

## ENVIRONMENTAL PRODUCT DECLARATION

# LASER PRINTER MX632ADWE

According to ISO 14025



With exceptional performance and secure design the Lexmark MX632adwe multi-function printer (copy/scan/print/fax) delivers enhanced productivity up to 50 ppm\* on letter paper and a toner yield up to 31,000 pages\*\*. Engineered for long life with environmental certifications and advanced power management, this efficient model has a high sustainability. Fast time to first print, superior print quality and easy-to-use touch screen.



Lexmark's innovative imaging solutions and technologies help customers worldwide print, secure and manage information with ease, efficiency and unmatched value. Lexmark simplifies the complex intersection of digital and printed information.

As part of the commitment to our customers, Lexmark performs Life Cycle Analysis on our products. The results of the LCA analysis continues to assist Lexmark in reducing the environmental impact of the hardware, software and services offered to our customers.



# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer **MX632adwe**  
Printers and multi-functional printing units

According to ISO 14025

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity.



EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

PROGRAM OPERATOR	UL Solutions
DECLARATION HOLDER	Lexmark
DECLARATION NUMBER	4790840013.104.1
DECLARED PRODUCT	Laser Printer MX632adwe
REFERENCE PCR	ULE (2018) Product Category Rules for preparing an environmental product declaration (EPD) for printers and multi-function printing units (v2.0). UL Environment
DATE OF ISSUE	August 1, 2023
PERIOD OF VALIDITY	5 Years
CONTENTS OF THE DECLARATION	Product definition Information about basic material and the material's origin Description of the product's manufacture Indication of product processing Information about the in-use conditions Life cycle assessment results Testing results and verifications
The PCR review was conducted by:	UL Environment Review Panel Lise Laurin (Chairperson) 31 Leach Road; Kittery, Maine 03904; lise@earthshift.com
This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories <input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL	<i>Cooper McCollum</i> Cooper McCollum, UL Solutions
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	<i>Thomas P. Gloria</i> Thomas P. Gloria, Industrial Ecology Consultants

# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer **MX632adwe**  
Printers and multi-functional printing units

According to ISO 14025

## Product Description

---

Product Type	Mono Laser Printer
Printer Model	MX632adwe
Maximum Print Speed	50 pages per minute
Intended use	primarily office
Range of applications	print images or text in mono onto paper or paper-like media
Product Lifetime	5 years
Introduction Date	4/25/2023
Product Specifications	<a href="http://www.lexmark.com/en_US/products/series/printer-and-multifunction/finder.shtml">http://www.lexmark.com/en_US/products/series/printer-and-multifunction/finder.shtml</a>
Functional Unit	The functional unit has been defined as a 1,000 page simplex job in accordance with the Energy Star Typical Energy Consumption test procedure and the reference Product Category Rule (PCR).
Scope of Validity / Applicability	The EPD is representative for the printer model MX632adwe sold as a stand-alone unit. This EPD and the reference PCR are applicable for printer sale and use in the North American market. Lexmark cannot guarantee that comparisons with EPDs of competitive products will be valid.
Product Characterization	With certifications in Energy Star®, Blue Angel, RoHS, EPEAT® Silver. Models are sustainable for today and beyond. Lexmark is an industry leader of recycled content with products using at least 39% PCR content and continual focus on improvement. This line is also engineered for Long Life and designed to last and reduce waste. The printer product delivered to the customer consists of the printer, a power cord, printed setup instructions, a CD/DVD that includes the User Guide and Printer Drivers and an initial set of product supplies. The printer is delivered in packaging that can be recycled locally and is not needed for product operation. Product supplies include toner cartridges, imaging kits and the fusing mechanism. The power supply is internal to the product and the imaging kit and fusing mechanism are installed at the factory. Only the toner cartridges must be installed by the customer. The printer can be setup by the customer without outside assistance.

# ENVIRONMENTAL PRODUCT DECLARATION



# Lexmark™

Laser Printer MX632adwe

Printers and multi-functional printing units

According to ISO 14025

## Technical Data

Product Specifications	Lexmark MX632adwe
<b>Printing</b>	
Display	Lexmark e-Task 7-inch (17.8 cm) color touch screen
Print Speed	Up to: Black: 50 ppm <sup>1</sup> (Letter)
Time to First Page	As fast as: Black: 6 seconds
Print Resolution	Black: 1200 x 1200 dpi, 1200 IQ (1200 x 600 dpi)
Memory	Standard: 2048 MB / Maximum: 2048 MB
Hard Disk	Intelligent Storage Drive available; Magnetic Hard Disk available
Recommended Monthly Page Volume	2,000 - 20,000 pages <sup>2</sup>
Maximum Monthly Duty Cycle	Up to: 175,000 pages per month <sup>3</sup>
<b>Copying</b>	
Copy Speed	Up to: Black: 50 cpm <sup>1</sup> (Letter)
Time to First Copy	As fast as: Black: 6.5 seconds
<b>Scanning</b>	
ADF Scan	DADF (single pass Duplex)
A4/Ltr Duplex Scan Speed	Up to: Black: 98/104 sides per minute / Color: 79/84 sides per minute
A4/Ltr Simplex Scan Speed	Up to: Black: 49/52 sides per minute / Color: 39/42 sides per minute
ADF Paper Input Capacity	Up to: 100 pages 20 lb or 75 gsm bond
<b>Faxing</b>	
Modem Speed	ITU T.30, V.34 Half-Duplex, 33.6 Kbps
<b>Supplies<sup>4</sup></b>	
Laser Cartridge Yields	up to: 31,000 <sup>5</sup> -page Black Cartridge
Imaging Unit Estimated Yield	Up to: 75,000 pages, based on 3 average letter/A4-size pages per print job and ~ 5% coverage
Cartridge(s) Shipping with Product	5,000 <sup>5</sup> -page Return Program Toner Cartridge <sup>5</sup>
<b>Paper Handling</b>	
Included Paper Handling	100-Sheet Multipurpose Feeder, 250-Sheet Output Bin, 550-Sheet Input
Optional Paper Handling	550-Sheet Lockable Tray, 250-Sheet Tray, 550-Sheet Tray
Paper Input Capacity	Up to: Standard: 650 pages 20 lb or 75 gsm bond / Maximum: 2300 pages 20 lb or 75 gsm bond
Paper Output Capacity	Up to: Standard: 250 pages 20 lb or 75 gsm bond / Maximum: 250 pages 20 lb or 75 gsm bond
Media Types Supported	Paper Labels, Card Stock, Plain Paper, Envelopes, Refer to the Paper & Specialty Media Guide
Media Sizes Supported	A6, Oficio, 7 3/4 Envelope, 9 Envelope, JIS-B5, A4, Legal, A5, Hagaki Card, Letter, B5 Envelope, Statement, C5 Envelope, Executive, DL Envelope, Folio, 10 Envelope
<b>General Information<sup>6</sup></b>	
Standard Ports	Gigabit Ethernet (10/100/1000), Front USB 2.0 Specification Hi-Speed Certified port (Type A), USB 2.0 Specification Hi-Speed Certified (Type B), 802.11b/g/n/ac + BLE
Optional Network Ports / Optional Local Ports	MarkNet N8230 Fiber Ethernet Print Server / Internal 1284-B Bidirectional Parallel, Internal RS-232C serial
Noise Level	Operating: 55 dBA (Print) / 57 dBA (Copy) / 52 dBA (Scan)
Specified Operating Environment	Temperature: 10 to 32°C (50 to 90°F) / Altitude: 0 - 2896 Meters (9,500 Feet) / Humidity: 15 to 80% Relative Humidity
Limited Warranty	See Statement of Limited Warranty: 1-Year Onsite Service, Next Business Day
Size / Weight	H x W x D: 20.2 x 18.9 x 17.8 in. / 47 lb.
ENERGY STAR Typical Electricity Consumption	TEC: 0.64 kilowatt-hours per week

All information is subject to change without notice. Lexmark is not liable for any errors or omissions.

<sup>1</sup> Print and copy speeds measured in accordance with ISO/IEC 24734 and ISO/IEC 24735 respectively (ESAT). For more information see: [www.lexmark.com/ISOspeeds](http://www.lexmark.com/ISOspeeds).  
<sup>2</sup> "Recommended Monthly Page Volume" is a range of pages that helps customers evaluate Lexmark's product offerings based on the average number of pages customers plan to print on the device each month. Lexmark recommends that the number of pages per month be within the stated range for optimum device performance, based on factors including: supplies replacement intervals, paper loading intervals, speed, and typical customer usage. <sup>3</sup> "Maximum Monthly Duty Cycle" is defined as the maximum number of pages a device could deliver in a month using a multishift operation. This metric provides a comparison of robustness in relation to other Lexmark printers and MFPs. <sup>4</sup> Product functions only with replacement cartridges designed for use in a specific geographical region. See [www.lexmark.com/regions](http://www.lexmark.com/regions) for more details. <sup>5</sup> Average standard page yield value declared in accordance with ISO/IEC 19752. <sup>6</sup> Printers are sold subject to certain license/agreement conditions. See [www.lexmark.com/printerlicense](http://www.lexmark.com/printerlicense) for details.

This is a Class A device according to international electromagnetic emissions standards (i.e. FCC Rules, EN 55022/EN 55032, etc.). Class A products are intended for use in non-residential/non-domestic environments. Use of a Class A product in residential/domestic environments may cause interference to radio communications and require corrective measures.

© 2023 Lexmark. All rights reserved.

Lexmark, the Lexmark logo and Unison are trademarks of Lexmark International, Inc., registered in the United States and/or other countries.

Apple and AirPrint are trademarks of Apple Inc., registered in the U.S. and other countries. MOPRIA®, the Mopria® Logo™ and the Mopria® Alliance logos are registered trademarks and service marks of Mopria Alliance, Inc. in the United States and other countries. Unauthorized use is strictly prohibited. ENERGY STAR and the ENERGY STAR mark are registered trademarks owned by the U.S. Environmental Protection Agency. EPEAT® is a trademark of the Green Electronics Council in the United States and other countries. All other trademarks are the property of their respective owners.

This product includes software developed by the OpenSSL Project for use in the Open SSL Toolkit (<http://www.openssl.org/>).



[lexmark.com](http://lexmark.com)

# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer **MX632adwe**  
Printers and multi-functional printing units

According to ISO 14025

## System Boundary

The study considers all phases of the life cycle, as shown below.

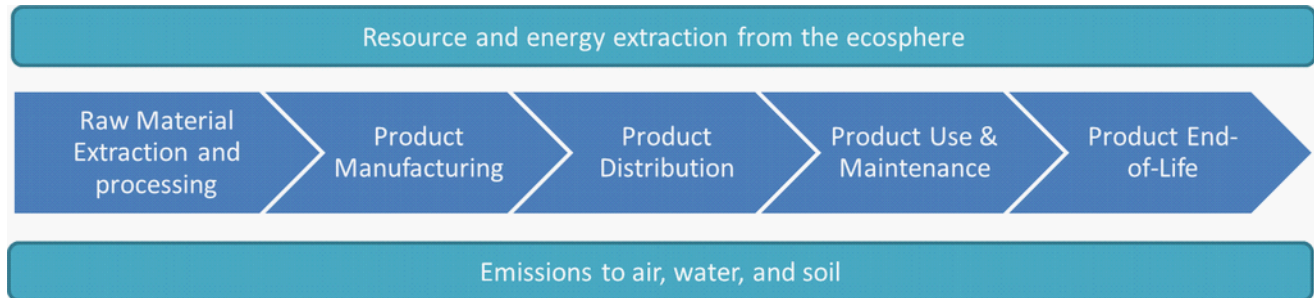


Figure 1: System Boundaries

## Declaration of Basic Materials

The printer consist of mechanical, electromechanical, and electronic components. Its material composition can be described using the basic material fractions given below. Please note that the category 'Electronics' also includes all wiring.

Material	Mass (kg)
Plastics (recyclable)	9.83
Plastics (non-recyclable)	0.579
Ferrous Metals	8.86
Aluminum	0.109
Copper	0
Glass	0.0513
Electronics	1.6
Other Materials	0.262

Table 1: Basic Material Declaration

## Product Supply Chain

The printer is manufactured and assembled in Southeast China. The cartridges for the North American market are manufactured and assembled in Juarez, Mexico.

## ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer MX632adwe

Printers and multi-functional printing units

According to ISO 14025

### Life Cycle Assessment Results

The following sections describe the printer's potential environmental impacts over the full printer life cycle. These represent the typical impacts for an average system sold in the North American market. All impacts are presented per functional unit of printing 1,000 images of the reference standard.

#### Manufacturing Material and Resources Inventory

Table 2 displays the use of material resources (kg) and of non-renewable as well as renewable primary energy demand necessary for printer manufacturing, but excludes other life cycle stages of the printer (cradle-to-gate). Likewise, material and energy consumption associated with printer packaging, cartridges, and paper is excluded here.

Use of Material Resources [kg]	
Non-Renewable	1.17E003
Renewable (excl. water)	1.7E003
Water	1.23E005
Use of Non-Renewable Primary Energy [MJ]	
Crude Oil	410
Hard Coal	1.07E003
Lignite	39.3
Natural Gas	823
Uranium	153
Use of Renewable Primary Energy [MJ]	
Biomass	1.49E-005
Geothermal	6.16
Solar	190
Wind	88.4
Hydropower	105

Table 2: Use of Material and Energy Resources for Printer Manufacturing (Cradle-to-Gate)

#### Energy Consumption During Utilization

Based on the EnergyStar Typical Energy Consumption (TEC) test methodology, the printer is expected to have the following power consumption for an assumed average job load.

	Per 1,000 page	Per product lifetime
Energy Consumption During Utilization [kWh]	0.103	166

Table 3: At-wall power consumption during utilization



## Life Cycle Impact Assessment

The following provides an overview of the potential printer life cycle impacts with emissions classified and characterized to standard environmental impact metrics using the ReCiPe 2016 Hierarchist (H) midpoint characterization factors (v1.1).

Note that the mineral resource depletion results do not include any contributions from the paper life cycle as the AF&PA report does not allow for the conversion to ReCiPe 2016.

Ecotoxicity and human health are not included in this study, as per the PCR, due to their respective uncertainties.

LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

	per 1000 pages including paper	per 1000 pages excluding paper	per printer lifetime including paper	per printer lifetime excluding paper
Global Warming Potential [kg CO <sub>2</sub> eq.]	6.95E+00	5.40E-01	1.13E+04	8.76E+02
Ozone Depletion Potential [kg CFC-11 eq.]	1.55E-07	1.55E-07	2.51E-04	2.51E-04
Acidification Potential [kg SO <sub>2</sub> eq.]	1.79E-03	1.79E-03	2.90E+00	2.90E+00
Eutrophication Potential [kg P eq.]	4.03E-06	4.03E-06	6.54E-03	6.54E-03
Fossil Fuel Depletion Potential [kg oil eq.]	2.08E-01	2.08E-01	3.37E+02	3.37E+02
Mineral Resource Depletion Potential [kg	8.62E-03	8.62E-03	1.40E+01	1.40E+01

Table 3: Summary of Life Cycle Impact Assessment Results



# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer MX632adwe  
Printers and multi-functional printing units

According to ISO 14025

## Interpretation of Results

### Dominance Analysis

Due to the 5 year lifetime and the number of pages printed per day as established by the Energy Star Typical Energy Consumption test procedure, the use phase heavily dominates the life cycle impacts. The below tables and charts display the results of the dominance analysis for each impact category addressed in Table 3.

#### Global Warming Potential

	per 1000 pages including paper	per 1000 pages excluding paper	per printer lifetime including paper	per printer lifetime excluding paper
Printer	1.04E-01	1.04E-01	1.69E+02	1.69E+02
Lexmark use phase <LC>	6.84E+00	4.35E-01	1.11E+04	7.05E+02
Lexmark EoL phase <LC>	1.00E-03	1.00E-03	1.63E+00	1.63E+00

Table 4: Fossil GWP100 dominance analysis [kg CO2 equiv]

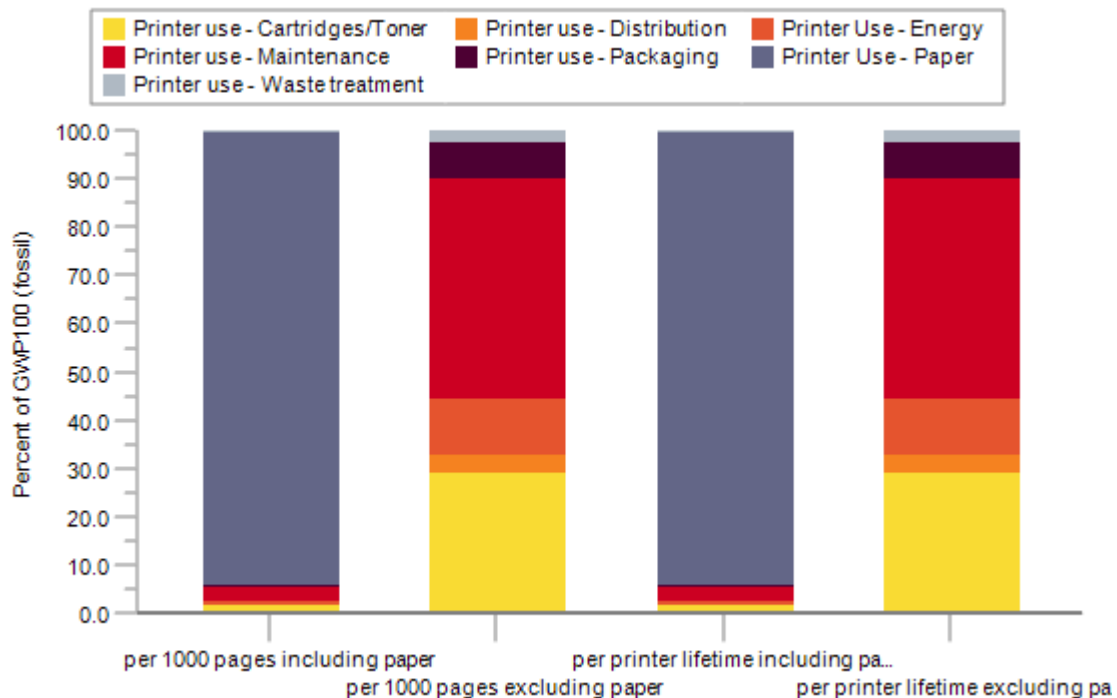


Figure 1: Fossil GWP100 dominance analysis of the use phase



# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer MX632adwe  
Printers and multi-functional printing units

According to ISO 14025

## Ozone Depletion Potential

	per 1000 pages including paper	per 1000 pages excluding paper	per printer lifetime including paper	per printer lifetime excluding paper
Printer	2.23E-08	2.23E-08	3.62E-05	3.62E-05
Lexmark use phase <LC>	1.33E-07	1.33E-07	2.15E-04	2.15E-04
Lexmark EoL phase <LC>	9.80E-11	9.80E-11	1.59E-07	1.59E-07

Table 5: ODP dominance analysis [kg CFC-11 equiv]

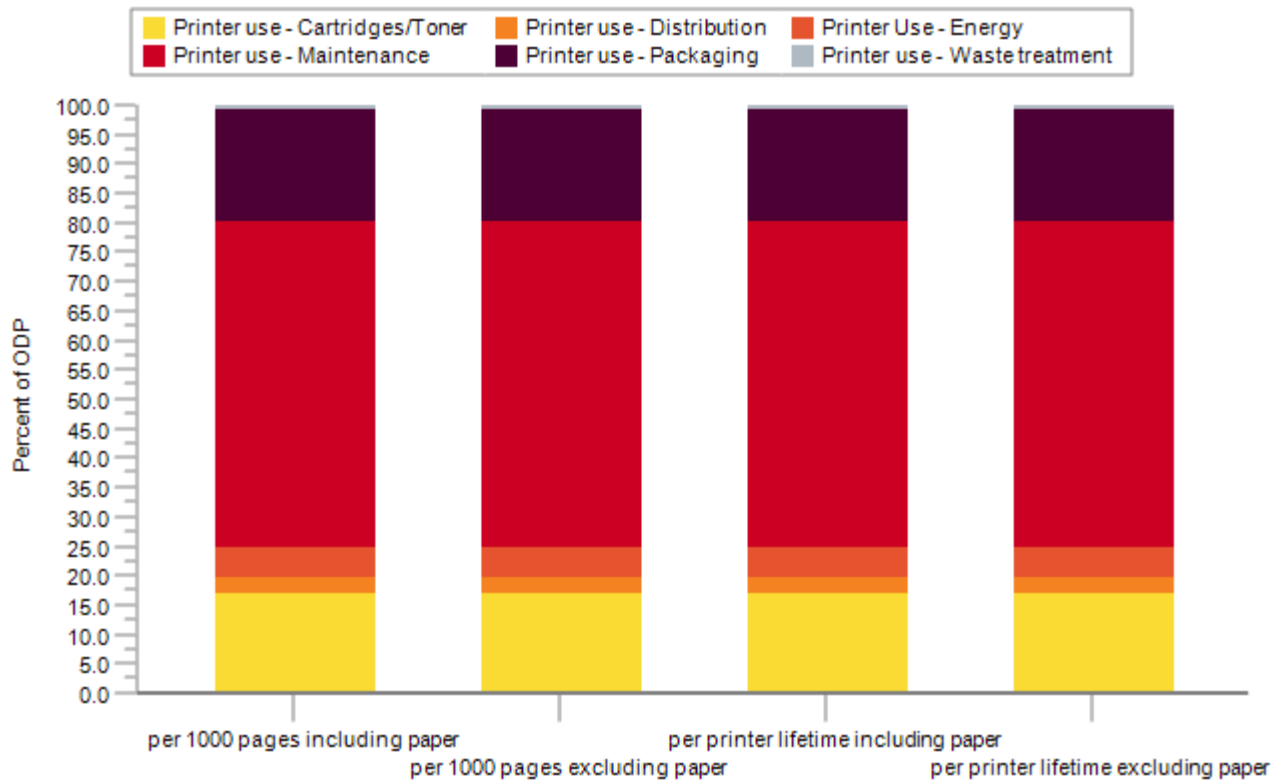


Figure 2: ODP dominance analysis of the use phase

# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer MX632adwe  
Printers and multi-functional printing units

According to ISO 14025

## Acidification Potential

	per 1000 pages including paper	per 1000 pages excluding paper	per printer lifetime including paper	per printer lifetime excluding paper
Printer	5.71E-04	5.71E-04	9.27E-01	9.27E-01
Lexmark use phase <LC>	1.21E-03	1.21E-03	1.97E+00	1.97E+00
Lexmark EoL phase <LC>	2.46E-06	2.46E-06	3.99E-03	3.99E-03

Table 6: AP dominance analysis [kg SO<sub>2</sub> equiv]

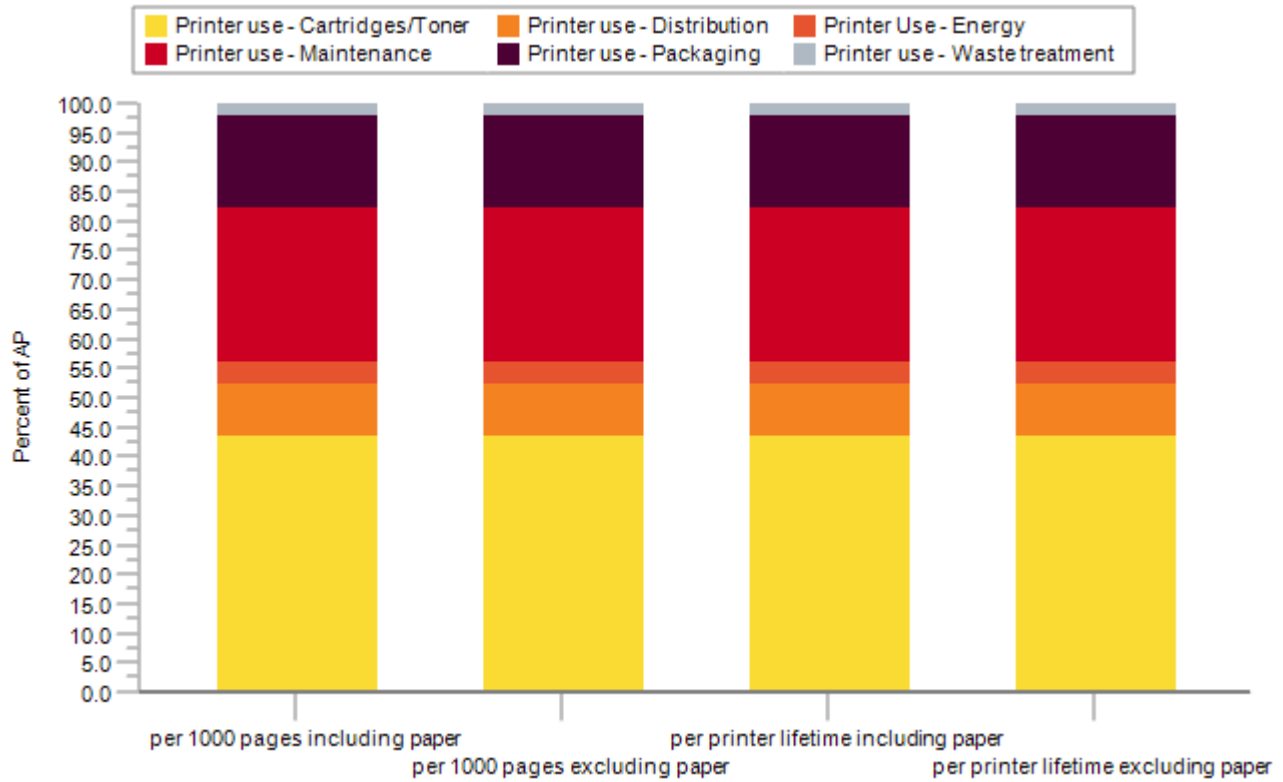


Figure 3: AP dominance analysis of the use phase

# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer MX632adwe  
Printers and multi-functional printing units

According to ISO 14025

## Eutrophication Potential

	per 1000 pages including paper	per 1000 pages excluding paper	per printer lifetime including paper	per printer lifetime excluding paper
Printer	4.86E-07	4.86E-07	7.89E-04	7.89E-04
Lexmark use phase <LC>	3.54E-06	3.54E-06	5.74E-03	5.74E-03
Lexmark EoL phase <LC>	4.22E-09	4.22E-09	6.84E-06	6.84E-06

Table 8: EP dominance analysis [kg P equiv]

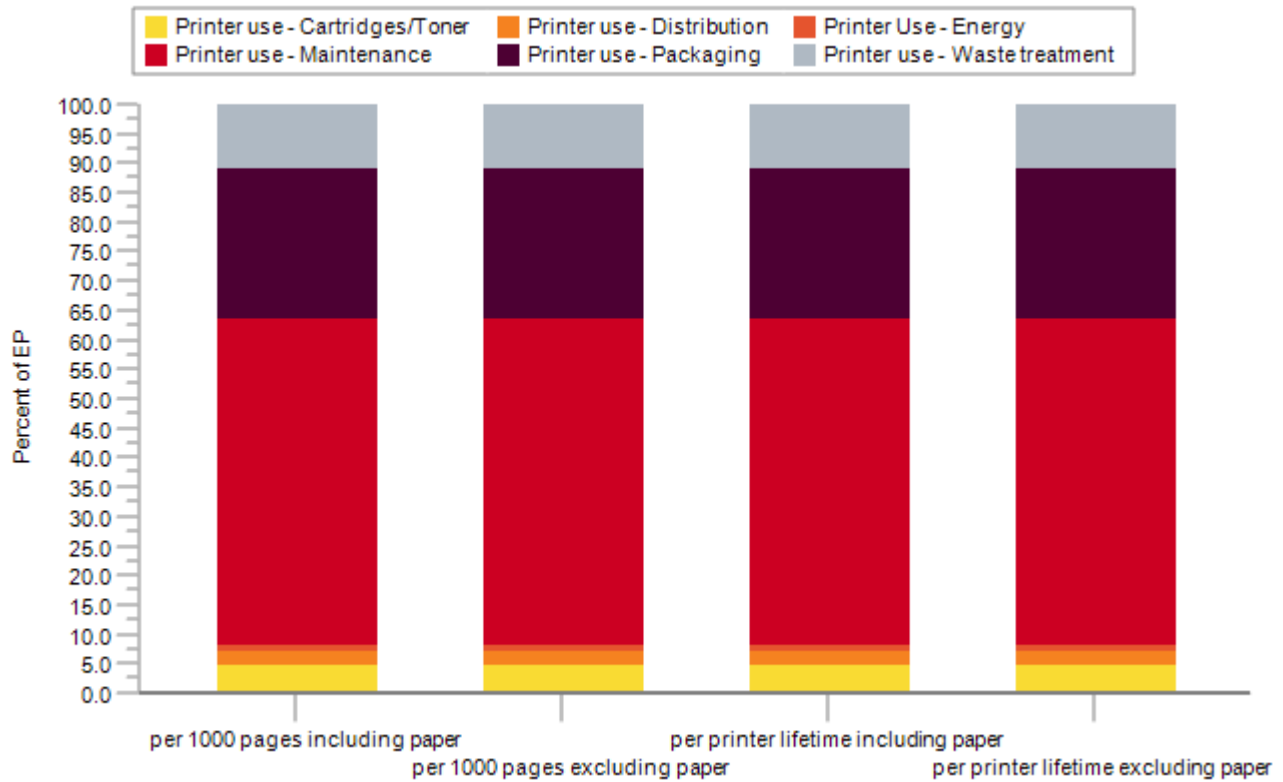


Figure 4: EP dominance analysis of the use phase

# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer MX632adwe  
Printers and multi-functional printing units

According to ISO 14025

## Fossil Fuel Depletion Potential

	per 1000 pages including paper	per 1000 pages excluding paper	per printer lifetime including paper	per printer lifetime excluding paper
Printer	3.50E-02	3.50E-02	5.68E+01	5.68E+01
Lexmark use phase <LC>	1.73E-01	1.73E-01	2.80E+02	2.80E+02
Lexmark EoL phase <LC>	3.38E-04	3.38E-04	5.49E-01	5.49E-01

Table 9: Fossil fuel depletion dominance analysis [kg oil equiv]

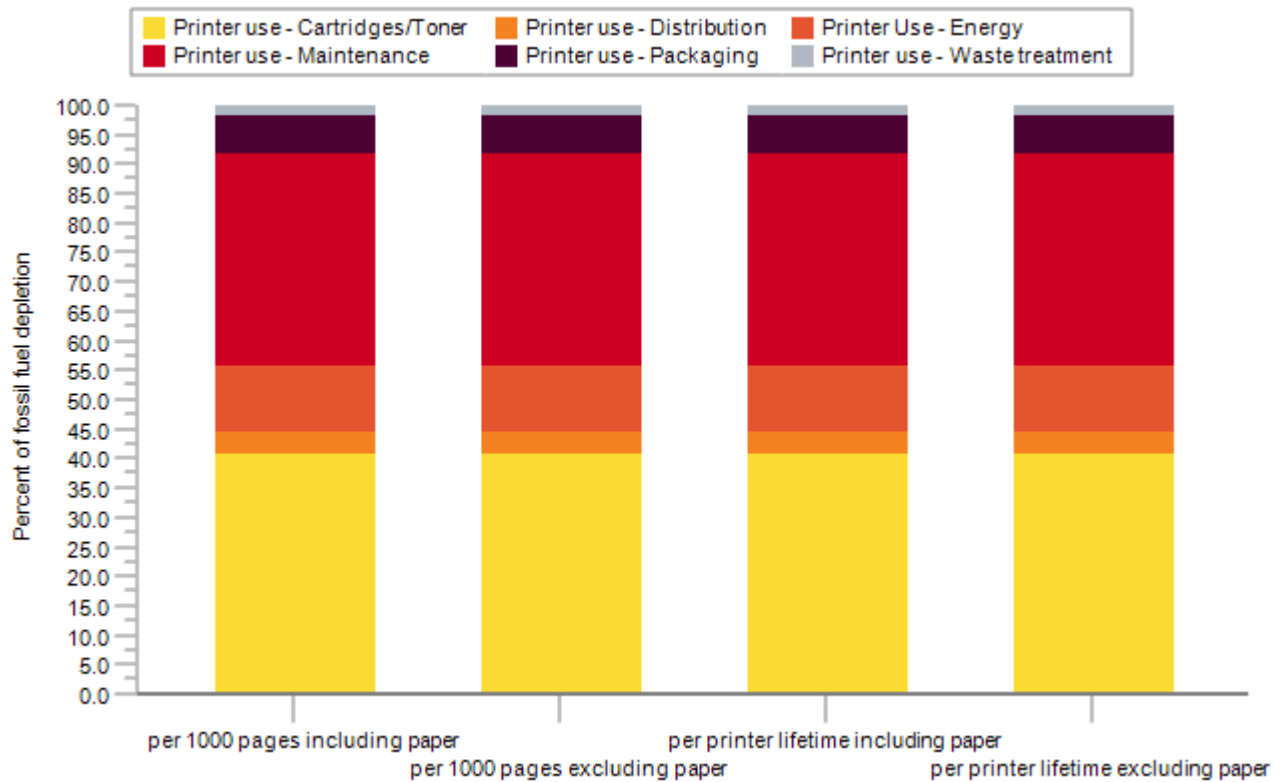


Figure 5: Fossil resource depletion dominance analysis of the use phase

# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer MX632adwe  
Printers and multi-functional printing units

According to ISO 14025

## Mineral Resource Depletion Potential

	per 1000 pages including paper	per 1000 pages excluding paper	per printer lifetime including paper	per printer lifetime excluding paper
Printer	6.78E-03	6.78E-03	1.10E+01	1.10E+01
Lexmark use phase <LC>	1.84E-03	1.84E-03	2.98E+00	2.98E+00
Lexmark EoL phase <LC>	7.27E-06	7.27E-06	1.18E-02	1.18E-02

Table 10: Mineral resource depletion dominance analysis [MJ surplus]

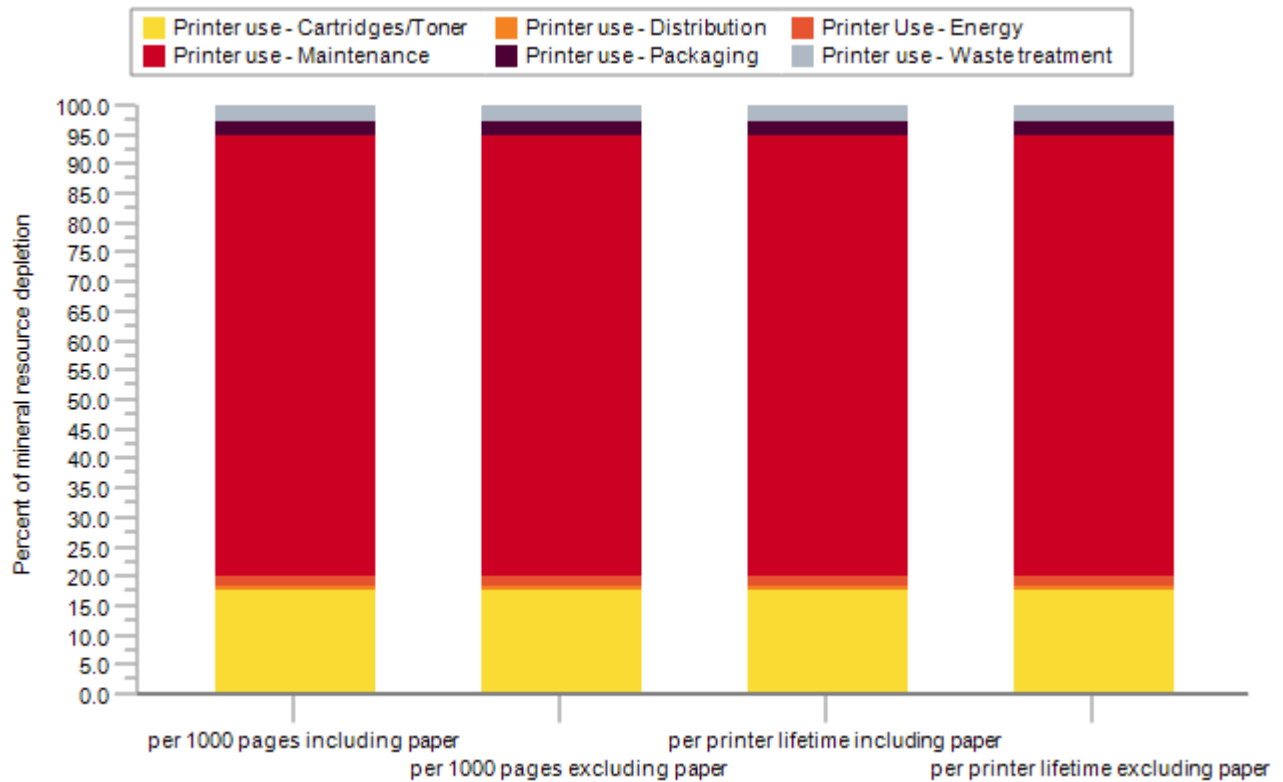


Figure 6: Mineral resource depletion dominance analysis of the use phase

# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer MX632adwe  
Printers and multi-functional printing units

According to ISO 14025

## Primary Energy Demand from Renewable and Non-renewable Resources

	per 1000 pages including paper	per 1000 pages excluding paper	per printer lifetime including paper	per printer lifetime excluding paper
Printer	1.78E+00	1.78E+00	2.88E+03	2.88E+03
Lexmark use phase <LC>	5.44E+01	8.14E+00	8.83E+04	1.32E+04
Lexmark EoL phase <LC>	1.55E-02	1.55E-02	2.51E+01	2.51E+01

Table 11: PED dominance analysis [MJ]

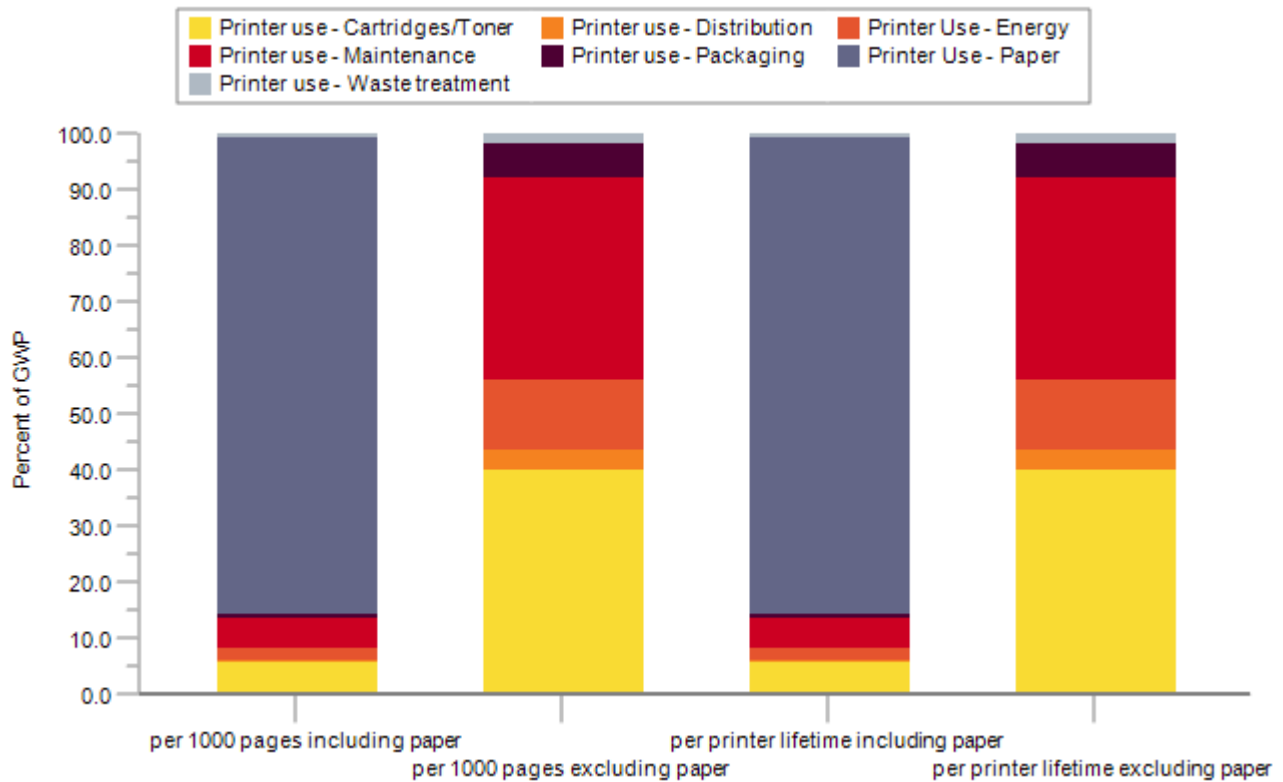


Figure 7: PED dominance analysis of the use phase

## ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer **MX632adwe**

Printers and multi-functional printing units

According to ISO 14025

---

### Assumptions and Estimations

---

Assumptions and estimations follow the governing PCR on printing equipment. Full details are documented in the EPD's background report, which was provided for verification purposes alongside the EPD. The LCA results represent the specific printer model as sold in the North American market.

In line with the PCR, the model assumes a printer lifetime of five (5) years. The printer is modeled to print an average of 1.25E003 pages per day based on a maximum print speed of 50 images per minute. The printer further possesses an automatic mechanic duplexing feature.

Power consumption figures are based on Energy Star testing of the printer using the average job load described above. Consumables consumption is based on the market-average yield across all available cartridge capacities. In addition, market-average use of remanufactured cartridges is taken into account, as applicable.

Transportation distances to the end consumer are based on their points of origin and the population-weighted average distance to the 100 most populous cities in the continental US based on 2010 census data. The printer as well as replacement fuser kits and waste toner bottles are manufactured in China and shipped to the point of use from the distribution center near Memphis, TN, while the cartridges and the imaging unit are shipped from Ciudad Juarez, MX.

The LCI data for office paper is adopted from the uncoated, free sheet paper inventory developed by the American Forest & Paper Association (AF&PA). This paper dataset assumes that average office paper contains 4% recycled content. The mass of consumed paper is based on the US letter format and a surface weight of 75 g/m<sup>2</sup>. The AF&PA data includes paper production, transportation, and End-of-Life treatment (72% recycling, 23% landfill, 5% incineration).

The End-of-Life treatment for the printer is based on the assumption that 66.7 % of the printers are returned to Lexmark for recycling, while the remainder is disposed of through local waste streams, where the metal fractions are assumed to be recycled and the remainder landfilled. The EoL cartridges are assumed to go to remanufacturing, recycling, and landfill in equal shares.

In accordance with the cut-off methodology prescribed by the governing PCR, materials sent to End-of-Life recycling are considered to cross the system boundary without any further transformation. Only the impacts associated with waste transportation and disposal are included in the results.

---

### Description of Data and Period Under Consideration

---

All primary data is based on technical documentation and sales data accessed in 2023. All background data is taken from the GaBi 2023-10.7.0.183 Databases. No primary data is collected from the Original Equipment Manufacturer's manufacturing plant.



# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer **MX632adwe**

Printers and multi-functional printing units

According to ISO 14025

---

## Data Quality

---

Manufacturing data of printers and consumables is based on a combination of Bills of Material and teardown analyses and is considered to be of overall high quality with low uncertainty. Distribution from printer manufacturing to the end consumer is representative of logistical data from Lexmark and best estimates of US average shipping distances, and is of moderate quality and high uncertainty.

Printer power consumption represents measured power consumed during printer operation in accordance with the use scenario outlined in the reference PCR and is of high quality and moderate uncertainty; actual print loads may differ. Toner cartridge use is based on expected yields based on the ISO test standards for cartridge use, and is of high quality and low uncertainty. Replacement rate for consumable parts is based on part design specifications, and is of high quality and moderate uncertainty.

The disposition of the printer and consumables at End-of-Life is based on best-available information by the respective experts at Lexmark. This data is of average quality and moderate uncertainty.

---

## Background Data

---

All background datasets relevant to production, power generation, transportation, and material disposal were taken from the GaBi 2023-10.7.0.183 Databases.

The data used for office paper is based on the data developed for the American Forest & Paper Association (AF&PA) and is representative for average North American office paper production in 2010.

The additional use of third-party background data from industry associations (e.g., worldsteel) is documented in the background report. They represent the latest LCI data as available in the GaBi 2023-10.7.0.183 Databases.

---

## Allocation and Methodological Principles

---

No significant allocations have been considered for the production of the printer. Allocation of production or use impacts across the various functions of a multi-function system is not included (i.e., allocation of production impacts to the provision of scanning services) and the impacts from all life cycle stages are considered within the system boundaries for the printing system.

Treatment of recycled or resold material is not considered in the body of the EPD, in accordance with the cut-off methodology required by the governing PCR.

A description of all of the methodological decisions made in modeling the life cycle impacts of office paper, including descriptions of the approach to modeling carbon sequestration and paper recycling, are described in the American Forestry & Paper Association's LCA report on printing and writing papers.

# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer **MX632adwe**  
Printers and multi-functional printing units

According to ISO 14025

## Additional Environmental Information

As required by the governing PCR, the assessment of human toxicity and ecotoxicity shall be included in this additional information section. The following metrics, which are based on the scenario 'per printer lifetime including paper' can help identify toxicity hot spots, but decision-making should also consider an exposure assessment.

	USEtox - Ecotoxicity [CTUe]	USEtox - Human toxicity (cancer) [CTUh]	USEtox - Human toxicity (non-cancer) [CTUh]
Printer use - Cartridges/Toner	5.83E-01	1.28E-08	1.91E-09
Printer use - Distribution	1.00E-01	2.12E-10	3.96E-11
Printer Use - Energy	4.47E-02	6.54E-09	9.32E-11
Printer use - Maintenance	6.72E-01	1.75E-07	1.31E-09
Printer use - Packaging	8.78E-02	8.83E-09	7.37E-08
Printer use - Waste treatment	3.75E-02	8.19E-11	1.58E-11

## ENVIRONMENTAL PRODUCT DECLARATION



Lexmark™

Laser Printer **MX632adwe**

Printers and multi-functional printing units

According to ISO 14025

---

### References and Standards

---

- EPA (2013) ENERGY STAR Program Requirements for Imaging Equipment – Test Method (Rev. Jun-2013)  
[https://www.energystar.gov/sites/default/files/FINAL%20Version%202.0%20Imaging%20Equipment%20Program%20Requirements%20%28Rev%20Oct-2014%29\\_0.pdf](https://www.energystar.gov/sites/default/files/FINAL%20Version%202.0%20Imaging%20Equipment%20Program%20Requirements%20%28Rev%20Oct-2014%29_0.pdf)
- ISO (2006a) ISO 14025: Environmental labels and declarations – Type III environmental declarations – Principles and procedures. International Organization for Standardization. Geneva.
- ISO (2006b) ISO 14040: Environmental management - Life cycle assessment – Principles and framework. International Organization for Standardization. Geneva.
- ISO (2006c) ISO 14044: Environmental management - Life cycle assessment – Requirements and guidelines. International Organization for Standardization. Geneva.
- NCASI (2010) Life Cycle Assessment of North American Printing and Writing Paper Products – Final Report. Prepared for the American Forest and Paper Association (AF&PA) and the Forest Products Association of Canada (FPAC) by the National Council for Air and Stream Improvement, Inc. Research Triangle Park, NC
- thinkstep (2018) GaBi ts Product Sustainability Software. thinkstep AG, Leinfelden-Echterdingen. <http://www.gabi-software.com>
- ReCiPe (2016) *ReCiPe* methodology for Life Cycle Impact Assessment, version 1.1. Available at [www.lcia-recipe.net](http://www.lcia-recipe.net)
- ULE (2018) Product Category Rules for preparing an environmental product declaration (EPD) for printers and multi-function printing units (v2.0). UL Environment. Washington, DC.

## ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer **MX632adwe**  
Printers and multi-functional printing units

According to ISO 14025

---

## Contact Information

---



Lexmark International, Inc.  
740 W. New Circle Road  
Lexington, KY 40550  
Tel: +1-859-232-2000

## ENVIRONMENTAL PRODUCT DECLARATION



Lexmark™

Laser Printer **MX632adwe**

Printers and multi-functional printing units

According to ISO 14025

---

LCA/EPD Verifier:

Thomas P. Gloria, Ph. D.

Industrial Ecology Consultants

35 Bracebridge Rd.

Newton, MA 02459-1728

direct: 617.553.4929

email: [t.gloria@industrial-ecology.com](mailto:t.gloria@industrial-ecology.com)

Dr. Gloria is a certified Life Cycle Professional (LCACP) through the American Center for Life Cycle Assessment.

# ENVIRONMENTAL PRODUCT DECLARATION



Laser Printer MX632adwe  
Printers and multi-functional printing units

According to ISO 14025

## EU REACH (EC1907/2006) Substances of Very High Concern Disclosure



As a producer and supplier of articles Lexmark International, Inc. (Lexmark) has an obligation under Article 33 of the REACH Regulation (EC 1907/2006) to communicate information on Substances of Very High Concern (SVHC) present in a concentration greater than 0.1% weight by weight of that article.

A complete list of the candidate list of Substances of Very High Concern is found on the European Chemicals Agency web site: <https://echa.europa.eu/candidate-list-table>

### Company:

Lexmark International Technology Hungária  
Kft. 8 Lechner Ödön fasor  
Millennium Tower III  
1095 Budapest  
HUNGARY  
Contact: [Sustainability@lexmark.com](mailto:Sustainability@lexmark.com)

Lexmark declares that the products listed below are free of substances listed on the Candidate List of Substances of Very High Concern in a concentration above 0.1% weight by weight of that article as of the date of this disclosure except as listed below. Any substances listed below may be contained in articles above the threshold level. None are expected to be released from the component parts identified or to result in exposure during normal and expected use of Lexmark Imaging Equipment.

### Scope of Disclosure:

All Printing and Imaging Equipment under the Lexmark Brand, including options and service parts.

Note: Cartridge and Imaging Unit supplies do not contain any SVHC substances.

Substance Name	EC Number	CAS Number	Endocrine Disruptor?	Use Cases
1,2-dimethoxyethane	203-794-9	110-71-4	No	Coin cell battery electrolyte. Battery found on main printed circuit board
Lead	231-100-4	7439-92-1	No	Found in some high temperature solder, some machining steels (shafts/roller), some Brass parts
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1	No	found in the Display (Operator Panel)
Lead monoxide (lead oxide)	215-267-0	1317-36-8	No	leaded glass used in circuit boards, capacitors and ceramic heaters
Diboron trioxide	215-125-8	1303-86-2	No	found in ceramic heaters
6,6'-di-tert-butyl-2,2'-methylene-di-p-cresol	204-327-1	119-47-1	No	Paper pick roll

Note: Previous declarations included 3 substances in a printhead adhesive. Although present in the adhesive formulation, these substances react upon curing and are present only in residual levels below 1000 ppm in the final product.

Lexmark includes requirements for the disclosure of substances on the Candidate List of Substances of Very High Concern in agreements with our suppliers, per the [Lexmark Environmental Product Specification](#).

The statements in this disclosure are declared to be true and accurate to the knowledge of Lexmark as of the date of this disclosure. This disclosure is subject to change based on Lexmark receiving updated information from suppliers, changes to the product or the addition of new substances on the Candidate List of Substances of Very High Concern.

Christina Cullins  
WW Materials Compliance Manager  
Corporate Sustainability Group  
Lexmark International Inc.

Date of Disclosure: July 7, 2022