Latest generation of HP Latex Ink technical white paper

Applicable to: HP 832, HP 872, HP 873, HP 875, HP 882, HP 883 and HP 886 Latex Inks.

At HP Large Format, our ink cartridges not only comply to the mandatory CE Mark, EU RoHS, EU REACH and other applicable world-wide chemical notification requirement[1], but also go beyond these regulations.

Employing an end-to-end approach, HP continues to drive a greater sustainable impact in large-format printing with each new generation of HP Latex Printing System. The result is we lead with an environmentally certified technology, meeting Greenguard Gold[2], UL ECOLOGO certification[3], and many other environmental achievements, detailed in the certification explained document.

HP Latex ink technology helps create a comfortable workspace and 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 prints[4].

For further details on certifications, please refer to our comprehensive document available on the Large Format Knowledge Center.

Help creating a comfortable workspace

HP Latex is a water-based ink technology, meaning it consists of average 65% of the ink formula is water[5].

The chemical composition of the ink you choose has a significant impact on the working conditions for your operators and the overall environmental aspects. The latest HP Latex Inks have been designed to avoid the hazards associated with other ink types while maintaining high quality prints and create a comfortable workspace with odorless prints[4] and UL ECOLOGO®-certified[3] HP Latex Ink.

HP Latex Inks also allow print service providers to produce odorless prints[4] for indoor display in sensitive environments such as hospitals and schools.

HP latex inks are made in a factory that uses reclaimed water. In this way HP contributes to water resiliency and protecting natural resources. The water HP uses has gone through multiple purification steps providing a purity that is comparable[6] or higher than conventional tap water as confirmed by regular monitoring and thus ensuring that we provide inks to our customers with the outstanding performance they have come to expect.

The latest generation of HP Latex Inks contain no Hazardous Air Pollutants (HAPs)[7]. Printing with HP Latex inks avoid the problematic reactive monomer chemistry[8] and ozone generation associated with UV printing. This ink formula is combined with wetting agents and humectants needed for printhead reliability (which, incidentally, your HP home printer also uses) to produce a liquid ink vehicle that carries the latex polymer and pigment particles to and through the printer's printheads onto the substrate. Radiant heat and forced airflow evaporate the liquid and set the latex, binding the pigments and substrate together to leave a durable image on the print media surface. Prints are ready to use, even animate, immediately.

Containing up to 65% water, this ink has a flashpoint greater than 110 °C, making them non-combustible and non-flammable[9]. 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.

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[10] present as intentionally added ingredients in these HP Latex inks and the inks are PVC-free[11].

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.

Water-based Ink

No HAPs

Odorless Prints

Lower plastics impact

Our HP Latex printer series utilize the carton-based ink cartridge. The ink cartridge outer cardboard is 100% recycled and recyclable through local cardboard/paper programs[12]. The inner materials, the ink bag assembly, and printheads can be returned to the HP Planet Partners program[13]. Take part in HP's free and easy recycling program to help cartridges become new products and help keep plastics out of landfills. HP Planet Partners Program[13] is offered free of charge more than 60 countries and territories around the world.

Environmental certifications.

Third-party certifications are a good way to show impartiality and transparency. HP Latex technology delivers certifications that matter through different the aspects of its operations - from the technology of our ink to hardware, to the final prints.

The HP Latex ink is UL ECOLOGO Certified[3] which demonstrates that the ink meets a range of stringent environmental performance standards and human health criteria. HP was the first printing company to have UL ECOLOGO certified inks[3].

They also demonstrate rigorous and comprehensive standards for low chemical emissions in indoor air for the finished print, such as UL GREENGUARD GOLD[2].

HP Latex Inks are UL GREENGUARD GOLD certified[2] 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).

In addition, these prints are certified AgBB[14] and rated A+ (very low emission) according to the Émissions dans l'air intérieur statement on the level of volatile substances in indoor air.[15]

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[3] and UL GREENGUARD GOLD[2].

Finally, the HP Large Format Sustainability Training for HP Latex Printing Technology[16] for HP Latex 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

References

1. The following countries have chemical inventory requirements, and the HP 883 inks can be imported without restriction: Australia (AICS), 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), UK REACH.

2. Applicable to HP Latex Inks. UL GREENGUARD Gold Certification to UL 2818 demonstrates that products are certified to UL's GREENGUARD standards for low chemical emissions into indoor air during product usage. Unrestricted room size—full decorated room; 33.4 m2 (360 ft2) in an office environment; 94.6 m2 (1,018 ft2) in a classroom environment. For more information, visit www.ul.com/gg or www.greenguard.org. For certifications, see www.greenguard.org.

3. UL ECOLOGO® Certification to UL 2801 demonstrates that an ink meets a range of stringent criteria related to human health and environmental considerations (see ul.com/EL).

4. Applicable to HP Latex Inks. Based on sensory evaluations conducted by Odournet, done according to VDI Guideline 3882 where HP 832, HP 872, HP 873, HP 875, HP 882, HP 883 and HP 886 Latex Inks were characterized as "weak" in odor intensity and "neutral" for hedonic tone. There is a broad set of media with very different odor profiles. Some of the media can affect the odor performance of the final print.

5. Water in Gen4 Inks range between 60% and 80%, therefore 65% is taking all the inks installed in a Latex printer. The exact range of water for each single color is published into the SDS available here: Safety Data Sheets (hp.com).

6. Reclaimed water resulted in significantly lower levels of Total Hardness, Trihalomethanes ratio (potable water), Total Dissolved Solids (TDS), Total Organic Carbon (TOC) compared to city water. After de-ionization, Liquid chromatography–mass spectrometry (LC–MS) results of city water and reclaimed water were comparable.

7. HP 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.

8. Acrylate monomers present in uncured UV inks and UV-gel inks can damage skin.

9. 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).

10. 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

11."As stated in EARS, HP Latex Gen4 do not intentionally add Vinyl chloride monomer (VCM). For more information, please visit "HP Sustainability and Compliance Center."

12. Applicable to selected printer. 100% outer box packaging made from recycled fibers. Certified by AMB Packaging Pte. Ltd.

13. Program availability varies. For details, see hp.com/hprecycle.

14. HP Latex Inks meet with AgBB criteria. AgBB is a health-related evaluation of building products in Germany. Prints produced with HP Latex Inks on HP PVC-free Durable Suede Wall Paper meet AgBB criteria for health-related evaluation of VOC emissions of indoor building products. See umweltbundesamt.de/sites/default/files/medien/355/dokumente/agbb_evaluation_scheme_2018.pdf

15. 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 anses.fr/en/content/labelling-building-and-decoration-products-respect-voc-emissions

16. Visit HP Large Format Knowledge Center for more information.

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