The printing system Samsung ProXpress M4580FX is awarded with the environmental label Blue Angel (RAL-UZ 205, edition January 2017) in Germany, for meeting altogether more than 100 strict certification criteria. Please note that the printing system Samsung ProXpress M4580FX is also suited for private use by end-consumers. In the following, essential environmental information on the device is summarised. Comprehensive information on the Blue Angel product requirements and detailed product specifications are available at www.blauer-engel.de.

**Printing paper**
This device is suitable for using recycled paper in accordance with EN 12281.

**Double sided printing/copying in delivery status**
The device is equipped with an automatic duplexer for double-sided printing and copying. Duplex printing is the default setting. Furthermore, the device features the capability to printout several pages of a digital file on one single page.

**Longevity**
- HP recommends a monthly page volume of up to 15,000 pages for this device.
- All necessary exchange parts are available to the private user and can be replaced by him-/herself.
- Spare parts and exchange parts for the repair of this device model are still available at least five years after end of production.
- HP recommends following the intervals for cleaning and maintenance as described in the product information.

**Information on post-consumer recycled plastic**
HP contributes to the conservation of resources by using post-consumer recycled plastic for production of new HP products. These plastics are recycled waste plastics stemming from private or commercial end-consumers. This HP device contains 0-1% of post-consumer recycled plastic.

**Return of equipment**
HP offers customers in Germany the opportunity to return used equipment. Information on the return of equipment is available at your local HP sales or customer-service centre or at http://www.hp.com/recycle.

**Return of photoconductor drum**
Photoconductor drums can be returned cost-free to HP just as the HP LaserJet toner cartridges for this device.
**Return of consumables**
In Germany and many other countries, HP toner cartridges for this device can be returned cost-free to HP as part of the return and recycling programme. The packaging of each new HP toner cartridge contains information on how to participate in this programme. Or visit our website: http://www.hp.com/recycle.

**Yields of consumables**
The HP toner cartridge MLT-D303E shipped with the product has a reference yield of 40,000 pages, determined according to ISO/IEC standard 19752.

The yield of this toner cartridge may be reduced as a consequence of the initial commissioning process or calibration processes of the printing system.

**Information on handling of the toner modules**
- Please leave HP LaserJet toner cartridge in its despatch packaging until you need it for use in your printer; when inserting the HP toner cartridge, please follow the information on handling.
- HP toner cartridges should never be opened by force. If toner dust escapes, e.g. as a result of inappropriate handling, inhalation of dust and skin contact are to be avoided as a precautionary measure.
- In case of skin contact wash affected areas thoroughly with soap and cold water. HP toner cartridges are to be kept out of the reach of children.

**Air emissions**
With original HP toners, the device passes the air emission test for monochrome printing according to RAL-UZ 205. Since plastics of new electrical devices generally release small amounts of volatile substances into the room air, we recommend providing sufficient air exchange in rooms where new devices are set up.

**Noise emissions**
Declared sound power level for one-sided printing (LwAd)
In monochrome print mode 45 pages/minute: 6.78 Bel and 67.8 dB

**Energy**
*Energy information on Samsung ProXpress M4580FX*
The consumption of electric power depends on its properties and on the way it is used. Samsung ProXpress M4580FX is designed and pre-set in a way to allow you to reduce electricity costs.

Directly after the last print or copy job, Samsung ProXpress M4580FX switches over to an electric power saving mode. If the device switches over to electric power saving modes, you can save electricity and operating costs. If the device is print or copy again, there can be a short delay – this is called return time. However, the device meets the strict Blue Angel requirements for a return time (http://www.blauer-engel.de).

You can save electricity costs by shortening the device’s activation times as it will switch over to an electric power saving mode more quickly. If you extend the activation time or deactivate the electric power saving mode, you should consider that consequently the device will consume more electric power and might no longer meet the maximum value for electric power consumption of the Blue Angel. We recommend not extending the activation times.

The device is so designed as to ensure that it can be switched to the Off-mode (Hard switch) by pressing the on/off switch up to twice a day without suffering damage. This device does not have a switch by which it can be completely disconnected from the mains. When after having switched off the device you pull out the power plug, electric power consumption is completely stopped.

The table below lists the individual power consumption values as well as activation and return times (factory setting). With these values the device meets the Blue Angel requirements.
Overview of Samsung ProXpress M4580FX operating modes
Page throughput for A4 paper size (according to ISO/IEC 24734):
In monochrome print mode: 45 pages/minute with a resolution of 478 dpcm (1200 dpi)
(dp/cm = dots per centimetre [Bildpunkte pro Zentimeter]; (dpi = dots per inch [Bildpunkte pro Zoll])

<table>
<thead>
<tr>
<th>Switch symbol</th>
<th>Operation mode¹</th>
<th>Power consumption²</th>
<th>Activation time³</th>
<th>Return time seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum power consumption (at switch-on): 1520 watts</td>
<td>690 watts</td>
<td>immediately</td>
<td>immediately</td>
</tr>
<tr>
<td></td>
<td>Printing (continuous operation at 45 pages/minute), monochrome</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ready</td>
<td>18</td>
<td>immediately</td>
<td>immediately</td>
</tr>
<tr>
<td></td>
<td>Low Power</td>
<td>10</td>
<td>1 (1/5/10/15/30/60)</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Sleep</td>
<td>1.27</td>
<td>1 (1/5/10/15/30/60)</td>
<td>7</td>
</tr>
<tr>
<td>OI</td>
<td>Off-mode (Hard switch)</td>
<td>0.1</td>
<td>switch activated</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Off-mode (Soft switch)</td>
<td>0.3</td>
<td>switch activated</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Disconnection from mains</td>
<td>0</td>
<td>e.g. pull out power plug</td>
<td>–</td>
</tr>
</tbody>
</table>

¹ After the last print or copy job, the device switches over to electric power saving modes in several steps. By and by, electric power consumption is reduced in these modes. The device will switch over to the Ready mode first. After the activation times stated above, the device switches over to Low Power mode and then to Sleep mode.

² Averaged value, measured without accessories.

³ Activation time is the time that elapses after the end of the printing or copying process until the device enters the respective mode. The figures in brackets indicate the user-selectable range within which activation times can be adjusted. The activation time values apply to all primary functions of the device: printing, copying.

⁴ After switching over to Low Power mode.

Energy consumption of Samsung ProXpress M4580FX
Measured according to the settings stated in the table above, the energy consumption of Samsung ProXpress M4580FX is 2.3 kilowatt-hours/week (energy consumption at standard use cycle according to ENERGY STAR version 2.0 (7-day week with 5 working days of 8 hours each) determined by using the test pattern A taken from ISO/IEC 10561:1999).

For the standard use cycle according to ENERGY STAR version 2.0 for this device, the following values were used: 32 print jobs per working day, each with 31 pages, single-sided at monochrome printing (992 pages/day).