



OKI C310dn/330dn/510dn/530dn refill instructions

Also for: C511, C511dn, C531, C531dn

MC351, MC352dn, MC361, MC361dn, MC362dn, MC561, MC561dn, MC562, MC562dn, MC562dnw, MC562w

Before use, familiarise yourself with the safety information on pages 5 to 7.

Consider doing the refill on top of sheets of old newspaper in case of accidental spills.

Get the right refill product for the right OKI original cartridge

OKI part number	Colour	Quoted yield	Can be refilled with U Refill Toner product codes
44469803	black	3,500	OKC310BOTCHIPB
44469706	cyan	2,000	OKC310BOTCHIPC
44469705	magenta	2,000	OKC310BOTCHIPM
44469704	yellow	2,000	OKC310BOTCHIPY
44469804	black	5,000	Not supported
44469724	cyan	5,000	OKC510BOTCHIPC
44469723	magenta	5,000	OKC510BOTCHIPM
44469722	yellow	5,000	OKC510BOTCHIPY
44973508	black	7,000	Not supported

Starter cartridges can't be refilled

A new machine arrives with so-called "starter cartridges" which differ from the cartridges you buy later in some significant ways. A starter cartridge lacks a chip, the frame where the chip normally sits and the OKI branding stamp.

Starter cartridge arrives with machine: cannot be successfully refilled



Bought original cartridge: can be successfully refilled



Ignore "ORDER TONER" message

Refill at "REPLACE TONER 41X: [Colour] TONER EMPTY" message

Refill and change chip on only in response to the following symptoms:

- Flashing "attention" light
- REPLACE TONER 41X [Colour] TONER EMPTY message on printer LCD
- Machine refuses to print

Having got these symptoms, do the refill and change the chip, following the procedure that starts on page 2.



Important: only refill the target cartridge

Only refill the cartridge specifically mentioned in the message (K = black, C = cyan, M = magenta, Y = yellow). Never "top up" all the cartridges "while you're at it".



How to refill it

- 1) Turn on melting tool and leave to warm up for 5 minutes (see page 5 for guidance on safe use of melting tool)
- 2) Melt hole as shown ...



- 3) Shake toner bottle for a count of 5 before opening.
- 4) Open toner bottle and screw spout on. Wrap tape around neck to avoid all leakage of micro fine toner. "Duct tape", also known as "Gaffa tape" is best, but any wide tape will do.
- 5) Hold cartridge as shown with one hand. Use other hand for bottle.
- 6) Keeping bottle below horizontal, marry up to hole in cartridge and, keeping spout jammed in with distinct pressure, lean cartridge back to about 45 degree angle.



- 7) Wait for a count of 10 for toner to flow in.
- 8) Keeping spout in hole, rotate bottle down to below horizontal. Disengage bottle from cartridge. Repeat steps 5 to 8 until there's no toner left.
- 9) Use alcohol swab to clean up any stray toner around hole.
- 10) Seal around lip of plug with thin bead of bathroom sealant, silicon glue or other soft-setting glue like Copydex.



- 11) Apply plug by marrying inside edges of melted hole with plug's groove. Observe plug every now and then. If any toner is escaping, clean area and re-seal around plug with more silicon glue or bathroom sealant.
- 12) Locate chip on end of cartridge, squeeze frame in direction of arrow shown and lift out

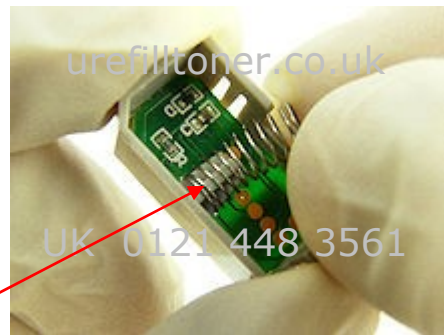




13) Remove small compression spring and pull old chip from back of chip frame



14) Fit replacement chip into frame as shown, the two chamfered corners on the chip match up with chamfered corners in frame



15) Refit compression spring onto locating spigot
16) Rear view of replacement chip and spring



17) Fit chip assembly back onto cartridge chamfered side first, then gently squeeze other side into place



Empty waste at "REPLACE TONER 417: K WASTE TONER FULL" message

Empty waste in the black cartridge in response to the following symptoms:

- Flashing "attention" light
- REPLACE TONER 417 K WASTE TONER FULL message on printer LCD
- Machine refuses to print

Waste toner from the printing processes of all 4 colours collects in a compartment attached to the black cartridge. When it's full you get the above symptoms.

We found this happened just shy of 9,000 prints, but we were really "hammering it". With runs of more sparsely printed pages, you'll go longer before the waste filled up.



Once the waste's full you can either buy a new black cartridge or empty the waste.

It's your call, but be aware that emptying the waste has the potential to be messier than just refilling. And we emptied out 185g of waste, which is a lot. If you want to empty the waste, the next section shows you how ...

- 1) Melt hole in position shown by red boxes



- 2) Shake waste toner straight into an outside bin
- 3) Wipe stray toner from cartridge surface with absorbent paper
- 4) Use alcohol swab to clean and prepare flat surface around hole
- 5) Seal the hole with a patch cut from duct tape or any strong flexible adhesive tape that's wide enough
- 6) Put cartridge back in printer. "Waste Toner Full" message goes away and machine will print again



Other consumables used by the printer

Besides toner cartridges, the machine also uses an image drum, fuser unit and transfer belt. All of these have maintenance profiles which are independent of the toner cartridges and all of them cause print problems if not working right.

The image drum, with a nominal yield of 20,000 copies, is the one you're liable to come up against first. Check the asterisks and small print, though, and you'll find some bizarrely worded caveats about image drum life. Check your User Guide for detailed information (and dis-information?) on all consumables.

Don't update your firmware

The way the machine responds to a perceived empty cartridge can be modified by updating the firmware. We recommend you do not allow the machine to update firmware across the internet. It could re-program your machine to reject our compatible chips.



Use and safety of the melting tool



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 OKI C310 type toner

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	OKI C310 type refill toner
Part no.	OKC310BOTB, OKC310BOTC, OKC310BOTM, OKC310BOTY
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

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

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

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

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

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

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

Not tested for ecological effects

10 Disposal considerations

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

General	Not regulated
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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.



Please, tell three people what you've done



OK, we admit it. This is our begging act. Have you saved money by using our DIY kit? Did you feel a touch of pride as your cartridge *did* print again? Maybe you found some environmental satisfaction? Or perhaps you feel it should be refilled "because it's there".

We sincerely hope we've helped float your boat in some way. And if so, then please help our voice in the wilderness and tell at least three people about what you did with your empty cartridge. Why not send a link to www.urefilltoner.co.uk to some friends you know have printers?



The phrase "carbon footprint" hadn't been coined in 1992 when we started selling our trend-bucking "guerrilla re-cycling" products. Refilling with just toner **more or less halves CO₂** compared with making the toner plus the whole structure of a cartridge to put it in*.



We're asking for your support to create a kind of benign chain-reaction effect. Yes, we stand to make money from that, but we believe that the battle to reduce CO₂ output does have to be commercialised. That's to say, when the capacity of individuals to make voluntary self-sacrifice reaches a limit, what will take up the slack? In the same way that carbon big-foot companies need money to keep doing what they do, so does a carbon twinkle-toes.

Environmental organisations make us aware of a pyramid of priorities. **Re-use**, in the sense of directly using a resource again, is more beneficial than re-cycling (normally taken to imply an industrial process such as re-pulping paper fibre).

So, one last time for the planet, please advocate www.urefilltoner.co.uk if you feel our existence is preferable to our non-existence. Keep refilling in the free world.

*Sources:

Dr. M. Gell, "Carbon Footprints and Ecodesign of Toner Printer Cartridges", Xanfeon Energy & Environmental Services, UK, 2008. Dr. Gell calculates a 52% reduction in carbon footprint by refilling a cartridge 3 times and replacing the OPC drum once. We think the DIY refill case is even more favourable because the following carbon loads included in Dr. Gell's assumptions don't apply: manufacture/transport of replacement OPC drum, triple transport of empty cartridge to remanufacturing facility and energy consumed during remanufacturing at facility. In addition, the footprint of the delivery transport is smaller because toner weighs only a fraction of a whole cartridge.

Centre For Remanufacturing & Reuse (commissioning body), "The Carbon Footprint of Remanufactured Versus New Mono-toner Printer Cartridges". The authors conclude that, based on their data, a remanufactured mono (i.e. black & white laser printer) cartridge has a "46% lower carbon footprint than a corresponding new cartridge".

Berglind & Eriksson, "Life Cycle Assessment of Toner Cartridge HP C4127X", University of Kalmar, Sweden, 2002. The authors state (Abstract page I) that from the point of view of environmental load, "the re-use alternative is full measured two times better ...". Although they point out that the main environmental load is, in fact, associated with paper.

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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