

**SONY**

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# Sony Mobile Critical Substances

## Second Edition

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## Substance control

Sustainability is the backbone of Sony Mobile, and one of the vital parts of our business. Our mission is to contribute with our work and engagement to a better future. As part of that mission, Sony Mobile has implemented and fully supports the precautionary principle defined in the United Nations Rio Declaration on Environment and Development.

Accordingly, Sony Mobile has a clear mission to reduce and minimize emissions and release of critical substances. We do that by going beyond current regulations and restricting the use of substances that we consider critical in our products for environmental reasons.

Sony Mobile is working hard and systematically together with our partners to phase out critical substances that endanger our future for our self and next generations.

## 1 Revision history

Revision	Date	Action
C	2013-12-20	<p>Second Edition.</p> <p>Revision history included.</p> <p>Update of thresholds in Critical list.</p> <p>4-(para)-nonylphenol, 4-nonylphenol, 4-tert-octylphenol, ammonium perfluorooctanoate, sodium perfluorooctanoate, potassium perfluorooctanoate, silver perfluorooctanoate, perfluorooctanoyl fluoride, methyl perfluorooctanoate, ethyl perfluorocaprylate are included in the Critical substance list.</p> <p>Antimony and antimony substances, diarsenic tri- and pentoxide included in the Restricted list with a defined sunset date (Effective date of the ban on the delivery).</p> <p>Updated Sony Mobile Monitored list.</p>
B	2012-10-19	Change in the outline. First Edition.
A	2012-10-19	Created the first version

## 2 Purpose

The purpose is to comply with Road to Zero: Sony’s Global Environmental Plan, Sony Mobile Sustainability Policy, Sony Mobile Communications Design for Environment requirements and to comply with legislative and market requirements in all the countries, where we offer our products.

This directive should also:

- Prevent Critical substances from being used in any Sony Mobile products;
- Reduce the influence of the Critical substances upon the ecosystem; and
- Contribute to the preservation of the global environment.

This directive should be seen as an additional requirement document to The Sony Management Regulations for the Environment-Related Substances to be controlled which are included in Parts and Materials, Sony Technical Standard **SS-00259** and directive Sony Mobile Critical Substances, i.e. our supplier shall fulfill all the requirements in both Sony Technical Standard **SS-00259** and Sony Mobile directive Sony Mobile Critical Substances.

### 3 Directive

The lists contained in this document specify the chemical substances that are banned, restricted or monitored for the use in certain circumstances in Sony Mobile's products and manufacturing operations. Suppliers to Sony Mobile, have to comply with the requirements laid down in this directive, with regard to those components and products supplied to Sony Mobile.

The substances in question are categorized in three classes; critical substances, restricted and monitored substances:

- Critical substances are prohibited from being added to our products
- Restricted substances may be used only under limited conditions and are generally targeted for elimination and should be phased out on a specific date and replaced with equivalent and acceptable alternatives
- Monitored substances are substances that are under surveillance and observation. These substances and substance categories are continuously evaluated and might be included in the restricted substance list in future revisions.

### 4 Application

Sony Mobile's suppliers, vendors and manufacturing partners are responsible for implementing their respective part of these requirements and guidelines. Within Sony Mobile all relevant functions such as product management, product design functions, research and development, industrialization, sourcing, and manufacturing & supply chain management functions should internally implement their respective part of these requirements and guidelines.

#### 4.1 Terms and Definitions

**Critical substances:** Substances that shall not be used in Sony Mobile products or components shipped to Sony Mobile.

**Date of inclusion:** Date when target substances are entered into any Sony Mobile lists.

**Effective date of the ban on the delivery:** The date(s) from which placing on the market and the use of the substance in a new Sony Mobile product shall be prohibited unless an exemption is granted by Sony Mobile.

**Homogeneous material:** One material of uniform composition throughout or a material, consisting of a combination of materials, that cannot be disjointed or separated into different materials by mechanical actions such as unscrewing, cutting, crushing, grinding and abrasive processes.

- Examples of "homogeneous materials" are individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings.

**Intentionally added:** Deliberately used in the formulation of a product where its continued presence is desired to provide a specific characteristic, appearance, property, attribute or quality.

Where the threshold level is set to “intentionally added”, the presence of substances shall be reported when the substance meets the definition of “intentionally added” regardless of quantity. Suppliers shall report such substances when they have knowledge (or with reasonable inquiry should have knowledge) of their presence.

**Material:** A material is made up of one or more substances (e.g., an alloy is a material, which in turn is made up of a number of substances).

**Monitoring substances:** Substances that could be considered or proofed to be a restricted substance in a near future and that are monitored by the scientific and regulative community.

**Product:** The item that the respondent making a material composition declaration is supplying to the electro technical industry (such as assembly, subassembly or component). The term “product” also covers a product family if the products within that family perform the same function and have consistent material declarations.

A product is also an object with a certain shape, surface, design or function, where the substances that build up this object are requisites for determining its shape, surface, design or function.

**Restricted Substances:** Substances that have a defined “Effective date of the ban on the delivery” where the substances are not allowed be used in new Sony Mobile that are put on the market after the specific sunset date. These Restricted Substances have been recognized to be critical with regard to humans and environment, but where no technical solutions have been proofed to be compatible.

**SS-00259:** Sony’s substance regulation that describe and regulate "Environment-related Substances to be Controlled ('Controlled Substances')” that are contained in the parts and devices employed in Sony electronics products.

**Substance:** A chemical element or compound e.g., lead (a chemical element), lead oxide (a compound), polyvinyl chloride (a compound). Registry Numbers (RN) of the Chemical Abstracts System of the American Chemical Society (“CAS” numbers) are attributed to all chemical elements and most of their compounds and should be used for their identification. CAS numbers are provided (in Annex B) for these substances where known.

**Threshold level:** The concentration levels that defines the limit at or above which the presence of a substance in a product shall not be present at homogenous or at part level defined in the requirements of The Sony Mobile list of Critical Substances, Table 1.

Numerical threshold levels are provided in weight % (and parts per million, or ppm). The conversion to be used to calculate ppm is 0.1 % = 1 000 ppm.

**5 Comply to Sony Technical Standard SS-00259**

All Sony Mobile suppliers, vendors and manufacturing partners (forth called **partners**) should fulfill and follow Sony Technical Standard **SS-00259** <sup>1</sup> on parts (for all uses) shipped to Sony Mobile. The partners are responsible to continuously implement updates of this regulation.

**6 The Sony Mobile list of Critical substances in products**

The substances and substance categories that Sony Mobile has identified (besides the substances and substance categories that are included in SS-00259) and listed in Table 1 shall not be included in Sony Mobile parts and products, with the specified applications and threshold.

All Sony Mobile’s partners shall ensure that the materials, substances and substance categories that are included in Table 1 are compliant with the given threshold level in homogenous material for any part or component and for all uses.

If Sony Mobile critical substances (CAS number) are listed in Sony standard SS-00259, Sony Mobile partners and vendors shall fulfill the terms in this directive.

Table 1. Critical substances and substance categories which shall not be present (within the given threshold) in components used in any Sony Mobile product and thereby prohibited to be shipped to Sony Mobile.

Critical substance and substance category	Target	Threshold (ppm), in homogenous material
4-(para)-nonylphenol, 4-nonylphenol, 4-tert-octylphenol	All applications	More than 1000
Antimony tri- and pentaoxide	In all plastics and resins	More than 1000
Bisphenol A (BPA)	All applications	More than 1000
Beryllium and beryllium substances <sup>2</sup>	All applications	More than 1000
Brominated flame retardants (BFR)	All applications	More than 1000 ppm BFR content by weight
Chlorinated flame retardants (CFR)	All applications	More than 1000 ppm CFR content by weight
PFOA, individual salts and ester of PFOA	All applications	More than 50 ppm
Phthalates <sup>3</sup>	All applications	More than 1000

<sup>1</sup> The Sony Management Regulations for the Environment-Related Substances to be controlled which are included in Parts and Materials, **SS-00259** for General Use (<http://www.sony.net/SonyInfo/procurementinfo/ss00259/index.html>)

<sup>2</sup> Except beryllium oxide which is covered by Sony SS-00259

<sup>3</sup> Benzyl butyl phthalate; butyl benzyl phthalate (BBP), Dibutyl phthalate; Di-n-butyl phthalate (DBP), bis (2-ethylhexyl)phthalate; di (2-ethylhexyl) phthalate (DEHP), “1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters” (DHNUP), diisobutyl phthalate; di-i-butyl phthalate (DIBP), di-isodecyl

Polyvinyl chloride (PVC)	All applications	More than 1000 ppm
Natural rubber	Parts/components that are designed to be in direct and prolonged skin contact of the end user	Intentionally added
Nickel and nickel substances <sup>4</sup>	Parts/components that are designed to be in direct and prolonged skin contact of the end user	0,28 µg/cm <sup>2</sup> *week
N-isopropyl-N'-phenylenediamine (IPPD)	Parts/components that are designed to be in direct and prolonged skin contact of the end user	Intentionally added

## 7 The Sony Mobile list of Restricted substances in products

All Sony Mobil's partners should fulfill and implement that the materials and substances that are included in Table 2 are phased out in their components before the effective date of the ban on the delivery.

Table 2. Restricted substances in Sony Mobile products or components included in Sony Mobile products.

Restricted substances and substance categories in products	Target	Threshold (ppm), in homogenous material	Date of inclusion	Effective date of the ban on the delivery
Diarsenic tri- and pentaoxide	All applications	More than 1000	2014-01-31	To be decided
Antimony and antimony substances	All branded Xperia™ products	More than 1000	2014-01-31	To be decided
Brominated and chlorinated substances	All applications	More than 1000	2012-10-19	To be decided
Other nonylphenols	All applications	More than 1000	2012-10-19	To be decided

phthalate; diisodecyl phthalate (DIDP), "1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich" (DIHP), di-isononyl phthalate; diisononyl phthalate (DINP), bis(2-methoxyethyl) phthalate (DMEP), di-n-hexyl phthalate (DNHP), di-n-octyl phthalate (DNOP), diisopentylphthalate, "1,2-Benzenedicarboxylic acid, dipentylester, branched and linear" and n-pentyl-isopentylphthalate.

<sup>4</sup> No parts on or areas of Sony Mobile products shall be treated with nickel based surface treatments, including nickel used as underlayer under any plating, where these parts might be in direct and prolonged skin contact of the end user of that product. Exempted from the ban is exterior surfaces of device; nickel in steel alloys (low-sulfur stainless steels with sulfur content (sulfur contained in a unit mass) lower than 0.1 %). The maximum emission must however not exceed 0,28 µg/cm<sup>2</sup>\*week, tested according to EN1811:2011.

## 8

**The Sony Mobile list of Monitored substances**

Sony Mobile continuously strives to phase out critical substances, with regard to environment, health and safety, in our products. The identified substances that we consider to pose a risk to the community and the ecological systems and would like to phase out in the long run are presented in Table 3. We consider that several of these identified substances might in the future be considered as SVHC<sup>5</sup> substances.

The identified substances on this list should also be seen as potential substances that can be moved to the list Restricted substances.

Table 3. Substances that Sony Mobile consider critical to environment and humans that we aim to restrict in future revisions.

Monitored Substances	Date of inclusion	Effective date of the ban on the delivery
CMR substances from Annex VI of the CLP Regulation <a href="http://echa.europa.eu/documents/10162/13562/cmr_report_en.pdf">http://echa.europa.eu/documents/10162/13562/cmr_report_en.pdf</a>	2012-11-01	To be decided
SIN Lists database of the International Chemical Secretariat (ChemSec).  Restriction is applied to the full up-to-date ChemSec SIN 2.1 list as defined on the ChemSec website: <a href="http://www.chemsec.org/what-we-do/sin-list/sin-database">http://www.chemsec.org/what-we-do/sin-list/sin-database</a>	2012-11-01	To be decided

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<sup>5</sup> A substance of very high concern (SVHC) is a chemical substance (or part of a group of chemical substances) for which it has been proposed that the use within the European Union be subject to authorisation under the REACH Regulation. Listing of a substance as an SVHC by the European Chemicals Agency (ECHA) is the first step in the procedure for authorisation and restriction of use of a chemical.



**Appendix A**

Critical and restricted compounds in Sony Mobile Critical Substances.

Substance	CAS numbers	Threshold level (more than)
<b>Antimony tri- and penta oxides</b>		
Antimony trioxide	1309-64-4	1000 ppm
Diantimonypentoxide	1314-60-9	1000 ppm
<b>Antimony and antimony compounds</b>		
Calcium chloride fluoride phosphate, antimony- and manganese-doped	545386-98-9	1000 ppm
Antimony, (diphenylphosphinodithioato-S,S')diphenyl-, (T-4)-	139598-41-7	1000 ppm
Antimony oxide (Sb <sub>2</sub> O <sub>3</sub> ), reaction products with talc	127153-81-5	1000 ppm
Antimony, (O,O-bis(1-methylethyl)phosphorodithioato-S,S')diphenyl-, (T-4)-	126426-74-2	1000 ppm
Ammonium antimony sodium tungsten oxide	89899-81-0	1000 ppm
Antimonyl-2,4-dihydroxy pyrimidine	77824-44-3	1000 ppm
Antimonyl-7-formyl-8-hydroxyquinoline-5-sulphonate	77824-43-2	1000 ppm
Antimonyl-2,4-dihydroxy-5-hydroxymethyl pyrimidine	77824-42-1	1000 ppm
Antimonyl-2-hydroxy-1,3-sodium dicarboxy naphthalein	77772-16-8	1000 ppm
Antimonyl-2-hydroxy-3-carboxy-1-sodium acrylate naphthalein	77772-15-7	1000 ppm
Antimony oxide (Sb <sub>2</sub> O <sub>3</sub> ), solid soln. with nickel oxide (NiO) and titanium oxide (TiO <sub>2</sub> )	73892-02-1	1000 ppm
Acetic acid, bis(nitrioltri-, antimony complex	72017-60-8	1000 ppm
Antimony, tris(2-mercaptoethanolato-O,S)-	71215-72-0	1000 ppm
Oxirane, (chloromethyl)-, reaction products with antimony chloride (SbCl <sub>5</sub> )	71119-45-4	1000 ppm
Antimony oxide (Sb <sub>2</sub> O <sub>3</sub> ), reaction products with silica	70247-82-4	1000 ppm
Rutile, antimony chromium manganese brown	69991-68-0	1000 ppm
Antimony, compd. with europium (1:1)	69892-82-6	1000 ppm
Antimony, C.I. Basic Violet 1 tannin complexes	68989-19-5	1000 ppm
Antimony, 4-[(4-aminophenyl)(4-imino-2,5-cyclohexadien-1-ylidene)methyl]-2-methylbenzenamine tannin complexes	68957-23-3	1000 ppm
Rosin, sulfurized, antimony salt	68956-96-7	1000 ppm
Neodecanoic acid, reaction products with antimony oxide (Sb <sub>2</sub> O <sub>3</sub> )	68954-54-1	1000 ppm
Antimony, 2-ethylhexanoate neodecanoate complexes	68953-72-0	1000 ppm
Antimony oxide (Sb <sub>2</sub> O <sub>3</sub> ), mixed with arsenic oxide (As <sub>2</sub> O <sub>3</sub> )	68951-38-2	1000 ppm
1,2-Ethanediol, reaction products with antimony oxide (Sb <sub>2</sub> O <sub>3</sub> )	68937-20-2	1000 ppm
Acetic acid, anhydride, reaction products with antimony oxide (Sb <sub>2</sub> O <sub>3</sub> ) and ethylene glycol	68937-04-2	1000 ppm
Strontium fluoride phosphate (Sr <sub>5</sub> F(PO <sub>4</sub> ) <sub>3</sub> ), antimony and manganese-doped	68784-78-1	1000 ppm
Antimony, citric acid complexes	68411-49-4	1000 ppm
Acetic acid, (isopropylenedinitrilo)tetra-, antimony sodium salt, dihydrate	66922-79-0	1000 ppm
m-Anisidine antimonyl tartrate	64090-82-0	1000 ppm
p-Anisidine antimonyl tartrate	64070-15-1	1000 ppm

o-Anisidine antimonyl tartrate	64070-14-0	1000 ppm
DL-Antimony potassium tartrate	64070-12-8	1000 ppm
D-Antimony potassium tartrate	64070-11-7	1000 ppm
meso-Antimony potassium tartrate	64070-10-6	1000 ppm
Antimony, bis(trichloro-, compd. with 1 mol. of octamethyl pyrophosphoramidate	64046-93-1	1000 ppm
Urea antimonyl tartrate	64024-08-4	1000 ppm
p-Toluidine antimonyl tartrate	64011-36-5	1000 ppm
o-Toluidine antimonyl tartrate	64011-35-4	1000 ppm
m-Toluidine antimonyl tartrate	64011-34-3	1000 ppm
p-Aminophenol antimonyl tartrate	63957-39-1	1000 ppm
o-Aminophenol antimonyl tartrate	63957-38-0	1000 ppm
m-Aminophenol antimonyl tartrate	63957-37-9	1000 ppm
m-Phenetidine antimonyl tartrate	63957-36-8	1000 ppm
Antimony, [ mu -[29H,31H-phthalocyaninato(2-)]di-	62851-41-6	1000 ppm
Ammonium antimony tungsten oxide	59372-48-4	1000 ppm
Antimony lactate	58164-88-8	1000 ppm
Antimony, tris(8-hydroxy-5-quinolinesulfonato-N(sup 1),O(sup 8)-, trisodium	55331-26-5	1000 ppm
Antimony, tris(6-methyl-8-quinolinolato-N(sup 1),N(sup 8))-	55331-24-3	1000 ppm
antimonyV silicate	54847-25-5	1000 ppm
Antimony nickel titanium oxide	54576-53-3	1000 ppm
Piperazine diantimony tartrate	52195-07-0	1000 ppm
o-Phenetidine antimonyl tartrate	49720-83-4	1000 ppm
Antimony, compd. with iron (2:3)	39356-80-4	1000 ppm
Antimony, compd. with strontium (2:3)	39294-08-1	1000 ppm
Antimony, (benzoyl chloride)pentachloro-, (OC-6-21)-	38897-60-8	1000 ppm
Antimony dextran glycoside	37234-63-2	1000 ppm
Butanoic acid, 2-amino-3-mercapto-3-methyl-,(S)-,(R-(R*,R*))-2,3-dihydroxybutanedioate (salt),antimony sodium salt	35743-94-3	1000 ppm
Neodecanoic acid, antimony(3++) salt	35724-06-2	1000 ppm
Antimony sodium tartrate	34521-09-0	1000 ppm
Antimony, compd. with samarium (1:1)	29664-84-4	1000 ppm
Antimony, compd. with thallium (1:1)	29095-38-3	1000 ppm
Antimony, compd. with tin (1:1)	28980-49-6	1000 ppm
Antimony potassium tartrate	28300-74-5	1000 ppm
Acetic acid, mercapto-, isooctyl ester, antimony(3++) salt	27288-44-4	1000 ppm
Antimony, tris[(isooctylthio)acetato]-	27253-22-1	1000 ppm
Antimony phosphide (SbP)	25889-81-0	1000 ppm
Antimony chloride fluoride (SbCl3F2)	24626-20-8	1000 ppm
Aluminum, compd. with antimony (1:1)	25152-52-7	1000 ppm
Antimony, tris(8-quinolinolato-N(sup 1),N(sup 8))-	23803-42-1	1000 ppm
Antimony-115	17620-10-9	1000 ppm
Antimony, compd. with potassium (1:3)	16823-94-2	1000 ppm
Antimony, tris[bis(2-ethylhexyl)carbomodithioato-S,S']-, (OC-6-11)-	15991-76-1	1000 ppm
Antimony, tris(dipentylcarbomodithioato-kappa-S,kappa-S')-, (OC-6-11)-	15890-25-2	1000 ppm
Phosphorodithioic acid, O,O-bis(2-ethylhexyl) ester, antimony(3++) salt	15874-52-9	1000 ppm
Phosphorodithioic acid, O,O-dipropyl ester, antimony(3++) salt	15874-48-3	1000 ppm
Antimony-130	15756-35-1	1000 ppm

Antimony-128	15756-34-0	1000 ppm
Antimony-126	15756-32-8	1000 ppm
Antimony-131	15756-29-3	1000 ppm
Antimony-116	15755-27-8	1000 ppm
Antimony-117	15755-18-7	1000 ppm
Antimony iron oxide (SbFeO <sub>4</sub> )	15600-71-2	1000 ppm
Antimonybrenzeatechindisulfosaures natrium	15489-16-4	1000 ppm
Antimony-119	14914-68-2	1000 ppm
Antimony-124	14683-10-4	1000 ppm
Borate(1-), tetrafluoro-, antimony(3++) (3:1)	14486-20-5	1000 ppm
Antimony-120	14391-68-5	1000 ppm
Antimony-118	14391-67-4	1000 ppm
Antimony-122	14374-79-9	1000 ppm
Antimony-129	14331-88-5	1000 ppm
Antimony-125	14234-35-6	1000 ppm
Antimony-127	13968-50-8	1000 ppm
Antimony (III) sodium gluconate	12550-17-3	1000 ppm
antimony sodium tartrate	12544-35-3	1000 ppm
Antimony, compd. with nickel (1:3)	12503-49-0	1000 ppm
Antimony thioantimonate	12359-48-7	1000 ppm
Antimony, compd. with barium (2:3)	12345-15-2	1000 ppm
Antimony arsenide (Sb <sub>3</sub> As)	12255-36-6	1000 ppm
Antimony, compd. with yttrium (1:1)	12186-97-9	1000 ppm
Antimony, compd. with scandium (1:1)	12166-36-8	1000 ppm
Antimony, compd. with lanthanum (1:1)	12142-69-7	1000 ppm
Antimony, compd. with praseodymium (1:1)	12066-81-8	1000 ppm
Antimony, compd. with gallium (1:1)	12064-03-8	1000 ppm
Antimony, compd. with sodium (1:3)	12058-86-5	1000 ppm
Antimony, compd. with magnesium (2:3)	12057-75-9	1000 ppm
Antimony, compd. with lithium (1:3)	12057-30-6	1000 ppm
Antimony, compd. with copper (1:3)	12054-25-0	1000 ppm
Antimony, compd. with chromium (1:1)	12053-12-2	1000 ppm
Antimony, compd. with cobalt (1:1)	12052-42-5	1000 ppm
Antimony, compd. with zinc (1:1)	12039-35-9	1000 ppm
Antimony, compd. with ytterbium (1:1)	12039-34-8	1000 ppm
Antimony, compd. with thulium (1:1)	12039-33-7	1000 ppm
Antimony, compd. with terbium (1:1)	12039-31-5	1000 ppm
Antimony, compd. with rubidium (1:3)	12038-62-9	1000 ppm
Antimony, compd. with neodymium (1:1)	12035-23-3	1000 ppm
Antimony, compd. with manganese (1:2)	12032-97-2	1000 ppm
Antimony, compd. with manganese (1:1)	12032-82-5	1000 ppm
Antimony, compd. with lutetium (1:1)	12032-10-9	1000 ppm
Antimony, compd. with holmium (1:1)	12029-86-6	1000 ppm
Antimony, compd. with gadolinium (1:1)	12024-80-5	1000 ppm
Antimony, compd. with iron (2:1)	12022-93-4	1000 ppm
Antimony, compd. with iron (1:1)	12022-92-3	1000 ppm
Antimony, compd. with erbium (1:1)	12020-24-5	1000 ppm
Antimony, compd. with dysprosium (1:1)	12019-92-0	1000 ppm
Antimony, compd. with cesium (1:3)	12018-68-7	1000 ppm
Sodium antimony	11112-10-0	1000 ppm
L-Antimony potassium tartrate	11071-15-1	1000 ppm
Antimony trichloride	10025-91-9	1000 ppm
Antimony(III) sulfate (2:3)	7446-32-4	1000 ppm
Antimony hydride	7803-52-3	1000 ppm
Antimony triiodide	7790-44-5	1000 ppm

Antimony tribromide	7789-61-9	1000 ppm
Antimony pentafluoride	7783-70-2	1000 ppm
Antimony trifluoride	7783-56-4	1000 ppm
Antimony pentachloride	7647-18-9	1000 ppm
Antimony	7440-36-0	1000 ppm
Tris(dodecylthio)antimony	6939-83-9	1000 ppm
Acetic acid, antimony salt	6923-52-0	1000 ppm
Butanedioic acid, 2,3-dihydroxy-, (2R,3R)-, antimony(3+) potassium salt (1:1:1)	6535-15-5	1000 ppm
p-Phenetidine antimonyl tartrate	6273-75-2	1000 ppm
Antimony lithium thiomalate nonahydrate	6169-12-6	1000 ppm
Tri-p-tolylantimony	5395-43-7	1000 ppm
Triphenyl antimony sulfide	3958-19-8	1000 ppm
Antimony dimercaptosuccinate(IV)	3064-61-7	1000 ppm
Hexanoic acid, 2-ethyl-, antimony(3++) salt	2155-81-9	1000 ppm
1-Butanol, antimony(3++) salt	2155-74-0	1000 ppm
Antimony trisulfide	1345-04-6	1000 ppm
Antimony potassium oxide	1333-78-4	1000 ppm
Antimony oxide (Sb <sub>2</sub> O <sub>4</sub> )	1332-81-6	1000 ppm
Antimony oxide	1327-33-9	1000 ppm
Antimony glance	1317-86-8	1000 ppm
Antimony selenide (Sb <sub>2</sub> Se <sub>3</sub> )	1315-05-5	1000 ppm
Antimony pentasulfide	1315-04-4	1000 ppm
Antimony pentoxide	1314-60-9	1000 ppm
Indium compd. with antimony (1:1)	1312-41-0	1000 ppm
Antimony trioxide	1309-64-4	1000 ppm
Antimony tetroxide	1332-81-6	1000 ppm
Diantimonypentoxide	1314-60-9	1000 ppm
Antimonyl aniline tartrate	1300-14-7	1000 ppm
Triphenylantimony	603-36-1	1000 ppm
Antimony, dichlorotriphenyl-	594-31-0	1000 ppm
Antimony lithium thiomalate	305-97-5	1000 ppm
Other antimony compounds	-	1000 ppm
Beryllium and beryllium compounds		
Beryl ore	1302-52-9	1000 ppm
Beryllate(2-), tetrafluoro-, diammonium	14874-86-3	1000 ppm
Beryllium	7440-41-7	1000 ppm
Beryllium boride	12536-51-5	1000 ppm
Beryllium boride	12536-52-6	1000 ppm
Beryllium boride	12228-40-9	1000 ppm
Beryllium boride	12429-94-6	1000 ppm
Beryllium bromide	7787-46-4	1000 ppm
Beryllium carbide	506-66-1	1000 ppm
Beryllium carbonate	13106-47-3	1000 ppm
Beryllium carbonate	66104-24-3	1000 ppm
Beryllium chloride	7787-47-5	1000 ppm
Beryllium di(acetate)	543-81-7	1000 ppm
Beryllium fluoride	12323-05-6	1000 ppm
Beryllium fluoride	7787-49-7	1000 ppm
Beryllium hydroxide	13327-32-7	1000 ppm
Beryllium iodide	7787-53-3	1000 ppm
Beryllium nitrate	13597-99-4	1000 ppm
Beryllium nitrate trihydrate	7787-55-5	1000 ppm
Beryllium nitride	1304-54-7	1000 ppm
Beryllium oxide	1304-56-9	Intentionally added
Beryllium phosphate	13598-15-7	1000 ppm
Beryllium phosphide	58127-61-0	1000 ppm

Beryllium phosphide	57620-29-8	1000 ppm
Beryllium selenide	12232-25-6	1000 ppm
Beryllium sulfate	13510-49-1	1000 ppm
Beryllium sulfate tetrahydrate	7787-56-6	1000 ppm
Beryllium sulfide	13598-22-6	1000 ppm
Beryllium telluride	12232-27-8	1000 ppm
Beryllium zinc silicate	25638-88-4	1000 ppm
Beryllium zinc silicate	39413-47-3	1000 ppm
Beryllium-aluminum alloy	12770-50-2	1000 ppm
Bis(pentane-2,4-dionato-o,o')beryllium	10210-64-7	1000 ppm
Diethylberyllium	542-63-2	1000 ppm
Disodium tetrafluoroberyllate	13871-27-7	1000 ppm
hexakis[μ-(acetato-o:o')]-μ <sub>4</sub> -oxotetraBeryllium	19049-40-2	1000 ppm
Nitric acid, beryllium salt, tetrahydrate	13510-48-0	1000 ppm
Phosphoric acid, beryllium salt	35089-00-0	1000 ppm
Phosphoric acid, Beryllium salt (2:3)	13598-26-0	1000 ppm
Silicic acid (H <sub>4</sub> SiO <sub>4</sub> ), beryllium salt (1:2)	15191-85-2	1000 ppm
Silicic acid, beryllium salt	58500-38-2	1000 ppm
<b>Brominated flame retardents</b>		
(1,2-dibromoethyl)-benzene	93-52-7	1000 ppm BFR content by weight
1,2-Bis(2,4,6-tribromo-phenoxy) ethane	37853-59-1	Same as above
1,2-Dibromo-4-(1,2 dibromo-methyl)-cyclohexane	3322-93-8	Same as above
1,3-Butadiene homopolymer,brominated	68441-46-3	Same as above
2,2,'3,3',4,5'6,6'-Octabromodiphenyl	119264-60-7	Same as above
2,3-Dibromo-2-butene-1,4-diol	3234-02-4	Same as above
2,3-Dibromopropanoic acid	600-05-5	Same as above
2,4,6-tribromo-phenol	118-79-6	Same as above
2,4,6-Tribromo-phenyl-allyl-ether	3278-89-5	Same as above
2,4-Dibromo-phenol	615-58-7	Same as above
2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-ethyl-TBP	20566-35-2	Same as above
3,3',4,4',5,5'-Hexabromodiphenyl	60044-26-0	Same as above
3,4,5,6-Tetrabromo-1,2-benzenedicarboylic mixed esters acid, propylene with diethyleneglycol and glycol	77098-07-8	Same as above
3,4,5-Tribromodiphenyl	115245-08-4	Same as above
3,5,3',5'-Tetrabromo-bisphenol A (TBBA)	79-94-7	Same as above
4-Bromophenol	106-41-2	Same as above
Bis(2,3-dibromopropyl)phosphate	5412-25-9	Same as above
Bis(2-ethylhexyl)tetrabromo-phthalate	26040-51-7	Same as above
Bis(methyl)tetrabromo-phthalate	55481-60-2	Same as above
Brominated epoxy resin	31942-06-0	Same as above
Brominated epoxy resin end-capped with tribromophenol	139638-58-7	Same as above
Brominated epoxy resin end-capped with tribromophenol	135229-48-0	Same as above
Brominated polystyrene	148993-99-1	Same as above
Bromine, compd. with Graphite	12079-58-2	Same as above
Bromo-/Chloro-alpha-olefin	82600-56-4	Same as above
Bromo-/Chloro-paraffins	68955-41-9	Same as above
Chlorinated and brominated phosphate ester	125997-20-8	Same as above
Decabromo-diphenyl-ethane	61262-53-1	Same as above
Decabromo-diphenyl-ethane	84852-53-9	Same as above
Dibromo-neopentyl-glycol	3296-90-0	Same as above
Dibromo-propanol	96-13-9	Same as above

Dibromo-styrene grafted PP	171091-06-8	Same as above
Disodium 9-(3,4,5,6-tetrachloro-o-carboxyphenyl)-6-hydroxy-2,4,5,7-tetrabromo-3-isoxanthone	18472-87-2	Same as above
Ethenylbenzene, homopolymer, brominated	88497-56-7	Same as above
Ethylene-bis(5,6-dibromo-norbornane-2,3-dicarboximide)	52907-07-0	Same as above
Formaldehyde, polymer with bromophenol and (chloromethyl)oxirane	68541-56-0	Same as above
HBCCD	25495-98-1	Same as above
Hydrobromic acid	10035-10-6	Same as above
N,N'-Ethylene -bis-(tetrabromo-phthalimide)	32588-76-4	Same as above
Octabromo-1,1,3-trimethyl-1-phenylindane (FR-1808)	155613-93-7	Same as above
Other Brominated Flame Retardants	-	Same as above
Pentabromo-benzyl bromide	38521-51-6	Same as above
Pentabromo-benzyl-acrylate, monomer	59447-55-1	Same as above
Pentabromo-benzyl-acrylate, polymer	59447-57-3	Same as above
Pentabromo-phenol	608-71-9	Same as above
Pentabromo-toluene	87-83-2	Same as above
Poly tribromo-styrene	57137-10-7	Same as above
Poly(2,6-dibromo-phenylene oxide)	69882-11-7	Same as above
Poly-dibromo-styrene	31780-26-4	Same as above
TBBA bis-(2-hydroxy-ethyl-ether)	4162-45-2	Same as above
TBBA carbonate oligomer	28906-13-0	Same as above
TBBA carbonate oligomer, 2,4,6-tribromo-phenol terminated	71342-77-3	Same as above
TBBA carbonate oligomer, phenoxy end capped	94334-64-2	Same as above
TBBA Diglycidyl ether of brominated bisphenol A	265-08-7	Same as above
TBBA-(2,3-dibromo-propyl-ether)	21850-44-2	Same as above
TBBA, unspecified	30496-13-0	Same as above
TBBA-bis-(allyl-ether)	25327-89-3	Same as above
TBBA-bisphenol A-phosgene polymer	32844-27-2	Same as above
TBBA-dimethyl-ether	37853-61-5	Same as above
TBBA-epichlorhydrin oligomer	40039-93-8	Same as above
TBBA-TBBA-diglycidyl-ether oligomer	70682-74-5	Same as above
TBBS-bis-(2,3-dibromo-propyl-ether)	42757-55-1	Same as above
TBPA, glycol-and propylene-oxide esters	75790-69-1	Same as above
Tetraboron disodium heptaoxide, hydrate	12267-73-1	Same as above
Tetrabromo phthalic anhydride	632-79-1	Same as above
Tetrabromobisphenol A polycarbonate	156042-31-8	Same as above
Tetrabromo-bisphenol S	39635-79-5	Same as above
Tetrabromo-cyclo-octane	31454-48-5	Same as above
Tetrabromophthalic acid Na salt	25357-79-3	Same as above
Tetra-decabromo-diphenoxy-benzene	58965-66-5	Same as above
Tribromo-bisphenyl-maleinimide	59789-51-4	Same as above
Tribromo-neopentyl-alcohol	36483-57-5	Same as above
Tribromo-phenyl-allyl-ether, unspecified	26762-91-4	Same as above
Tribromo-styrene	61368-34-1	Same as above
Trimethylaurylammonium bromide	1119-94-4	Same as above
Tris(2,3-dibromopropyl) phosphate	126-72-7	Same as above
Tris-(2,3-dibromo-propyl)-isocyanurate	52434-90-9	Same as above
Tris(2,4-Dibromo-phenyl) phosphate	49690-63-3	Same as above
Tris(tribromo-neopentyl) phosphate	19186-97-1	Same as above
Vinylbromide	593-60-2	Same as above

α-HBCDD	134237-50-6	Same as above
β-HBCDD	134237-51-7	Same as above
γ-HBCDD	134237-52-8	Same as above
<b>Chlorinated flame retardents</b>		
1,2-Dichloroethane	107-06-2	1000 ppm CFR content by weight
Chlorendic acid	115-28-6	Same as above
Chlorendic anhydride	115-27-5	Same as above
Tris(2-chloroethyl) phosphate	115-96-8	Same as above
Hexachlorobenzene	118-74-1	Same as above
Mirex	2385-85-5	Same as above
Poly(vinylidene chloride)	9002-85-1	Same as above
Poly(vinyl chloride-co-vinyl acetate)	9003-22-9	Same as above
Poly(acrylonitrile-co-vinylidene chloride)	9010-76-8	Same as above
Poly(vinyl chloride-co-vinylidene chloride)	9011-06-7	Same as above
Tri-(2-chloroisopropyl)phosphate	13674-84-5	Same as above
Tris(1,3-dichloro-2-propyl)phosphate	13674-87-8	Same as above
Poly(acrylonitrile-co-methyl methacrylate-co-vinylidene chlorid)	25214-39-5	Same as above
Poly(methyl acrylate-co-vinylidene chloride)	25038-72-6	Same as above
Chlorinated polyethylene	64754-90-1	Same as above
Chlorinated polyethylene	63231-66-3	Same as above
Chlorinated polypropylene	68442-33-1	Same as above
Poly(epichlorohydrin-co-ethylene oxide) (ECO)	24969-10-6	Same as above
Polychloroprene (CR)	9010-98-4	Same as above
Polyeppichlorohydrin (CO)	24969-06-0	Same as above
Polyethylene, chlorosulfonated (CSM)	68037-39-8	Same as above
Other Chlorinated Flame Retardants	-	Same as above
<b>PFOA</b>		
Perfluorooctanoyl fluoride	335-66-0	50 ppm
PFOA, pentadecafluorooctanoic acid	335-67-1	Same as above
Silver perfluorooctanoate	335-93-3	Same as above
Sodium perfluorooctanoate	335-95-5	Same as above
Methyl perfluorooctanoate	376-27-2	Same as above
Potassium perfluorooctanoate	2395-00-8	Same as above
Ethyl perfluorocaprylate	3108-24-5	Same as above
Ammonium perfluorooctanoate	3825-26-1	Same as above
<b>Phthalates</b>		
Benzyl butylphthalate (BBP)	85-68-7	1000 ppm
Di (2-ethylhexyl) phthalate (DEHP) Diocetyl phthalate(DOP)	117-81-7	1000 ppm
Diisobutyl phthalate; Di-i-butyl phthalate (DIBP)	84-69-5	1000 ppm
Dibutylphthalate (DBP)	84-74-2	1000 ppm
Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	1000 ppm
Diisodecylphthalate(DIDP)	68515-49-1	1000 ppm
Diisodecylphthalate (DIDP)	26761-40-0	1000 ppm
Diisononylphthalate (DINP)	28553-12-0	1000 ppm
Diisononylphthalate (DINP)	68515-48-0	1000 ppm
Di-n-hexylphthalate (DNHP)	84-75-3	1000 ppm

Di-n-octylphthalate (DNOP)	117-84-0	1000 ppm
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	1000 ppm
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	1000 ppm
Diisopentylphthalate	605-50-5	1000 ppm
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	1000 ppm
N-pentyl-isopentylphthalate	776297-69-6	1000 ppm
<b>Phenols</b>		
4-tert-Octylphenol, (4-(1,1,3,3-tetramethylbutyl)phenol)	140-66-9	1000 ppm
4-(para)-nonylphenol, (p-n-nonylphenol)	104-40-5	1000 ppm
4-nonylphenol, (4-nonylphenol, branched)	84852-15-3	1000 ppm
4-nonylphenol, isomer mixture	25154-52-3	1000 ppm
p-isononylphenol	26543-97-5	1000 ppm
p-(1-methyloctyl)phenol	17404-66-9	1000 ppm
p-(1,1-dimethylheptyl)phenol	30784-30-6	1000 ppm
4-(1-ethyl-1-methylhexyl)phenol	52427-13-1	1000 ppm
4-(1-ethyl-1,3-dimethylpentyl)phenol	186825-36-5	1000 ppm
4-(1-ethyl-1,4-dimethylpentyl)phenol	142731-63-3	1000 ppm
o-nonylphenol	136-83-4	1000 ppm
m-nonylphenol	139-84-4	1000 ppm
Other nonylphenols	-	1000 ppm
<b>Polyvinyl chloride (PVC) and PVC blends</b>		
Polyvinyl chloride (PVC)	9002-86-2	1000 ppm
Poly(methyl acrylate-co-vinyl chloride)	25035-98-7	1000 ppm
Poly(methyl acrylate-co-vinyl chloride-co-vinylidene chloride)	28572-91-0	1000 ppm
poly(vinyl chloride-co-vinyl acetate-co-vinyl alcohol)	25086-48-0	1000 ppm
Other polyvinyl chloride	-	1000 ppm
<b>Other organic substances and substances</b>		
Bisphenol-A (BPA)	80-05-7	1000 ppm
N-isopropyl-N'-phenylenediamine(IPP)	101-72-4	Intentionally added
<b>Diarsenic tri- and pentaoxide</b>		
Diarsenic trioxide	1327-53-3	1000 ppm
Diarsenic pentaoxide	1303-28-2	1000 ppm

	These substance and materials group are part of Sony Mobile Critical Substances
	These substance and materials group are part of Sony Mobile Restricted Substances.