HP 883 Latex Inks:

Sharpen your Sustainability edge with the HP Latex 2700 printer series

HP's water-based Latex Inks offer many advantages across the entire product lifecycle in comparison to eco-solvent, solvent, UV-curable, and UV-gel inks

Introduction

The last generation of HP Latex lnk brings more innovation than previous generations. The result is HP Latex 2700 printer series meet many toys safety standards¹, UL ECOLOGO certification², and many other health and environmental achievements, which are described below. HP Latex provides outdoor durability and versatility across all common media types used in sign and display applications, while newly expanding into white ink applications, to produce high-quality odorless prints³.

Health and environmental performance

HP Latex Printing Technology address health and environmental concerns across a broad range of attributes throughout the entire lifecycle of a print: from production to disposal. The HP 883 inks do not require any hazard labels in comparison to most eco-solvent, solvent, UV, and UV-gel technologies, which might have several. Additionally, the water-based formulation of HP Latex Inks provides a more comfortable and welcoming print production environment without trading off performance. HP Latex Inks also allow print service providers to produce odorless³ prints for indoor display in sensitive environments such as hospitals and schools.

These HP Latex Inks contain up to 65% water and have a flashpoint greater than 110 °C, making them non-combustible and non-flammable⁴. In contrast, eco-solvent and solvent-based inks typically have highly volatile components in high concentrations with flashpoints around 60°C to 70 °C, and may require in some countries, special transportation, handling, and storage.

The last generation of HP Latex Inks contain no Hazardous Air Pollutants (HAPs)⁵. Printing with HP Latex inks avoid the problematic reactive monomer chemistry⁶ and ozone generation associated with UV printing.

As with most cyan inks, the HP Latex cyan ink utilizes a copper-based dye that is present in a bound form as copper phthalocyanine. There are no other heavy metals present as intentionally added ingredients in these HP Latex inks⁷ and the inks are PVC-free. While it is the obligation of the toy manufacturer to adequately certify the toy for specific uses, HP Latex inks have demonstrated compliance to toy directives in Canada, Europe, and the United States, which screen for problematic heavy metals, amines, and colorants¹. Finally, HP Latex Ink is not classified as an eye irritant, and the latex polymer in HP Latex inks is not related to natural or synthetic latex, so it does not cause a latex-related allergic reaction.



Certifications

The UL ECOLOGO Certified HP Latex inks meet a range of stringent environmental performance standards and human health criteria. HP was the first printing company to have UL ECOLOGO certified inks². They also demonstrate rigorous and comprehensive standards for low chemical emissions in indoor air for the finished print, such as UL GREENGUARD GOLD. HP Latex Inks are UL GREENGUARD GOLD certified at the lowest emissions, qualified for unrestricted use to wallpaper a full room. Also, no wait time is necessary before installation (or prior to applications with lamination).⁸ In addition, these prints are rated A+ (very low emission) according to the Émissions dans l'air intérieur statement on the level of volatile substances in indoor air.⁹

HP large format printing materials portfolio includes a wide range of FSC*-certified papers¹0, as well as HP PVC-free Wallpaper and HP PVC-free Durable Smooth Wallpaper.¹¹ HP Latex inks printed on HP PVC-free Durable Smooth Wallpaper qualify for LEED credits in the low emitting category and meet the limits for formaldehyde release in EN 15102 for wall coverings¹². Use the HP Media Locator to easily identify these and over 180 others eco-conscious media¹³ choices to use with the HP Latex print system. These media present an environmental benefit when compared to the typical media used for that application, such as PVC-free wallpaper instead of a PVC-based one, or a media that offers a take-back program for proper end of life management. Additionally, HP Latex inks also conform to the Zero Discharge of Hazardous Chemicals (ZDHC) Roadmap to Zero Level 1 Manufacturing Restricted Substances List (MRSL) Version 2.0 a list of chemical substances banned from intentional use in order to help contribute to cleaner air and water during textile production.¹⁴











Recyclability

More than 96% of the materials used in the printer are recyclable by product weight following the Waste Electrical and Electronic Equipment (WEEE) Directive¹⁵.

HP Latex 2700 printer series utilize the carton-based ink cartridge. The ink cartridge outer cardboard is 100% recycled and recyclable through local cardboard/paper programs. The inner materials, the ink bag assembly, and printheads can be returned free of charge to the HP Planet Partners program for reprocessing of plastic parts with zero going to landfill. HP Latex printheads can also be returned. HP Planet Partners Program is offered free of charge in 68 countries and territories around the world. More than 875 million cartridges have been recycled through HP Planet Partners and is rated the #1 printer supplies recycling program.¹⁶

For prints and unprinted scrap materials, HP offers an HP Large Format Media take-back program in the U.S. and Europe through which many HP printed signage media can be returned ¹⁷. HP printed material on paper-based products can go directly to locally available paper recycling programs. Or if printing on other material types, consult the media vendor for recyclability options.



Summary

Water-based HP Latex Inks are designed thinking on sustainable impact throughout the product lifecycle. HP Latex Inks meet a variety of stringent human health criteria represented by UL ECOLOGO, UL GREENGUARD GOLD and ZDHC. The ink cartridges comply with CE Mark, EU RoHS, EU REACH and other applicable world-wide chemical notification requirements¹⁸. Finally, the HP Ecosolutions Trained Printing Company Program¹⁹ for HP Latex Printing Technology users provides convenient web-based training to help print service providers gain knowledge and provide value to the growing number of clients looking for graphics solutions with reduced environmental impact.

Learn more at

hp.com/go/environment and hp.com/go/SCC

Supporting references

- ¹The last generation HP Latex Inks have been tested and demonstrated compliance to the following toy safety methods and protocols: EN 71-3, EN 71-9, ASTM F963-17, US 16 CFR 1303, US 16 CFR 1307, SOR 2011-17, and SOR 2018-83. HP does not recommend using the inks for toys intended to target children under the age of 3 years.
- ² UL ECOLOGO® Certification to UL 2801 demonstrates that an ink meets a range of stringent criteria related to human health and environmental considerations (see <u>ul.com/EL</u>).
- ³ Based on sensory evaluations conducted by Odournet done according to VDI Guideline 3882 where 883 inks were characterized as "weak" in odor intensity and "neutral" for hedonic tone.
- ⁴ Water-based HP Latex Inks are not classified as flammable or combustible liquids under the USDOT or international transportation regulations. Testing per the Pensky-Martens Closed Cup method demonstrated flash point greater than 110° C (230° F).
- ⁵HP Latex Inks were tested for Hazardous Air Pollutants, as defined in the Clean Air Act, per U.S. Environmental Protection Agency Method 311 (testing conducted in 2013) and none were detected.
- ⁶ Acrylate monomers present in uncured UV inks and UV-gel inks can damage skin.
- ⁷ Arsenic, antimony, soluble barium, cadmium, chromium, cobalt, mercury, lead, nickel, and selenium are not present as intentionally added components and were not detected in toy testing. However, according to ICP-MS results, the following may be present in the raw ink as contaminants: Arsenic <0.1 ppm, Chromium <0.2 ppm, Nickel <0.2 ppm
- ⁸ GREENGUARD GOLD Certification to UL 2818 demonstrates that products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg or greenguard.org.
- ⁹ Émissions dans l'air intérieur provides a statement on the level of emission of volatile substances in indoor air posing health risks if inhaled—on a scale from A+ (very low-emission) to C (high-emission). Wall decorations printed with HP Latex Inks and HP PVC-free Wallpaper are rated A+ according to Émissions dans l'air intérieur. See <u>anses.fr/en/content/labelling-building-and-decoration-products-respect-voc-emissions</u>
- ¹⁰ Applicable to select HP large format printing materials. BMG trademark license code FSC*-C115319, see fsc.org. HP trademark license code FSC*-C017543, see fsc.org. Not all FSC*-certified products are available in all regions. For information about HP large format printing materials, please visit HPLFMedia.com.
- ¹¹ For HP PVC-free wall papers, chemical analysis demonstrated elemental chlorine to be at or below 200 ppm. Presence of chlorine is attributed to residual chlorine used in paper-making process, and not due to the presence of PVC.
- ¹² To obtain US LEED credits based on FSC® certification, the builder must purchase HP PVC-free Durable Smooth Wallpaper printed with HP Latex Inks from an FSC Chain of Custody certified print service provider. To obtain LEED credits based on UL GREENGUARD Gold Certification, HP PVC-free Durable Smooth Wallpaper printed with HP Latex Inks must be part of a wall system in which all components are UL GREENGUARD Gold Certified.
- ¹³ HP applications experts have evaluated the catalog of media listed in the HP Media Locator based on internal criteria to identify those that provide alternative solutions with certain environmental benefits compared to the typical media within the same application type. The information in media locator



is provided by the Media substrate Vendors. HP is not responsible for the veracity of the information from third-party companies published on HP website. See <u>printos.com/ml/#/medialocator</u>

¹⁴ UL tested and certified HP Latex inks comply to ZDHC requirements. ZDHC is an organization dedicated to eliminating hazardous chemicals and implementing sustainable chemicals in the leather, textile, and synthetics sectors. The Roadmap to Zero Program is a multi-stakeholder organization which includes brands, value chain affiliates, and associates, that work collaboratively to implement responsible chemical management practices. For more information, see http://roadmaptozero.com/

¹⁵ HP Latex printers contain over 96% recyclable materials and less than 0.1% landfill by product weight according to criteria set by the European Community Directive 2012/19/EU on waste electrical and electronic equipment (WEEE).

¹⁶ Visit <u>hp.com/recycle</u> to see how to participate and for HP Planet Partners program availability; program may not be available in your jurisdiction. Where this program is not available, and for other consumables not included in the program, consult your local waste authorities. on appropriate disposal. Compared to majority of competing in-class OEM ink & laser printer supply recycling programs. Criteria: size, reach, recycled content use, upcycling & eco award/ranking. HP-commissioned Aug 2020 InfoTrends research report. Market share: IDC O2'20 Hardcopy Peripheral Tracker. Program availability varies. See <u>hp.com/go/recycle & keypointintelligence.com/HPPlanetPartners</u>

¹⁷ Visit <u>hp.com/recycle</u> to see how to participate; take-back program may not be available in your jurisdiction. Where this program is not available, and for other consumables not included in the program, consult your local waste authorities on appropriate disposal.

¹⁸ The following countries have chemical inventory requirements, and the HP 883 inks can be imported without restriction: Australia (AlCS), Canada (NDSL and DSL), China (IECSC), Providence of Ontario, Japan (ENCS), Korea (KECI, K-REACH), New Zealand (NZIoC), Switzerland (ChemO), Taiwan (ECSI, Taiwan REACH), United States (TSCA)

¹⁹ Visit <u>hplatexknowledgecenter.com/blog/hp-ecosolutions-training</u> for more information

