

30 November 2018

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## Keysight Technologies Product Material Environmental Specifications

The Keysight Technologies, Inc. [Environmental, Occupational Health & Safety Policy](#) gives our commitment to conduct business in an ethical, legally compliant, environmentally sustainable and socially responsible manner. In application of this policy, Keysight controls certain materials by placing limitations on our suppliers for the components and parts we purchase as described in the [General Specification for the Environment](#). We specify that our material suppliers are restricted from using the following materials in the manufacture of our product components and parts – a full list is in the table at the end of this document:

### Ozone Depleting Substances

- Chlorofluorocarbons (CFC-11, -12, -113, -114, CFC-115) etc.

### Fluorinated Gases with high Global Warming Potential:

- Perfluoromethane etc.

### Persistent Bioaccumulative Toxins, Carcinogens, Mutagens or Toxins for Reproduction, etc.:

- Asbestos etc.

### Other Restrictions

There are various restrictions on the use of lead, mercury, cadmium and hexavalent chromium and other substances in our product and packaging materials. These substances may be further restricted or phased out in future products as suitable substitutes are developed which have lesser environmental impact. Eminent restrictions are:

- **Packaging:** metals must not be present, and the sum concentrations of incidental trace lead, mercury, cadmium and hexavalent chromium is restricted to 100 parts per million by weight.
- **Batteries:** mercury is limited to a maximum of 5 parts per million by weight, lead is limited to a maximum of 1000 parts per million by weight and cadmium is limited to a maximum of 20 parts per million.
- **Products:** lead is highly restricted in paint coatings, cable jackets and plastic; hexavalent chromium is highly restricted in metal coatings, cadmium is highly restricted except electrical switch contacts, special glass; and mercury is not to be added to products except in fluorescent or mercury lamps e.g. backlighting video display devices, as defined in the EU Restrictions on Hazardous Substances (RoHS) Directive exemption annexes.

### EU RoHS Compliance:

Keysight Test & Measurement products are classified within the RoHS category list as industrial monitoring and control equipment (category 9). Further details are available in the [Keysight Statement on RoHS](#).

Customers are responsible for their own compliance where Keysight products are incorporated into systems as OEM (original equipment manufacturer) products.

If you have questions, please visit <http://www.keysight.com/go/contactus> for Keysight Key Contacts

Regards,

Joe DePond  
Director of Corporate Quality  
Keysight Technologies, Inc.

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## Keysight Technologies Restricted Materials

### Ozone Depleting Substances:

- Chlorofluorocarbons (CFC-11, -12, -113, -114, CFC-115)
- Halogenated CFCs (CFC-13, -111, -112, -211 to CFC -217)
- Hydrochloro fluorocarbons (HCFC-21, -22 etc.)
- Halons (Halon-1211, 1301, and Halon 2402)
- Chlorinated hydrocarbons (Carbon tetrachloride, 1,1,1 trichloro ethane)
- Hydrobromo fluorocarbons (CHF<sub>2</sub>Br, HBFCs, etc.)
- Methyl bromide

### Per fluorocarbons (F-gases) with high Global Warming Potential:

Perfluoromethane, Perfluoroethane, Perfluoropropane, Perfluorobutane, Perfluoropentane, Perfluorohexane, Perfluorocyclobutane, sulphur hexafluoride

### Hydrofluorocarbons (HFC F-gases) with high Global Warming Potential:

HFC-23, HFC-32, HFC-41, HFC-43-10mee, HFC-125, HFC-134, HFC-134a, HFC-152a, HFC-143, HFC-143a, HFC-227ea, HFC-236cb, HFC-236ea, HFC-236fa, HFC-245ca, HFC-245fa, HFC-365mfc

### Persistent Bioaccumulative Toxins, Carcinogens, Mutagens or Toxins for Reproduction etc.:

- Asbestos
- Polybrominated biphenyls (PBB) and Polybrominated diphenyl ether (PBDE) flame retardants
- Polychlorinated biphenyls (PCB) and Polychlorinated terphenyls (PCT)
- Bis (2-ethyl (hexyl) phthalate) (DEHP), Dibutyl & Diisobutyl phthalates (DBP) (DIBP), Benzyl butyl phthalate (BBP), Dipentyl phthalate (DPP) Diisopentylphthalate (DIPP),
- Others- mercury, cadmium, chromium, lead

Hexabromocyclododecane (HBCDD), Short chain chlorinated paraffins, Azocolorants and Azodyes, Benzene and Trichlorobenzene, Dibutyltin hydrogen borate (DBB), Perfluorooctane sulfonate (PFOS), 4,4'- Diaminodiphenyl methane, Diarsenic pentaoxide and trioxide, Bis(tributyltin)oxide (TBTO), Zirconia Aluminosilicate Refractory Ceramic Fibres, Disodium tetraborates, Tetraboron disodium heptaoxide hydrate, Tri-substituted Organostannic Compounds, Phenol,2-(2H-benzotriazol-2-yl)- 4,6-bis(1,1-dimethylethyl), Polychlorinated naphthalenes (> 3 chlorine atoms), 2,4-Dinitrotoluene, Tris(2-chloroethyl)phosphate (TCEP), 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear, 1,2-Diethoxyethane, 4-(1,1,3,3-tetramethylbutyl)phenol ethoxylated, 4-Nonylphenol, branched and linear, Cyclohexane-1,2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA), Dibutyltin dichloride (DBT), Dinoseb, Furan, Henicosafluoroundecanoic acid, Heptacosafuorotetradecanoic acid, Cyclic acid anhydrides, N,N- dimethylformamide; dimethyl formamide, N-pentyl-isopentylphthalate, o-aminoazotoluene, Propylene oxide; 1,2- epoxypropane; methyloxirane, Silicic acid, barium salt, lead-doped, Ammonium pentadecafluorooctanoate (APFO), Pentadecafluorooctanoic acid (PFOA).