

HP Product Material Content Information

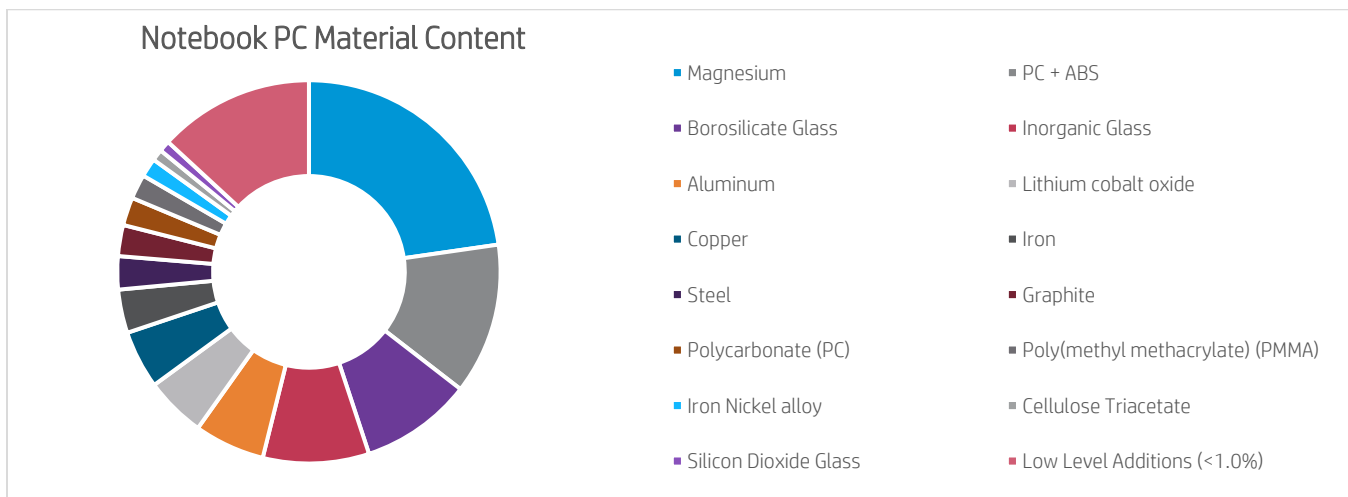
May 2019

HP actively identifies the materials and chemicals used in products, packaging, and manufacturing processes. We provide this information to customers, workers, communities, and other stakeholders so they can make informed decisions and reduce their own environmental impacts, subject to the need to protect confidential information for legitimate business needs and innovation. This document contains material content information for typical HP personal systems and printer products. Additional material content information can be found on the [HP Eco Declaration website](#), which includes REACH and IT-Eco declarations.

HP aspires to a world where our products and operations use materials and chemicals that cause no harm. The [HP materials and chemical management policy](#) guides how we specify materials and chemicals for use in products, packaging, and manufacturing processes. For more than two decades, HP has worked to shift the electronics industry away from chemicals of concern to less hazardous alternatives, see the [HP Green chemistry timeline](#) for more details. Our complete list of substance restrictions can be found in the [HP General Specification for the Environment](#).

Notebook PC Material Content

A typical notebook PC contains more than 240 substances, many in very small amounts. The table and chart below illustrate the greatest mass substances in a typical notebook PC comprising a cumulative concentration of nearly 99%¹. Each remaining substance comprises less than 0.1% by weight of the product.



¹ Graphic is based on literature research, component-based studies, substance disclosure data from HP's suppliers, and test data. Weight and component composition is representative of a typical notebook PC (with a hard disk drive) of approximately 1.7 kg. This analysis does not include external components, such as the power supply and power cord. Power cords contain about 70% PVC and 30% Copper (PVC includes the PVC polymer, fillers and plasticizers). We have reduced PVC usage by shortening power cords and we offer PVC-free power cords that use thermoplastic elastomers in many countries worldwide, depending on the product. Data do not add up to 100% due to incomplete supplier data and rounding.

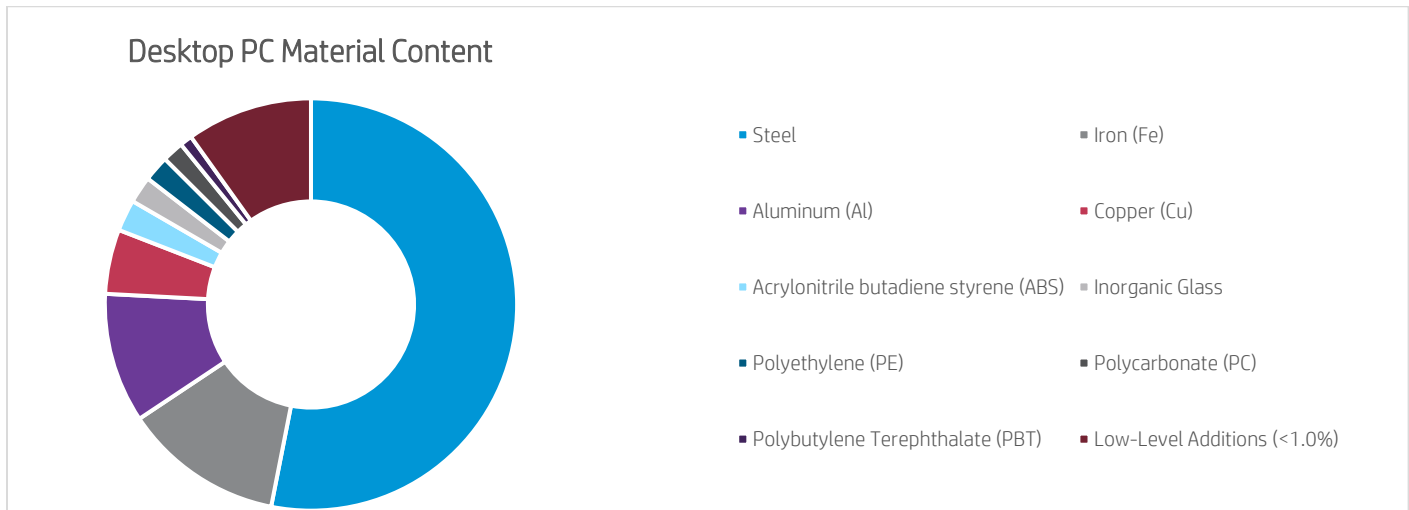
CAS#	Substances and Materials	% Mass
7439-95-4	Magnesium (Mg)	22.7%
65997-17-3	Borosilicate Glass	9.4%
65997-17-3	Inorganic Glass	9.0%
25037-45-0	Polycarbonate (PC)	8.8%
9003-56-9	Acrylonitrile Butadiene Styrene (ABS)	7.3%
7429-90-5	Aluminum (Al)	6.0%
12190-79-3	Lithium Cobalt Oxide (LiCoO ₂)	5.1%
7440-50-8	Copper (Cu)	4.9%
7439-89-6	Iron (Fe)	4.2%
12597-69-2	Steel	2.8%
7440-44-0	Graphite (C)	2.7%
9011-14-7	Poly(methyl methacrylate) (PMMA)	2.1%
25038-59-9	Polyethylene Terephthalate (PET)	1.1%
9012-09-3	Cellulose Triacetate	1.0%
7631-86-9	Silicon Dioxide Glass (SiO ₂)	1.0%
	Low-level Additions (<1%)*	14.1%

*Included in low-level additions are the following substances. Not listed are substances that comprise less than 0.1% by weight of the product:

CAS#	Substances and Materials	% Mass
7440-02-0	Nickel	0.88%
105-37-3	Ethyl Propionate	0.72%
25038-59-9	Polyester	0.70%
35948-25-5	DOPO (Phosphorus-based flame retardant)	0.63%
9002-81-7	Polyoxymethylene (POM)	0.56%
7440-31-5	Tin (Sn)	0.44%
96-49-1	Ethylene Carbonate	0.43%
9003-55-8	Poly(styrene-butadiene)	0.41%
99208-50-1	Epoxy Resin	0.37%
29690-82-2	o-Cresol Formaldehyde Polymer	0.31%
99208-50-1	Printed Circuit Board Stiffener	0.29%
108-32-7	Propylene Carbonate	0.29%
24968-12-5	Polybutylene Terephthalate (PBT)	0.29%
27135-32-6	Phthalic Acid Polymer	0.26%
9063-87-0	Acrylic Resin	0.26%
63394-02-5	Silicon Rubber	0.26%
21324-40-3	Lithium Hexafluorophosphate (LiPF ₆)	0.25%
13463-67-7	Titanium Dioxide (TiO ₂)	0.20%
1305-78-8	Calcium Oxide (CaO)	0.20%
7727-43-7	Barium Sulfate (BaSO ₄)	0.20%
9003-07-0	Polypropylene	0.19%
9002-89-5	Polyvinyl Alcohol	0.16%
32131-17-2	Nylon 66	0.16%
7440-21-3	Silicon (Si)	0.11%
31074-60-9	Adhesive	0.11%
26007-43-2	Cyclic Olefin Copolymer	0.10%
63428-83-1	Polyamide	0.10%

Desktop PC Material Content

A typical desktop PC contains more than 300 substances, many in very small amounts. The table and chart below illustrate the greatest mass substances in a typical commercial desktop comprising a cumulative concentration of nearly 99%². Each remaining substance comprises less than 0.1% by weight of the product.



CAS#	Substances and Materials	% Mass
12597-69-2	Steel	53.1%
7439-89-6	Iron (Fe)	12.6%
7429-90-5	Aluminum (Al)	10.2%
7440-50-8	Copper (Cu)	5.1%
9003-56-9	Acrylonitrile Butadiene Styrene (ABS)	2.5%
65997-17-3	Inorganic Glass	2.1%
9002-88-4	Polyethylene (PE)	2.0%
25037-45-0	Polycarbonate (PC)	1.7%
26062-94-2	Polybutylene Terephthalate (PBT)	1.0%
	Low-Level Additions (<1.0%)**	9.9%

**Included in low-level additions are the following substances. Not listed are substances that comprise less than 0.1% by weight of the product:

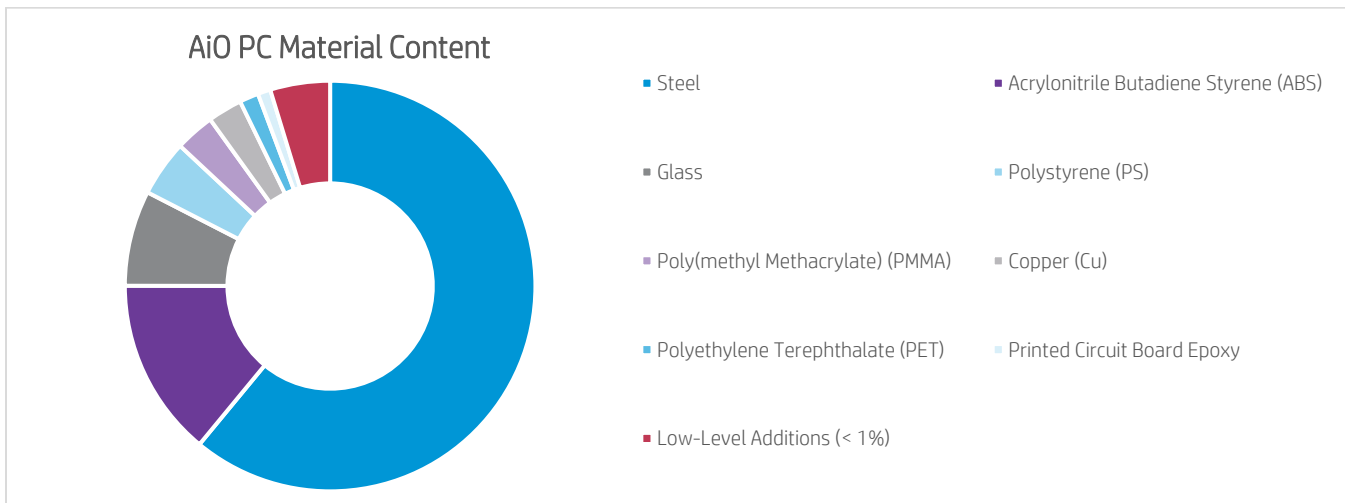
CAS#	Substances and Materials	% Mass
9002-81-7	Polyoxymethylene (POM)	0.6%
35948-25-5	DOPO (Phosphorus-based flame retardant)	0.6%
1317-36-8	Lead Oxide	0.6%
7440-21-3	Silicon	0.5%
7440-31-5	Tin	0.5%
99208-50-1	Printed Circuit Board Epoxy	0.5%
7440-47-3	Chromium	0.4%
25971-63-5	Carbonic Dichloride, Polymer With 4,4'-(1-methylethylidene)bisphenol	0.3%
7631-86-9	Quartz (Silicon Dioxide)	0.3%
1309-37-1	Iron Oxide	0.3%
32131-17-2	Nylon 66 Chips	0.3%
29690-82-2	Formaldehyde Polymer	0.3%
66070-58-4	Poly(ethylene propylene) Copolymer	0.3%
27135-32-6	Benzenedicarboxylic Acid Polymer	0.2%
15541-60-3	Melamine Polyphosphate	0.2%
9004-57-3	Cellulose	0.2%

² Graphic is based on literature research, component based studies, substance disclosure data from HP's suppliers, and test data. Weight and component composition is representative of a typical desktop of approximately 5 kg. This analysis does not include external components, such as the keyboard, mouse, and power cord. Power cords contain about 70% PVC and 30% Copper (PVC includes the PVC polymer, fillers and plasticizers). We have reduced PVC usage by shortening power cords and we offer PVC-free power cords that use thermoplastic elastomers in many countries worldwide, depending on the product. Data do not add up to 100% due to incomplete supplier data and rounding.

CAS#	Substances and Materials	% Mass
7440-66-6	Zinc	0.1%
7440-02-0	Nickel	0.1%

All-in-One (AiO) PC Material Content

A typical AiO PC contains more than 120 substances, many in very small amounts. The table and chart below illustrate the greatest mass substances in a typical AiO PC comprising a cumulative concentration of nearly 99%³. Each remaining substance comprises less than 0.1% by weight of the product.



CAS#	Substances and Materials	% Mass
12597-69-2	Steel	60.8%
9003-56-9	Acrylonitrile Butadiene Styrene (ABS)	14.1%
7631-86-9	Glass	7.5%
9003-53-6	Polystyrene (PS)	4.4%
9011-14-7	Poly(methyl Methacrylate) (PMMA)	3.1%
7440-50-8	Copper (Cu)	2.7%
25038-59-9	Polyethylene Terephthalate (PET)	1.5%
99208-50-1	Printed Circuit Board Epoxy	1.0%
	Low-Level Additions (< 1%)***	4.7%

***Included in low-level additions are the following substances. Not listed are substances that comprise less than 0.1% by weight of the product:

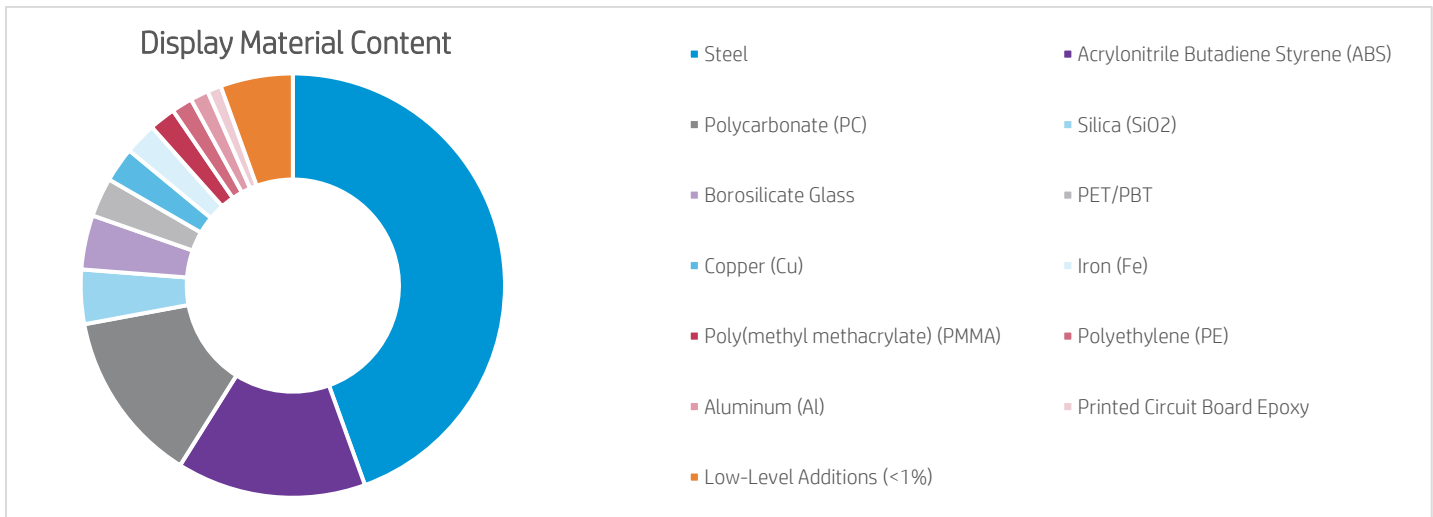
CAS#	Substances and Materials	% Mass
26062-94-2	Polybutylene Terephthalate (PBT)	0.66%
7429-90-5	Aluminum (Al)	0.52%
25037-45-0	Polycarbonate (PC)	0.44%
9002-81-7	Polyoxymethylene (POM)	0.41%
24937-78-8	Ethylene Vinyl Acetate (EVA)	0.34%
7440-31-5	Tin (Sn)	0.20%
9002-88-4	Polyethylene (PE)	0.19%
63148-62-9	Polydimethylsiloxane (PDMS)	0.16%
1344-28-1	Aluminum Oxide (Al ₂ O ₃)	0.13%
35948-25-5	DOPO (Phosphorus-based flame retardant)	0.13%
1305-78-8	Calcium Oxide (CaO)	0.12%
1309-37-1	Iron Oxide (Fe ₂ O ₃)	0.12%

³ Graphic is based on literature research, component based studies, substance disclosure data from HP's suppliers, and test data. Weight and component composition is representative of a typical All-in-One PC of approximately 9 kg. This analysis does not include external components, such as the keyboard, mouse, and power cord. Power cords contain about 70% PVC and 30% Copper (PVC includes the PVC polymer, fillers and plasticizers). We have reduced PVC usage by shortening power cords and we offer PVC-free power cords that use thermoplastic elastomers in many countries worldwide, depending on the product. Data do not add up to 100% due to incomplete supplier data and rounding.

CAS#	Substances and Materials	% Mass
9041-80-9	Polyphenolene Ether (PPE)	0.09%
9006-04-6	Rubber	0.08%

Display Material Content

A typical display contains more than 90 substances, many in very small amounts. The table and chart below illustrate the greatest mass substances in a typical display comprising a cumulative concentration of nearly 99%⁴. Each remaining substance comprises less than 0.1% by weight of the product.



CAS#	Substances and Materials	% Mass
12597-69-2	Steel	41.9%
9003-56-9	Acrylonitrile Butadiene Styrene (ABS)	13.6%
25037-45-0	Polycarbonate (PC)	12.4%
7631-86-9	Silica (SiO ₂)	3.9%
65997-17-3	Borosilicate Glass	3.9%
7440-50-8	Copper (Cu)	2.5%
7439-89-6	Iron (Fe)	2.3%
9011-14-7	Poly(methyl Methacrylate) (PMMA)	1.9%
9002-88-4	Polyethylene (PE)	1.5%
25038-59-9	Polyethylene Terephthalate (PET)	1.4%
26062-94-2	Polybutylene Terephthalate (PBT)	1.4%
7429-90-5	Aluminum (Al)	1.3%
99208-50-1	Printed Circuit Board Epoxy	1.0%
	Low-Level Additions (<1%)*	5.2%

****Included in low-level additions are the following substances. Not listed are substances that comprise less than 0.1% by weight of the product:

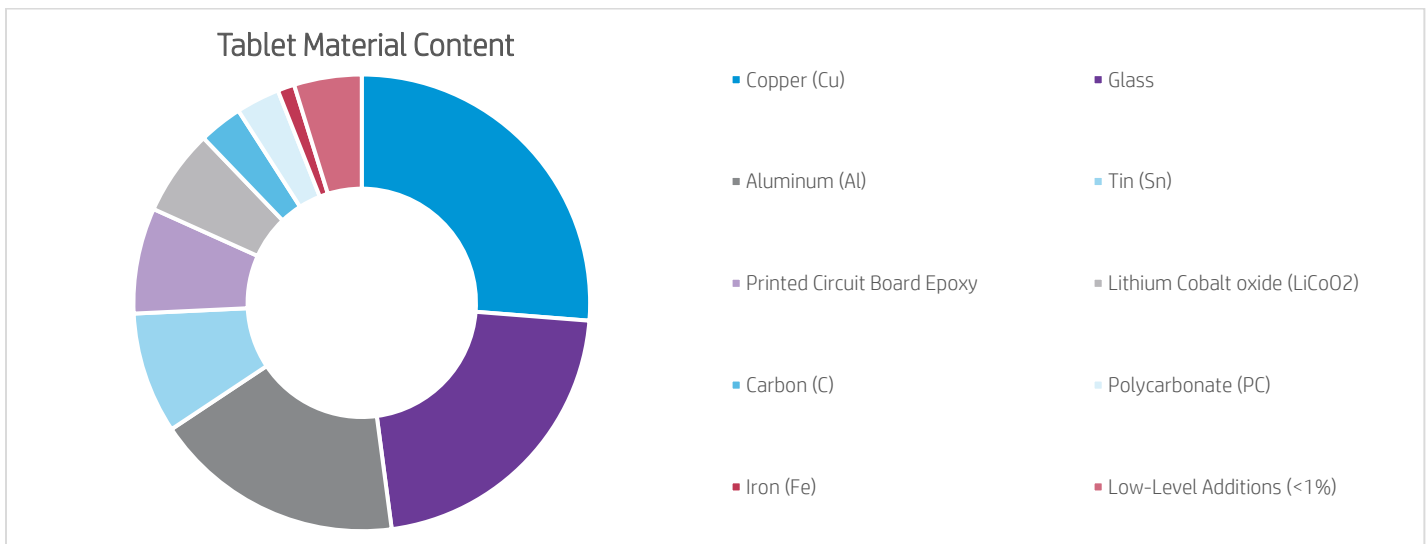
CAS#	Substances and Materials	% Mass
9002-81-7	Polyoxymethylene (POM)	0.6%
1344-28-1	Aluminum Oxide (Al ₂ O ₃)	0.4%
9004-34-6	Paper	0.4%
7440-02-0	Nickel (Ni)	0.3%
9012-09-3	Cellulose Triacetate (TAC) film	0.3%
7440-66-6	Zinc (Zn)	0.3%
7440-31-5	Tin (Sn)	0.3%

⁴ Graphic is based on literature research, component based studies, substance disclosure data from HP's suppliers, and test data. Weight and component composition is representative of a typical flat panel display of approximately 5.5 kg. This analysis does not include external components, such as the power cord. Power cords contain about 70% PVC and 30% Copper (PVC includes the PVC polymer, fillers and plasticizers). We have reduced PVC usage by shortening power cords and we offer PVC-free power cords that use thermoplastic elastomers in many countries worldwide, depending on the product. Data do not add up to 100% due to incomplete supplier data and rounding.

CAS#	Substances and Materials	% Mass
11108-64-8	Copper Beryllium (Cu-0.7Be) ⁵	0.3%
13824-63-0	Liquid Crystal Polymer (LCP)	0.3%
62929-02-6	Polyimide (PI)	0.3%
63428-83-1	Polyamides (PA)	0.2%
12047-27-7	Barium Titanate (BaTiO ₃)	0.2%
7440-21-3	Silicone	0.2%
25212-74-2	Polyphenylene Sulfide (PPS)	0.1%
1305-78-8	Calcium Oxide (CaO)	0.1%
7440-44-0	Carbon (C)	0.1%

Tablet Material Content

A typical tablet contains more than 120 substances, many in very small amounts (see graph). The table and chart below illustrate the greatest mass substances in a typical tablet comprising a cumulative concentration of nearly 99%⁶. Each remaining substance comprises less than 0.1% by weight of the product.



CAS#	Substances and Materials	% Mass
7440-50-8	Copper (Cu)	26.3%
7631-86-9	Glass	21.7%
7429-90-5	Aluminum (Al)	17.8%
7440-31-5	Tin (Sn)	8.6%
99208-50-1	Printed Circuit Board Epoxy	7.5%
12190-79-3	Lithium Cobalt Oxide (LiCoO ₂)	6.1%
7440-44-0	Carbon (C)	3.1%
25037-45-0	Polycarbonate (PC)	3.1%
7439-89-6	Iron (Fe)	1.2%
	Low-Level Additions (<1%)*****	4.8%

****Included in low-level additions are the following substances. Not listed are substances that comprise less than 0.1% by weight of the product:

CAS#	Substances and Materials	% Mass
7440-02-0	Nickel (Ni)	0.6%
8050-09-7	Flux residue	0.6%

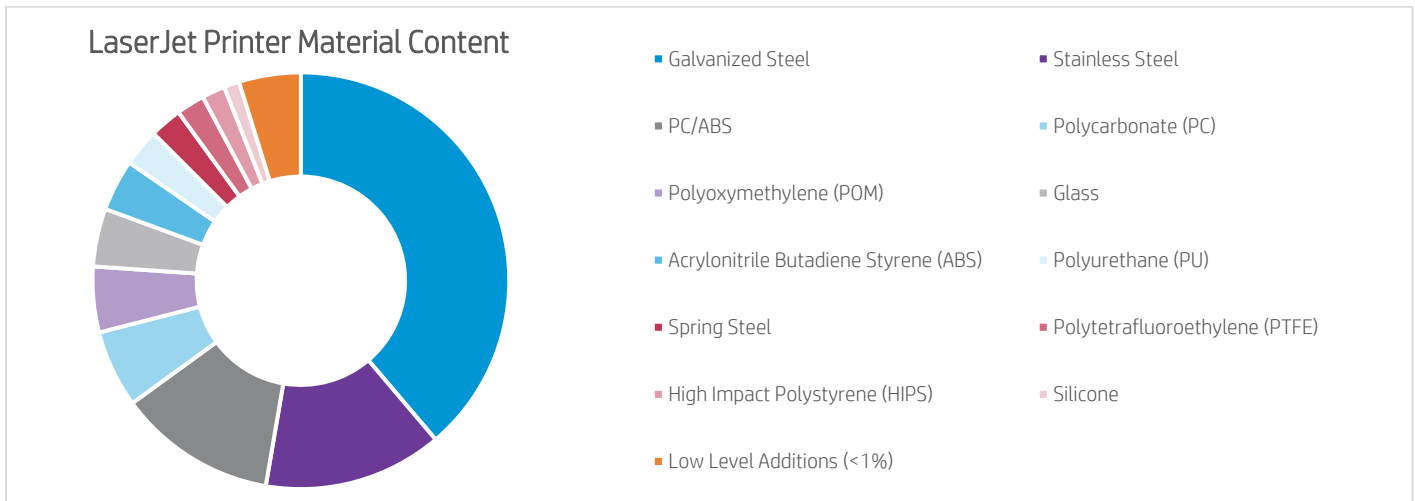
⁵ Beryllium is restricted in the HP General Specification for the Environment with a threshold limit of 1000ppm with the exemption of ceramics in electronic components and electrical bonding applications of beryllium copper, such as connectors, springs, or EMI gaskets. In 2019, we will restrict all remaining uses of Beryllium in PCs and Displays.

⁶ Graphic is based on literature research, component based studies, substance disclosure data from HP's suppliers, and test data. Weight and component composition is representative of a typical tablet of approximately 0.2 kg. This analysis does not include external components, such as the power cord. Power cords contain about 70% PVC and 30% Copper (PVC includes the PVC polymer, fillers and plasticizers). We have reduced PVC usage by shortening power cords and we offer PVC-free power cords that use thermoplastic elastomers in many countries worldwide, depending on the product. Data do not add up to 100% due to incomplete supplier data and rounding.

CAS#	Substances and Materials	% Mass
63394-02-5	Silicone Polymer	0.4%
7440-22-4	Silver (Ag)	0.3%
7440-66-6	Zinc (Zn)	0.3%
7440-21-3	Silicon (Si)	0.3%
7631-86-9	Silicon Dioxide (SiO ₂)	0.2%
7440-47-3	Chromium (Cr)	0.2%
12047-27-7	Barium Titanate (BaTiO ₃)	0.2%
13824-63-0	Liquid Crystal Polymer (LCP)	0.1%

LaserJet Printer Material Content

A typical LaserJet printer contains more than 130 substances, many in very small amounts (see graph). The table and chart below illustrate the greatest mass substances in a typical LaserJet printer comprising a cumulative concentration of nearly 99%⁷. Each remaining substance comprises less than 0.1% by weight of the product.



CAS#	Substances and Materials	% Mass
7439-89-6	Galvanized Steel	38.8%
65997-19-5	Stainless Steel	13.9%
25037-45-0	Polycarbonate (PC)	12.2%
9003-56-9	Acrylonitrile Butadiene Styrene (ABS)	10.2%
9002-81-7	Polyoxymethylene (POM)	5.1%
7631-86-9	Glass	4.5%
61789-63-7	Polyurethane (PU)	2.9%
65997-19-5	Spring Steel	2.5%
9002-84-0	Polytetrafluoroethylene (PTFE)	2.2%
9003-55-8	High Impact Polystyrene (HIPS)	1.8%
7440-21-3	Silicone	1.2%
	Low Level Additions (<1%)******	4.8%

******Included in low-level additions are the following substances. Not listed are substances that comprise less than 0.1% by weight of the product:

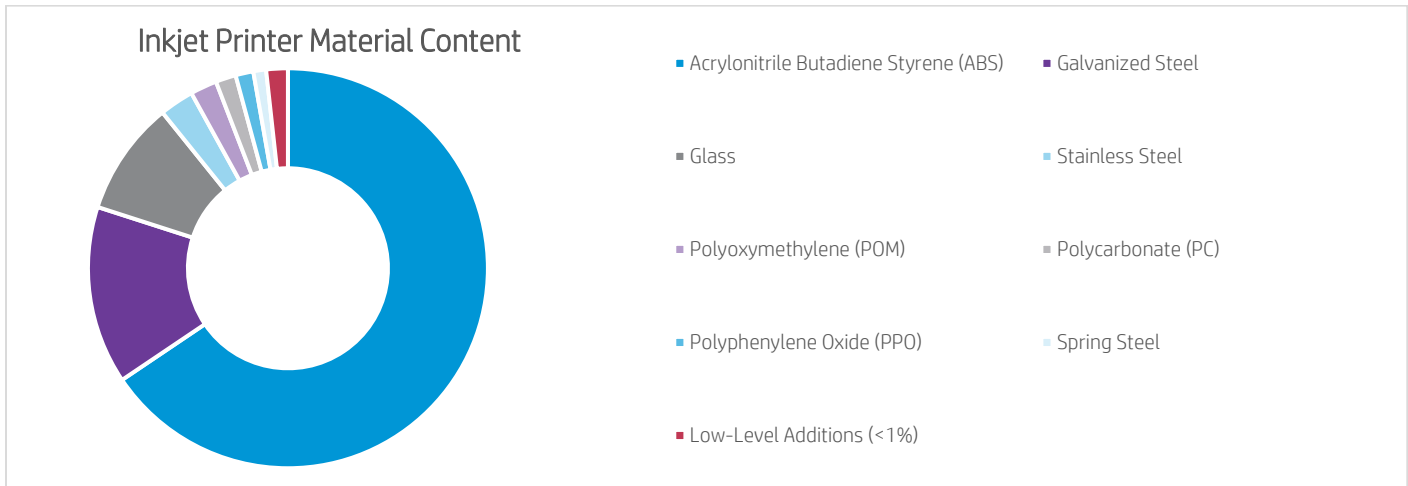
CAS#	Substances and Materials	% Mass
7440-50-8	Copper (Cu)	0.98%
99208-50-1	Printed Circuit Board Epoxy	0.95%
7429-90-5	Aluminum (Al)	0.71%
25767-47-9	Toner	0.42%
7631-86-9	Silicon Dioxide (SiO ₂)	0.39%

⁷ Graphic is based on literature research, component based studies, substance disclosure data from HP's suppliers, and test data. Weight and component composition is representative of a typical LaserJet printer of approximately 20 kg. This analysis does not include external components, such as the power cord. Power cords contain about 70% PVC and 30% Copper (PVC includes the PVC polymer, fillers and plasticizers). We have reduced PVC usage by shortening power cords and we offer PVC-free power cords that use thermoplastic elastomers in many countries worldwide, depending on the product. Data do not add up to 100% due to incomplete supplier data and rounding.

CAS#	Substances and Materials	% Mass
1305-78-8	Calcium Oxide (CaO)	0.12%
63338-02-3	Brass	0.12%
9002-88-4	Polyethylene (PE)	0.11%
7440-31-5	Tin (Sn)	0.11%
1344-28-1	Aluminum Oxide (Al ₂ O ₃)	0.11%

Inkjet Printer Material Content

A typical inkjet printer contains more than 130 substances, many in very small amounts. The table and chart below illustrate the greatest mass substances in a typical inkjet printer comprising a cumulative concentration of nearly 98%⁸. Each remaining substance comprises less than 0.1% by weight of the product.



CAS#	Substances and Materials	% Mass
9003-56-9	Acrylonitrile Butadiene Styrene (ABS)	63.8%
7439-89-6	Galvanized Steel	14.0%
7631-86-9	Glass	9.0%
65997-19-5	Stainless Steel	2.7%
9002-81-7	Polyoxymethylene (POM)	2.1%
25037-45-0	Polycarbonate (PC)	1.6%
25134-01-4	Polyphenylene Oxide (PPO)	1.4%
65997-19-5	Spring Steel	1.0%
	Low-Level Additions (<1%)*	1.7%

*Included in low-level additions are the following substances. Not listed are substances that comprise less than 0.1% by weight of the product:

CAS#	Substances and Materials	% Mass
12023-91-5	Ferrite	0.5%
7440-50-8	Copper (Cu)	0.4%
99208-50-1	Epoxy	0.3%
9006-04-6	Rubber	0.2%
9003-07-0	Polypropylene (PP)	0.1%
7631-86-9	Silicate	0.1%

⁸ Graphic is based on literature research, component based studies, substance disclosure data from HP's suppliers, and test data. Weight and component composition is representative of a typical Inkjet printer of approximately 20 kg. This analysis does not include external components, such as the power cord. Power cords contain about 70% PVC and 30% Copper (PVC includes the PVC polymer, fillers and plasticizers). We have reduced PVC usage by shortening power cords and we offer PVC-free power cords that use thermoplastic elastomers in many countries worldwide, depending on the product. Data do not add up to 100% due to incomplete supplier data and rounding.