HP 3D600, HP 3D700, and HP710 Fusing and Detailing Agents

The HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents are water-based formulations designed to address a broad range of worldwide regulatory requirements and human health and environmental considerations throughout the entire life cycle of a print from production to disposal.

Regulatory Summary

Global Chemical Inventories

HP has completed all necessary notifications and registrations to enable import and sale by HP of HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents supplies. Customers are responsible for ensuring that they comply with any legal requirements relating to their export, import, or distribution of HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents supplies. Please contact HP's Sustainability and Compliance Center for guidance on specific export, import, and distribution-related inquiries.[1]

Chemicals of Concern

The HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents DO NOT intentionally contain the following regulated materials. In addition, the HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents supplies DO NOT contain the following regulated materials as known contaminants at quantities exceeding *de minimis* levels.[2]

- Arsenic, antimony, soluble barium, cadmium, chromium, cobalt, mercury, lead, nickel, copper, and selenium
- Restricted azo colorants [3]
- Halogenated organics
- Per- and polyfluoroalkyl substances (PFAS), including perflurooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS)
- Polychlorinated terphenyls (PCTs)
- Brominated flame retardants
- Phthalates[4], including ortho-phthalates
- Polycyclic Aromatic Hydrocarbons (PAHs)[5]
- Bisphenol A
- Formaldehyde

[1] *A new support ticket can be submitted to the Sustainability and Compliance Center (SCC) at http://sustainability.ext.hp.com/en/support/home.*
[2] *HP assesses known contaminants (non-intentionally added substances, NIAS) against the most conservative de minimis level published by authoritative sources such as: EU REACH, EFSA, German BfR, US EPA, and CA Proposition 65.*
[3] *Regulation (EC) No 1907/2006 (REACH) Annex XVII (article 67) restricts the use of azo colorants that break down to aromatic amines known to cause cancer.*
[4] *Parts printed on an HP 3D printer using HP 3D600, HP 3D700, and HP 3D710 Agents and HP 3D HR PA12 Powder were tested for regulated phthalates and none of the following phthalates were detected above 50 ppm: butyl benzyl phthalate (BBP), di(2-ethylhexyl) phthalate (DEHP), di-butyl phthalate (DBP), diisobutyl phthalate (DIBP), Di-(is-decyl) phthalate (DIDP), Di(iso-nonyl) phthalate (DINP), Di-n-hexyl phthalate (DnHP), Di(n-octyl) phthalate (DnOP).*
[5] *Parts printed on an HP 3D printer using HP 3D600, HP 3D700, and HP 3D710 Agents and HP 3D HR PA12 Powder were tested for PAHs and none of the following PAHs were detected above the detection limit of 1 ppb using GC/MS: 3-methylcholanthrene, acenaphthene, acenaphthylene, anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[c]anthracene, benzo[c]phenanthrene, benzo[e]pyrene, benzo[g,h,i]perylene, benzo[j]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, fluoranthrene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, pyrene.*

Chemical Regulations

The HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents DO NOT intentionally contain materials in the following categories. In addition, the HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents DO NOT contain known contaminants in the following categories in quantities exceeding *de minimis* levels.[6]

- Substances regulated under Annex XIV of EU REACH (authorizations) or restricted under Annex XVII of EU REACH (restrictions)
- Substances identified as "very high concern" (SVHC) by the “candidate list” established under Article 59(1) of EU REACH and last published June 2023[7]
- Substances meeting the criteria as persistent, bioaccumulative, toxic (PBT) or “very persistent, very bioaccumulative” (vPvB) as defined by Annex XIII to the EU REACH Regulation
- Substances regulated as persistent organic pollutants and listed in Annex I of (EU) 2019/1021 and the Stokholm Convention
- Substances requiring risk evaluations under Section 6 of US TSCA
- Prohibited substances or designated substances above the *de minimis* mixture concentration specified in the Pollutant Release and Transfer Register, Industrial Safety and Health Act, Chemical Substances Control Law, Poisonous and Deleterious Substances Control Law, Labor Safety and Health Law on substances prohibited to be manufactured, and Ozone Layer Protection Laws of Japan
- Substances included on the ‘Negative List’ established by Japan Printing Ink Makers Association (July 1, 2020)
- California Proposition 65 listed chemicals present in concentrations exceeding labeling thresholds
- Substances considered as chemicals of high concern to children[8]
- Carcinogens or mutagens specifically listed in the EuPIA Exclusion Policy for Printing Inks and Related Products, Groups A-G, 4th edition, March. 2021
- Intentionally added substances identified as endocrine disruptors
- Substances considered very toxic or toxic
- Substances classified as respiratory sensitizers
- Substances regulated as drugs and drug precursors or controlled substances requiring special permits for use
- Restricted substances according to RoHS (Directive 2011/65/EU, as amended by Directive EU 2015-863)[9]

The current HP 3D600/700 Fusing and Detailing Agents contain 2-pyrrolidone (2P) (CAS 616-45-5), which is classified as a Category 1B reproductive toxicant. Printed parts using HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents and HP 3D Powder(s) were analyzed using GC/MS, and 2P was found to be present at >0.1% by weight. There are currently no alternative HP 3D Polymer agents commercially available without the 2P ingredient.

Health and Environmental Performance

Transportation and Waste

The HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents are non-flammable, non-combustible[10] , 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, U.S. DOT, and/or ADR) and do not contain listed marine pollutants[11] nor do the HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents components meet the criteria for marine pollutant as defined by 49 CFR 171.8.

---

[6] *HP assesses known contaminants (non-intentionally added substances, NIAS) against the most conservative de minimis level published by authoritative sources such as: EU REACH, EFSA, German BfR, US EPA, CA Proposition 65, and others.*

[7] *The EU REACH candidate list can be accessed at https://echa.europa.eu/candidate-list-table*

[8] *As specified in the reporting list of chemicals of high concern to children (CHCC list), Washington Administrative Code (WAC) 173-334-130*

[9] *Parts printed on an HP 3D printer using HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents and HP 3D Powder(s) were tested following IEC 62321 Standards.*

[10] *The HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents 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.*

[11] *49 CFR 172.101*

The HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents DO NOT contain intentionally-added materials in the following categories. In addition, the HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents DO NOT contain the following substance above *de minimis* levels.[12]

- Regulated Metals: Arsenic, antimony, soluble barium, cadmium, chromium, cobalt, mercury, lead, nickel, selenium, and copper
- Regulated Organics[13].

As per the EU Classification, Labelling, and Packaging (CLP) Regulation 1272/2008/EC, the HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents are classified with Category 1B Reproductive Toxicity.

Recyclability

For information regarding recycling and take back options for 3D supplies, please contact the HP 3D Printing materials team at 3dmaterials@hp.com.

Air Quality

The HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agent supplies for use with HP Multi Jet Fusion technology devices are designed to enable customers to maintain a high level of (Indoor) Air Quality performance. For instance, HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents have no intentionally-added Hazardous Air Pollutant (HAP) substances[14] as related to the Clean Air Act (CAA) Section 112 HAPs List.

Volatile Organic Content (VOC) content for HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agent supplies is <300 gram/liter (by EPA Method 24).

HP Multi Jet Fusion technology devices operated with HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agent supplies are strictly evaluated for potential emissions. Product-specific emissions assessments can be requested at the Sustainability and Compliance Center (SCC) via sustainability@hp.com.

Specialty Applications

It is the responsibility of each customer to determine that its use of HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents are suitable for the customer's intended applications and compliant with relevant regulatory requirements for the final product.

Automotive

It is the responsibility of each customer to determine that its use of HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents are suitable for the customer's intended applications and compliant with relevant regulatory requirements for the final product.

Parts printed on an HP 3D printer using the HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents and HP 3D HR PA12 Powder were tested according to 49 CFR 571.302[15] (Federal Motor Vehicle Safety Standard (FMVSS) 302 for Flammability of Interior Materials-Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses). The burn rate of the samples was determined to be 0 mm/min (i.e., the flame extinguished when the gas flow was cut off), which indicates that parts printed with these materials may pass the Flammability of Interior Materials Test.

For additional information about HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents, please contact the HP 3D Printing materials team at 3dmaterials@hp.com.

Food Contact

HP 3D materials and agents HAVE NOT been designed or approved for direct or indirect food contact applications, and accordingly, they should not be used for any direct or indirect food contact applications.

---

[12] *HP assesses known contaminants (non-intentionally added substances, NIAS) against the most conservative de minimis level published by authoritative sources such as: EU REACH, EFSA, German BfR, US EPA, CA Proposition 65, and others.*
[13] *California regulated organics list for hazardous waste, California Code of Regulations, Title 22, Chapter 11, Article 3*
[14] *As stated in HP Safety Data Sheets (SDS), selected based on the following settings from the HP website: United States/English (country/language). SDS documents are available at www.hp.com/go/msds.*
[15] *This test may be similar to or representative of test protocols required in other jurisdictions, including the Canadian Motor Vehicle Safety Standard (CMVSS) 302, the Society of Automotive Engineers (SAE) J369, and the International Standards Organization (ISO) 3795. It is up to the manufacturer of the final product to ensure all testing is completed appropriately for the intended application and/or market.*

Medical

It is the responsibility of each customer to determine that its use of the HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents is suitable for the customer's intended applications and compliant with relevant regulatory requirements for the final product.

The current HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents contain 2-pyrrolidone (2P) (CAS 616-45-5), which is classified as a Category 1B reproductive toxicant. Printed parts using HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents and HP 3D Powder(s) were analyzed using GC/MS, and 2P was found to be present at >0.1% by weight. There are currently no alternative HP 3D Polymer agents commercially available without the 2P ingredient. Biocompatibility testing[16] has been completed on samples printed with the HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents and the HP 3D Powder(s). Please refer to the corresponding HP 3D Powder EARS document for further details and/or contact 3dmaterials@hp.com for information regarding the results.

Toys

It is the responsibility of each customer to determine that its use of HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents is suitable for the customer's intended applications and compliant with relevant regulatory requirements for the final product.[17]

The current HP 3D600/700 Fusing and Detailing Agents contain 2-pyrrolidone (2P) (CAS 616-45-5), which is classified as a Category 1B reproductive toxicant. Printed parts using HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents and HP 3D Powder(s) were analyzed using GC/MS, and 2P was found to be present at >0.1% by weight. There are currently no alternative HP 3D Polymer agents commercially available without the 2P ingredient.

Additional Resources

More information about HP's sustainable impact programs can be found at: **hp.com/go/report**

HP SDSs can be found at: **hp.com/go/ecodata**

For more information or questions, please visit the HP Sustainability and Compliance Center at: **hp.com/go/SCC**

Legal Disclaimer

Worldwide chemical regulatory requirements are subject to change without notice. Thus, HP will issue updates to this document periodically. Customers should consult their HP account manager to verify any updated information and to obtain the latest version of this document.

[16] Test protocols may include ISO 10993-5:2009 (cytotoxicity), 10993-10:2010 (sensitization and irritation), ISO 10993-11:2017 (acute systemic toxicity), ISO 10993-6:2016 (muscle implantation), USP 88:2020 (muscle implantation), USP 151/ISO10993-11:2017 (pyrogenicity), ISO 10993-4:2017 (hemolysis), and ISO 10993-3:2014 (genotoxicity), depending on the HP 3D Powder.

[17] Sample parts printed with HP 3D HR PA12 powder and the HP 3D600, HP 3D700, and HP 3D710 Fusing and Detailing Agents did not detect heavy metals, phthalates, or bisphenol A. However, customers should assess the materials for compliance with all pertinent toy regulations in relevant jurisdictions.