |

6 Handling and storage

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|----------|---|
| Handling | Keep containers closed when not in use. Handle and open containers with care. Use with adequate ventilation. Avoid inhalation of dust and contact with skin and eyes. Keep away from sources of heat, sparks and open flames. |
| Storage | Store at room temperature in the original container. Keep container tightly closed and dry. Do not store with strong oxidizers. |

7 Exposure controls and personal protection

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|-------------------------------|---|
| UK exposure guidelines | WEL: 10mg/m3 (inhalable dust), 3mg/m3 (respirable dust) |
| Personal protective equipment | |
| Eye / face | Wear dust resistant safety goggles if there is danger of eye contact |
| Hands / skin | Wear protective gloves |
| Respiratory protection | Wear approved respirator for dust when exposure exceeds permissible limits |
| Additional measures | Use in a well ventilated area. Use engineering controls to reduce air contaminants to permissible limits. Wash hands after use. |

8 Toxicological information

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|-----------------------|--|
| Oral toxicity | Tests on toners have indicated there is no evidence of acute oral toxicity. Not classified for acute oral toxicity according to EU Directive 67/458/EEC and 1999/45/EC |
| Inhalation toxicity | No data |
| Eye irritation | Not classified as irritant according to OSHA HCS and EU 67/548/EEC as amended |
| Sensitization | Not classified as sensitizer according to OSHA HCS and EU 67/548/EEC as amended |
| Chronic toxicity | No data |
| Carcinogenicity | Carbon black is classified as a group 2B by IARC, but carbon black is present only in bound form in this preparation. |
| Mutagenicity | Negative (AMES test) |
| Reproductive toxicity | Not classified as toxic according to EU 67/548/EEC as amended |

9 Ecological information

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|-----------------------------------|
| Not tested for ecological effects |
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10 Disposal considerations

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| Collect into tightly sealed containers. Dispose of waste in accordance with all local laws. Do not throw in open fires in order to prevent risk of dust explosion. |
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11 Transport information

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| General | Not regulated |
|---------|---------------|

12 Other information

| | |
|-------------------------|--------------|
| Labelling EU 67/458/EEC | |
| R & S phrases | Not required |
| Hazard symbol | Not required |

Notice. All safety information is given to help facilitate the safe use of this product and is based on information obtained from the manufacturer. This information is believed to be correct, but does not



purport to be all-inclusive and shall only be used as a guide. U Refill Toner Ltd makes no warranty, express or implied, as to the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions and / or compliance with local laws and regulations.

All information offered is believed to be true and is offered for consideration in good faith. However, U Refill Toner Ltd gives no warranties, neither explicit nor implicit as to the completeness or accuracy of any information offered nor the ultimate safety of refilling toner cartridges in any manner described or suggested nor the ultimate safety or hazardousness of products supplied by U Refill Toner Ltd. The onus is on the purchaser to evaluate all possible risk, including the possible incompleteness or inaccuracy of currently available information, and by proceeding to use the refill product or products, the purchaser thereby assumes all risk of peril or injury howsoever arising.

If you the purchaser decide not to go ahead with refilling for whatever reason, simply return the product or products to U Refill Toner Ltd and we will cheerfully refund your money. Your statutory rights are unaffected.

Refills by you ... thanks to you

Thanks for refilling the toner cartridges in your printer. We invented "do-it-yourself" toner refills in 1992, "melt & pour" in 1996 and put "unplug & pour" into internet-speak in 2002. We've never tried to patent or otherwise restrict the use of these ideas.

If you liked our product, please recommend us to friends and colleagues. We've survived for over 20 years – fighting giant corporations that dwarf us – thanks to your custom and recommendation. No one here takes that, or you, for granted.

U Refill Toner. Now needed more than ever. Now refined more than ever.

- ✓ more than halve the cost
- ✓ halve CO₂
- ✓ defend your consumer choices and right to reuse



*Original and largest selling
do-it-yourself toner refill*

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