

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.

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.



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) See page 5 for guidance on safe use of the copper melter
- 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.



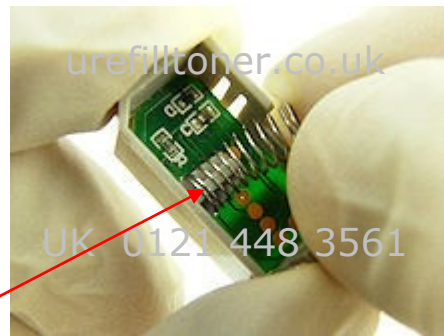
- 11) Apply plug by marrying inside edges of melted hole with plug's groove. Observe plug every now and then. If any toner is escaping, clean area and re-seal around plug with more silicon glue or bathroom sealant.
- 12) Locate chip on end of cartridge, squeeze frame in direction of arrow shown and lift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

Copper melter: important safety information



- 1) Use a weak flame only and experiment with the least temperature needed to melt your hole
- 2) Do not heat the melter any more than absolutely necessary to melt plastic: if too hot, it could start a fire
- 3) When the hole has been melted, extinguish all naked flames before pouring toner (toner can form an explosive dust-air mixture when suspended in air)
- 4) Have fire-extinguishing equipment ready
- 5) Use only in a work area free from flammable materials
- 6) Wear heat-resistant gloves
- 7) Take precautions to protect all body parts from burns
- 8) Use safety goggles to protect the eyes
- 9) Consider the ventilation of the space you will do the melting in
- 10) Have an incombustible, safe resting place for the melter when hot
- 11) Allow to cool naturally, do not plunge hot melter into cold water or liquids
- 12) Do not heat the jaws of the tool you use to hold the melter
- 13) Only to be used by a competent, risk-aware adult
- 14) Consider the risks posed by the tool you choose to hold the copper melter with, which include - but are not limited to - issues such as ...
 - Is it resistant enough to heat?
 - Does it grip strongly enough?
 - Could it conduct too much heat to your hand?
 - Could it become brittle?
- 15) Perform your own risk assessment: the onus is on you to evaluate the ultimate degree of risk
- 16) If your risk assessment leads you to abandon going ahead, return this and any unused products for a full refund

Legal Notice

U Refill Toner Ltd. has made strident efforts to foresee possible sources of personal injury and detail them in this document. However, it is foreseeable that all safety information is, in essence, incomplete and subject to change and revision in the light of experience that is, as yet, unknown. You must therefore use your own judgement in evaluating the potential risks posed by refilling your toner cartridge - howsoever achieved - including the possible incompleteness or inaccuracy of currently conceived foreseeable risks.

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.

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.

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 copper melter or other refill 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.

Our electric melting tool was ditched in 2019 in favour of the "copper melter". It has a dramatically smaller carbon and resources footprint in its production, transport and use



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

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|-----------------------------------|
| Not tested for ecological effects |
|-----------------------------------|

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. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|

11 Transport information

| | |
|---------|---------------|
| 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.

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



Half the carbon, half the cost

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