

HP 881/831 Latex Inks



Summary of regulatory compliance and environmental attributes

Introduction

HP 881/831 Latex Inks are water-based ink formulations designed by HP for the large-format printing industry to meet worldwide regulatory requirements and to address a broad range of health and environmental considerations throughout the entire life cycle of a print from production to disposal.

Regulatory summary

Chemical inventory status

The following countries have chemical inventory requirements under which HP 881/831 Latex Inks can be imported:

- Australia (AICS)
- Canada (DSL/NDSL)
- Province of Ontario
- China (IECSC)
- Japan (ISHL)
- Korea (KECI)
- New Zealand (NZIoC)
- Philippines (PICCS)
- Switzerland (ChemO)
- Taiwan (ECSI)
- United States (TSCA)

For EU REACH, HP has completed all necessary pre-registrations/registrations to import HP 881/831 Latex Inks.

Regulated materials

HP 881/831 Latex Inks **DO NOT** contain the following regulated materials:

- Arsenic, antimony, soluble barium, cadmium, chromium, cobalt, mercury, lead, nickel,¹ and selenium as intentionally added ingredients
- Restricted azo colorants²
- Substances regulated as drugs and drug precursors or those requiring special permits for use
- Substances currently regulated under Annex XIV of EU REACH (authorizations) or substances currently restricted under Annex XVII of EU REACH (restrictions)

¹ Nickel free demonstrated according to testing conducted for HP Latex Inks to achieve UL ECOLOGO® Certification. 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).

² EU REACH, Annex XVII, Appendices 8 & 9, Entry 43—Azocolourants: List of aromatic amines and azodyes. (Regulation 1907/2006/EC, as amended by Regulation 552/2009/EC, 22 June 2009).

Health and environmental performance

Emissions

No special ventilation equipment is required with HP 881/831 Latex Inks.³ Additionally, these inks do not contain Hazardous Air Pollutants (HAPs).⁴ HP 881/831 Latex Inks produce odorless prints.

Volatile organic compounds (VOC) content for HP 881/831 Latex Inks is <300 grams/liter (by EPA Method 24). Cleaning and maintenance processes and instructions are designed for minimal VOC emissions and comply with regulations in the United States.

Human and ecological health

HP 881/831 Latex Inks do not require hazard warning labels according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS, as implemented by the EU Classification, Labeling and Packing Regulation No1272/2008/EC (CLP)), US HazCom 2012, and other country-specific GHS regulations.

HP 881/831 Latex Inks do not contain intentionally added components in the following categories:

- Carcinogens, mutagens, or reproductive toxicants (CMRs)
- California Proposition 65 listed chemicals at concentrations requiring labeling
- Intentionally added substances identified as endocrine disruptors
- Substances considered very toxic or toxic
- Substances classified as respiratory sensitizers
- Substances identified as “very high concern” (SVHC) according to EU REACH criteria
- Substances identified as “very persistent and/or very bioaccumulative” (VPVB) according to EU REACH criteria

Human and ecological health and environmental performance compared

In addition, HP 881/831 Latex Inks enable a healthier environment, inside and out, based on comparison of other ink technologies and publically available information.

The entries in Table 1 compare HP Latex Ink technology to competitors with leading market share as of December 2013. Entries are based primarily on analysis of published MSDS/SDSs⁵ accompanied by HP internal analysis and evaluation where needed. Performance of specific attributes may vary by competitor and variations in ink formulation within a printer product line.

The results in Table 1 clearly demonstrate that HP 881/831 Latex Inks offer a healthier solution than competing ink technologies in commercial large-format print production.

³ Special ventilation equipment (air filtration) is not required to meet U.S. OSHA requirements. Special ventilation equipment installation is at the discretion of the customer. See the Site Preparation Guide for details. Customers should consult state and local requirements and regulations.

⁴ HP 881/831 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.

⁵ MSDS is the ink's Material Safety Data Sheet. SDS is the Safety Data Sheet.

Table 1 - Attributes of Competing Ink Technologies

Attributes	HP Latex Inks	UV Curable ink	Hard Solvent ink	“Ecosolvent” ink-1	“Ecosolvent” ink-2
Print odor	Odorless	Low odor	Solvent odor	Slight odor	Slight odor
Special ventilation required⁶	None	<i>Typically none for this ink category.</i>	<i>Typically required for this ink category.</i>	None	None
Cleaning fluids: health hazards labels	Cautionary statement only: Contact with skin and eyes may result in irritation. No “R” phrases.	Xi; R36/R38 Irritating to eyes and skin.	Xn; Xi; R36/R66/R67. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.	May be harmful if swallowed. Causes skin irritation. Causes serious eye damage.	Cleaning cartridge, Ink cleaning kit: Skin corrosion/ irritation; Hazard category 2
Ink health hazards labels - general handling	Cautionary statement only: Contact with skin and eyes may result in irritation. No “R” phrases.	Xi; R36/R37/R38. Irritating to eyes, respiratory system, skin.	Xi; R36 Irritating to eyes R36. Xn harmful if inhaled or swallowed.	May be harmful if swallowed. Causes skin irritation. Causes serious eye damage. May damage fertility or the unborn child.	Skin corrosion/irritation; Hazard category 2, CA Prop 65: toluene 108-88-3 <0.03% by weight of proprietary organic materials.
Flammability/ combustibility	FP > 93.3C	White FP > 90C, others > 95C	R10 flammable	FP > 71C	Inks > 74.4C, cleaning kit FP > 70C
HAPs free (inks and maintenance fluids)	None according to EPA Method 311	Claims “UV inks generally do not contain HAPs”	<i>Ink category typically contains HAPs.</i>	<i>Ink category typically contains HAPs.</i>	B, C, M, Y, cleaning cartridge, ink cleaning kit: Section 15 lists 112-36-7 and 1002-67-1 as CAA 112 HAP
VOCs: inks, pre- and post-treatments	231 g/L – 294 g/L	Claims “No VOCs”	<i>Typically above 800 g/L for this category of ink.</i>	C, M, Y, K, Lc, Lm: 920 g/L, White: 800 g/L., Silver: 930 g/L	<i>Typically above 800 g/L for this category of ink.</i>
VOCs: Maintenance fluids	241 g/L	60-100% is 2-(2-ethoxyethoxy) ethyl acetate (112-15-2)	<i>Typically above 800 g/L for this category of printer.</i>	Cleaning fluid > 940 g/L	<i>Typically above 800 g/L for this category of printer.</i>
Waste profile labels for inks	None	R52/53 Harmful to aquatic organisms may cause long-term adverse effects in the aquatic environment.	<i>Typically hazard labels required for this category of ink.</i>	No information	Copper content < 3,400 ppm
UL GREENGUARD GOLD	Yes	Yes	No	Yes	No
UL ECOLOGO®	Yes	No	No	No	No
Recyclable consumables	Yes	No	No	No information	No

Legend: Entries in Table 1 are color-coded by relative ranking of health and environmental attributes as follows:

 Green - highest  Yellow - moderate  Red - lowest

Note: Ranking by HP R&D. Cells with *entries in italics* represent the results of HP internal analysis.

⁶ For Latex Inks, special ventilation equipment (air filtration) is not required to meet U.S. OSHA requirements. Special ventilation equipment installation is at the discretion of the customer. See the Site Preparation Guide for details. Customers should consult state and local requirements and regulations.

Transportation and waste

HP 881/831 Latex Inks are non-flammable, non-combustible,⁷ and do not require special handling, storage, or transportation-related conditions. These formulations are not classified as Dangerous Goods in accordance with international modes of transport (IATA, IMDG, USDOT, and/or ADR) and do not contain listed marine pollutants.

HP 881/831 Latex Inks do not contain the following substances and/or characteristics associated with hazardous waste:

- Regulated metals⁸ (as listed on page 1)
- Regulated organics⁹
- Human health and/or ecological toxicity characteristics impacting waste profile

Specialty applications

Schools, hospitals, and living areas

HP 881/831 Latex Inks have been assessed for applications in schools, hospitals, and other living areas and are UL GREENGUARD GOLD Certified to standards for low chemical emissions into indoor air during product usage.¹⁰ For more information, visit ul.com/gg.

Certifications

HP 881/831 Latex Inks have qualified for certifications that demonstrate they meet some of the most rigorous and comprehensive indoor air quality standards for low chemical emissions.



* Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions).

UL ECOLOGO® Certified HP 881/831 Latex Inks meet a range of stringent human health criteria.¹¹ And HP 881/831 Latex Inks are UL GREENGUARD GOLD Certified.¹⁰ In addition, prints on HP PVC-free Wall Paper produced with HP 881/831 Latex Inks meet AgBB criteria for health-related evaluation of VOC emissions of indoor building products (see umweltbundesamt.de/en/topics/health/commissions-working-groups/ausschuss-zur-gesundheitlichen-bewertung-von) and are rated A+ per the French Émissions dans l'air intérieur which 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).

Recyclability

All HP Latex printheads can be recycled through the HP Planet Partners Program.¹² HP 881 Latex Inks are supplied in 5-liter ink cartridges, where approximately 70% of the weight of the used ink cartridge is a recyclable cardboard container. HP 831 printing supplies—including ink cartridges and printheads—as well as HP 881 Latex Printheads are recyclable through the HP Planet Partners Program.¹²

HP's recycling program, the HP Planet Partners Program, allows easy recycling for free. Since the program began in 1991, customers have returned more than 500 million HP ink and LaserJet cartridges for recycling worldwide. HP's multi-phase "closed loop" recycling process uses cartridges returned through the HP Planet Partners Program as raw material to produce new Original HP ink and LaserJet cartridges. For more information visit the HP Supplies Recycling page at hp.com/recycle.

HP Design for Environment (DfE) program

In 1992, HP adopted a pioneering company-wide Design for the Environment program that considers environmental impact in the design of every product and solution, from the smallest ink cartridge to entire data centers.

For more information about HP's social and environmental responsibility programs, see hp.com/livingprogress.

⁷ Water-based HP 881/831 Latex Inks are not classified as flammable or combustible liquids under the USDOT or international transportation regulations. Testing per the Pensky-Martins Closed Cup method demonstrated flash point greater than 110° C.

⁸ Copper is only present in the cyan ink and is present in a bound form as copper pthalocyanine.

⁹ Includes regulated substances present on California STLC and TTLC lists.

¹⁰ 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. For more information, visit ul.com/gg or greenguard.org.

¹¹ 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).

¹² Visit hp.com/recycle to see how to participate and for HP Planet Partners program availability; program may not be available in your area. For countries where this program is not available, and for other consumables not included in the program, consult your local waste authorities on appropriate disposal.

