Original HP toner cartridges for use with the HP Color LaserJet Pro M452 series* offer a wide variety of safety and environmental features. HP requires that its cartridges comply with HP standards, requirements of mandatory regulations, and voluntary certification. Main requirements are summarised in HP’s General Specification for the Environment (GSE). Accordingly, HP strongly recommends that users apply only original HP printing supplies to ensure safe and sustainable operation of their HP printer.

**Firm precautions ensure safe products**

**EU and US classification** – HP toner mixtures used with HP Color LaserJet Pro M452 series devices are not classified as hazardous according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)\(^1\) as well as the assessment criteria for mixtures in the European Union (Regulation (EC) No 1272/2008, as amended)\(^2\) and applicable requirements in the United States (OSHA CFR 1910.1200, as amended)\(^3\). Accordingly, they are neither classified nor labelled as toxic, carcinogenic, mutagenic, toxic to reproduction, sensitising or corrosive.

**REACH compliance** – HP is committed to meeting all applicable REACH requirements and providing customers with information about the chemicals in our products as needed to comply with REACH\(^4\) – including original HP toner cartridges for the HP Color LaserJet Pro M452 series.

**RoHS conformity** – Where countries apply materials restrictions on electrical and electronic equipment to toner cartridges (such as the European Union’s RoHS Directive 2011/65/EU), HP is committed to meeting all applicable materials restrictions and documentary requirements by the relevant deadlines.
**GSE fulfilment** – All toner cartridges for the HP Color LaserJet Pro M452 series meet a variety of strict substances and materials restrictions according to our General Specification for the Environment (GSE). The GSE is a series of standards which defines HP’s global product environmental requirements, applies HP-wide, and contributes to our commitment to global citizenship.

**Strict criteria for sustainable toner cartridge boxes**

**Heavy metals** – Packaging materials for printing supplies of the HP Color LaserJet Pro M452 series must not contain lead, mercury, cadmium, or hexavalent chromium where the sum concentration of these substances is greater than 0.01% (100 ppm) by weight.\(^5\)

**CFCs and HCFCs** – Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) listed in the GSE (including in Standard 011-01, 011-01A, and 011-01B) must not be used in or for the manufacturing of plastic foam packaging materials (for example as a foam blowing agent).\(^6\)

**PVC, bleaching agents and phthalates** – PVC must not be used in packaging\(^7\) and elemental chlorine shall not be used as a bleaching agent to bleach virgin or recovered content fibre used in paper-based packaging.\(^8\) The phthalates DEHP, BBP, DBP, and DIBP must not be used in packaging in concentrations greater than 0.1% (< 1,000 ppm) by weight in any homogeneous material.\(^9\)

**Materials savings** – Packaging of toner cartridges for the HP Color LaserJet Pro M452 series is part of an HP initiative to use up to 30% post consumer recycled content and replace polystyrene by 100% post consumer recycled content in toner cartridge end-caps.

**Return and recycling instead of landfill disposal**

**Designed for recycling** – HP toner cartridges are designed with a view to easy disassembly and a reduction of the number of parts used. All parts of original HP toner cartridges for HP Color LaserJet Pro M452 series devices greater than 25 grams in weight are marked with internationally recognised ISO symbols for ease of materials identification.

**Toner cartridge return options** – HP helps you recycle your original HP Color LaserJet Pro M452 series toner cartridges – it’s easy and free with the HP Planet partners programme available in more than 50 countries and territories around the world.\(^10\)

**Closed-loop recycling process** – Every original HP toner cartridge returned through HP Planet Partners goes through a multiphase recycling process and is reduced to raw materials which can then be used to make new products, such as original HP toner cartridges. You can be confident that original HP toner cartridges recycled through HP Planet Partners are never refilled, resold, or sent to a landfill.\(^10\)

**External proof of sound performance**

For meeting more than a hundred criteria, HP Color LaserJet Pro M452dn and HP Color LaserJet Pro M452dw printing systems, including their toners and toner cartridges, are certified with an internationally leading eco label, the German Blue Angel.\(^11\)\(^12\) Accordingly, toners do not contain substances as intentionally added constituents which are classified as carcinogenic, mutagenic, toxic to reproduction, persistent, bio-accumulative or toxic. Also, they do not contain intentionally added azo dyes, while cobalt and nickel oxides content is as low as reasonably achievable. Photoconductor drums do not contain intentionally added selenium or lead.\(^13\)

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The HP Color LaserJet Pro M452dn and the HP Color LaserJet Pro M452dw are certified with the Blue Angel eco label according to RAL-UZ 171.
Please note that alternative eco labels for refilled and remanufactured toner cartridges do not require the same safety and environmental performance as the Blue Angel awarded for HP printing systems. In fact, they offer less and often significantly weaker criteria compared to those for HP printing systems and their toner cartridges.

**Supply chain management and manufacturing**

**Stringent requirements for suppliers and manufacturing**

HP toners for the HP Color LaserJet Pro M452 series are manufactured following precisely defined formulations using only raw materials from carefully chosen and contracted suppliers in order to achieve high product quality. Manufacturing is conducted in production sites that are ISO certified (ISO 14001, environmental management system) and that include worldwide accepted ISO requirements in the quality management system (ISO 9001:2000, quality assurance in production) or an equivalent programme. Respective suppliers are committed to comply with our high safety and environmental GSE standards (see above). HP’s active verification process to prevent the use of non-compliant material in the products is based on our risk analysis of restricted substances entering the supply chain and includes technical documentation outlined in the European Union’s EN 50581:2012 standard.

**Indoor Air Quality performance**

**Check for potential substance and particle release**

When original HP printing supplies are used as intended to operate HP Color LaserJet Pro M452 series devices, test results meet or exceed relevant occupational and indoor air requirements. In addition, for HP Color LaserJet Pro M452 series printing systems, HP can confirm compliance with the strict criteria for substance and particle release of the Blue Angel eco label. In detail, this includes potential release of TVOCs, benzene, styrene, unidentified VOCs, ozone and particles.

**Product specific documentation**

**Further details if you want to know more**

In-depth information on your particular toner cartridges for HP Color LaserJet Pro M452 series devices is listed in the following Safety Data Sheets (SDS) which are available on the HP website:

- SDS for HP toner cartridge **HP 410A** and **HP 410X black** – no. CF410A-X
- SDS for HP toner cartridge **HP 410A** and **HP 410X cyan** – no. CF411A-X
- SDS for HP toner cartridge **HP 410A** and **HP 410X yellow** – no. CF412A-X
- SDS for HP toner cartridge **HP 410A** and **HP 410X magenta** – no. CF413A-X

For HP Color LaserJet Pro M452 series devices certified with the Blue Angel eco label, Blue Angel user information documents also provide further details on the particular devices’ environmental performance when operated with original HP printing supplies. The documents can be accessed on the Blue Angel website or by clicking the following links:

- Blue Angel user information for **HP Color LaserJet Pro M452dn**

More information on the Blue Angel and certified HP products is available on the Blue Angel section of the HP website.

**Competitive information**

**Don’t compromise on safety and the environment**

If users want to be sure to get the safety and environmental performance outlined above, HP recommends operating the HP Color LaserJet Pro M452 series with original HP toner cartridges only.

Alternative non-HP products might significantly alter the behaviour of your HP printer. To ensure users can consider all safety and environmental related aspects at any time, HP makes information on relevant testing of HP original toner cartridges readily available.
* This series includes the following models: HP Color LaserJet Pro M452nw, HP Color LaserJet Pro M452dn, HP Color LaserJet Pro M452dw. Please note that there are HP printing systems which are available in certain regions only.

Supporting references:

(1) Globally Harmonized System of Classification and Labelling of Chemicals (GHS), ST/SG/AC.10/30/Rev. 5, United Nations, 2013. (2) Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, European Parliament and Council, 2008 (as amended). (3) Occupational Safety and Health Standards, Toxic and Hazardous Substances, 1910.1200, U.S. Occupational Safety and Health Administration (OSHA), 2012 (as amended). (4) HP REACH compliance statement (rev2 July 2014). (5) HP Standard 011 GSE, HX-00011-02, sect. 3.3. (6) HP Standard 011 GSE, HX-00011-02, sect. 3.2. (7) HP Standard 011 GSE, HX-00011-02, sect. 3.4; This restriction does not apply to protective tape covers with a surface area equal to or less than 15 square centimeters (2.35 square inches) and or weighing less than 1 g (0.035 oz). (8) HP Standard 011 GSE, HX-00011-02, sect. 3.5. (9) HP Standard 011 GSE, HX-00011-02, sect. 3.6. (10) Programme availability varies. Original HP cartridge return and recycling is currently available in more than 50 countries, territories, and regions in Asia, Europe, and North and South America through the HP Planet Partners programme. For more information, visit hp.com/recycle. (11) According to Basic Criteria for Award of the Environmental Label, Office Equipment with Printing Function (Printers, Copiers, Multifunction Devices) RAL-UZ 171, RAL gGmbH, edition July 2012. (12) Substances are classified according to the Blue Angel award criteria as specified in footnote 11. (13) Blue Angel measurement requirements according to RAL-UZ 171 of the German Federal Environmental Agency. The RAL-UZ 171 (since 2013) includes a new particle number guide value for laser printers which supplements the established weight-based fine dust guide value of the Blue Angel. (14) ISO/IEC 28360:2012 is a standard measurement procedure for determining substances and particle release from information and communication technology and consumer electronics equipment. The ISO standard defines the internationally recognised test methodology for measuring printers’ contribution of substances and particles to indoor air and requires testing under high-use operating conditions.