

# JOINT INDUSTRY GUIDE (JIG)

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## Material Composition Declaration for Electrotechnical Products

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## MATERIAL COMPOSITION DECLARATION GUIDE FOR ELECTROTECHNICAL PRODUCTS

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*(Formulated under the cognizance of the Joint Industry Materials Declaration Guide International Steering Committee)*

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## **Introduction**

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The electrotechnical industry tracks and discloses specific information about the material composition of its products due to legal and market requirements. In order to obtain this information, the industry must gather information about the composition of products that are purchased from suppliers for incorporation into final products. This affects the entire supply chain worldwide.

Material composition information can help manufacturers among others to:

- satisfy legal and regulatory requirements;
- drive improvements in product design; and
- respond to inquiries from customers, product recyclers and other stakeholders.

To obtain material composition data, many manufacturers have developed material declaration questionnaires (also known as green procurement surveys or supply chain questionnaires) that require suppliers to disclose certain information about the products they sell. These questionnaires usually take the form of a list of banned or restricted materials and substances that the supplier must disclose if they are present in the product. Due to the diversity of information requests and formats, it is difficult for suppliers to manage material declaration requests.

Recognizing the challenges that the entire global electrotechnical industry faces from diverse material composition requests, a workgroup composed of industry representatives developed this material composition declaration guide, which is designed to promote consistent and standardized material declaration requests across the global supply chain.

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## 1 Scope

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This Guide applies to products that are supplied to manufacturers of electrotechnical products for incorporation (into their products). It covers materials and substances that may be present in the supplied product, including batteries. It does not apply to process chemicals (i.e. chemicals used and consumed during manufacture) unless those process chemicals constitute part of the finished product, nor does it apply to packaging (e.g. cardboard, plastic tray).

This Guide represents industry-wide consensus on the relevant materials and substances that shall be disclosed by suppliers when those materials and substances are present in products that are incorporated into electrotechnical products. The Guide benefits suppliers and their commercial customers by providing consistency and efficiency to the material declaration process and will promote the development of consistent data exchange formats and tools that will facilitate and improve data transfer along the entire global supply chain. It applies to business-to-business transactions. It is not intended to be used by the general public when making purchasing decisions.

### **This Guide contains:**

- the lists of substances for disclosure when contained in electrotechnical products;
- the threshold levels for substances in electrotechnical products, equal to or above which the quantity of the substance must be disclosed;
- the regulatory requirements that establish threshold levels for electrotechnical products, where appropriate;
- a set of data fields for information exchange.

This Guide does not preclude companies from inquiring about the presence of additional substances when necessary for their needs. However, such requests are outside the scope of this Guide.

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## 2 Use of Guide

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This Guide establishes a reporting framework that the industry may use to establish reporting formats for substance content declaration. The Guide establishes the substances to be reported as well as their reporting thresholds, agreed by the industry to govern substance content disclosures for electrotechnical products due to regulatory or market requirements. Criteria justifying the substances to be reported and their threshold levels are provided in chapter 4. Threshold levels may not always indicate regulatory bans or restrictions as substance disclosure is also warranted to support regulatory labeling and/or reporting as well as industry recognized design for environment requirements. The Guide determines when suppliers shall disclose the presence of a substance or material above a specified threshold in a supplier's product. Reporting substance content that exceeds these threshold levels is required regardless of whether the supplier's product is eligible for any exemption from regulatory requirements. This substance content disclosure information is relevant because it has been determined that manufacturers and other purchasers require this data in order to determine the status of the supplier's product with respect to applicable regulation, design specifications, or other objectives.

Suppliers shall be prepared to report to their customers substance categories or substances that are listed in the normative Annex A. The informative Annex B provides additional information and lists members of the substance categories without being comprehensive. If suppliers lack the substance information that is necessary to respond to customer inquiries that are based on this Guide, suppliers are expected to use this Guide with their own suppliers in order to obtain the necessary information. The recommended set of data fields for reporting purposes is provided in Annex D.

When determining whether it is necessary to report a substance, the following should be considered:

- 1) If a material/substance is present in the product above the threshold level it shall be reported. Where this level is set as a numeric value, the presence of substances shall be reported when the amount present equals or exceeds that value. 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. Where this level represents a dual reporting threshold ("intentionally added" or a numerical value listed in Table A) follow the flowchart Figure 1 in Annex C to determine if and at what level reporting is required.
- 2) If the reporting of a substance is limited to specific reportable applications (see Table A in Annex A), reporting is only required if the substance exceeds the threshold level and if the product falls within these reportable applications.
- 3) In situations where a substance has multiple threshold levels due to varying legal/regulatory requirements for different reportable applications, separate reporting is required for each of the reportable applications for which the threshold level is exceeded.
- 4) If it is not present in the product or present below the threshold level, reporting is not required.

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### 3 Terms and Definitions

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For the purposes of this Guide the following definitions apply:

**Homogeneous material:** A material that cannot be mechanically disjointed into different materials.

- The term “homogeneous” means “of uniform composition throughout.” Examples of “homogeneous materials” are individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings.
- The term “mechanically disjointed” means that the materials can, in principle, be separated by mechanical actions such as: unscrewing, cutting, crushing, grinding and abrasive processes.

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

**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).

**Product:** The item that the respondent is supplying to the electrotechnical industry (e.g., assembly, subassembly, component). The term “product” also covers a product family if the products within that family perform the same function and have consistent material declarations.

Note: Under the EU REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals) product would be called “article”.

**Reportable application:** Purpose of use

Note: This use is defined in the scope of the underlying law. Examples are batteries, textiles, wood etc.

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

**Threshold level:** Concentration level which defines the limit (equal to or) above which the presence of a substance in a product shall be declared based on the requirements of this Guide.

Numerical threshold levels are provided in weight % (and parts per million, or ppm). The conversion to be used to calculate ppm is  $0.1\% = 1000\text{ ppm}$ .



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## 4 Materials and Substances

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This Guide establishes three criteria that determine whether substances shall be declared. The resulting declarable substance list is based on these criteria which the industry has determined justify disclosure when these material/substances are present in electrotechnical products in amounts that exceed their specified threshold levels.

- Criteria 1 – R (Regulated)  
Substances that are subject to enacted legislation that (a) prohibits their use; or (b) restricts their use; or (c) requires reporting or results in other regulatory effects (e.g. labeling) and where the substance-specific effective date is currently in effect or scheduled to go into effect within the next 24 months.
- Criteria 2 – A (For Assessment Only)  
Substances that are likely to be subject to enacted legislation where the substance-specific effective dates of the regulatory requirements are uncertain.
- Criteria 3 – I (For Information Only)  
Substances that are not regulated but where there is a recognized market requirement for reporting their content in electrotechnical products. Reporting is used to facilitate company assessment regarding widely adopted industry environmental agreements or standards.

The criteria are listed in their order of priority. Substances that might be covered by more than one of these criteria will enter the declarable substance list only once, referring to the criteria with the highest order of priority and its requirements. The requirement to declare a substance in Annex A does not necessarily indicate a ban or restriction of that substance.

The following criteria determine the threshold level for substance/material reporting:

- When a law or regulation exists that sets a content threshold for a substance, the value of concentration set forth in the law serves as threshold level for that substance.
- Threshold levels for a substance are assigned to reportable applications if the law specifies such information
- Where multiple laws/regulations apply to a substance in a reportable application, the lowest concentration specified among all laws acts as the threshold level.
- When a substance is restricted by laws – none of which specifies a concentration limit in the product or material – “intentionally added” acts as threshold.
- For substances falling under Criteria 3 – I, the default threshold level is set to 0.1 % (1000 ppm) by weight of the product unless a different limit is specified by the industry standard or agreement.

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**5 Data Format**

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This Guide establishes the data disclosure framework. The framework contains required data fields as well as optional data fields. Optional fields may be added at the discretion of the requestor. Annex D contains the required and optional data fields.

There are a variety of data formats and tools that companies can use to implement this Guide. These tools could range from a paper form, a computerized spreadsheet, to an xml based e-business solution, such as the IPC-1752 family of reporting standards. This Guide does not dictate the use of any specific tool. Rather, it establishes the minimum data fields (as well as possible optional data fields) that can be used, giving companies the flexibility to select the tool that best meets their business needs. As a result, companies are allowed to add additional data fields not covered by this Guide, but still be consistent with the data format of the Guide.

Annex E contains two examples of a simple material declaration format. The first contains only the required fields. The second example contains the required data fields and the optional negative declaration field. Annex E also references examples of other material declaration formats and tools.

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**6 Disclaimers**

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Although this guide and its annexes contain references to legal citations and regulatory limits for certain listed substances, these citations and regulatory limits should not be relied upon for compliance purposes. The annexes also provide examples of expected use and regulatory restrictions and prohibitions relating to the substances. The examples are for reference only and do not constitute a comprehensive reference to all uses, regulations, and prohibitions and should not be used for compliance purposes. Please contact legal counsel for specific compliance requirements. Any use of this Guide, other than uses that are consistent with its stated purpose, are neither sanctioned nor endorsed by CEA, DIGITALEUROPE or JGPSSI. Furthermore, where substances are listed in this Guide, their listing does not infer or constitute an industry judgment as to their safety, environmental or health impacts.

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**Annex A (Normative) JIG Declarable Substance List**

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The threshold levels are set by applicable legal requirements that ban or restrict their use or require reporting or labeling. Therefore, assessment as to whether the threshold level has been met must be based on the relevant legal requirements. If a new law establishes a lower threshold for ban, restriction, labeling or reporting purposes; the thresholds and regulatory citations will be revised accordingly. Suppliers can voluntarily report to levels below the thresholds shown in Table A, but this is not required to meet the intent of this Guide.

NOTE 1: Where this level is set as a numeric value, the presence of substances shall be reported when the amount present equals or exceeds that value. 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. Where this level represents a dual reporting threshold (“intentionally added” or a numerical value listed in Table A) follow the flowchart Figure 1 in Annex C to determine if and at what level reporting is required.

NOTE 2: The Key Legal and Regulatory or industry standard/ agreement citation and Examples columns in Table A are for information only. The regulatory citation column may not show all applicable global regulations, but it will show the requirement that is responsible for setting the reporting threshold.

NOTE 3: The key legal and regulatory information in Table A is not a comprehensive listing. Please consult legal counsel for additional compliance information if necessary.

NOTE 4: In some cases only a subset of the substances in a chemical category is regulated. Please refer to Annex B for details.

NOTE 5: For categories that represent inorganic substances, quantification and reporting in those categories shall be based on the total mass of the inorganic element for the category that is present whether in the form of the pure element or as a compound or alloy of that element in the product being declared. For categories that represent organic substances, quantification and reporting shall be based on the total mass of all relevant compounds in the category that are present in the product being declared. For substances listed in table A with a CAS#, quantification and reporting shall be based on the total mass of the respective substance in the product being declared.

**Table A – JIG Declarable Substance List**

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Asbestos	See Annex B	R	EU Directive 76/769/EC and EU Directive 91/339/EEC; US TSCA; Swiss Ordinance on Reduction of Risk from Chemical Products	All	Intentionally added	Brake lining pad, insulator, filler, abrasive, insulator, filler, pigment, paint, talc, adiabatic material
Azocolourants and azodyes which form certain aromatic amines <sup>(2)</sup>	See Annex B	R	EU Directive 76/769/EEC and Directive 2002/61/EC; EU Directive 2003/03/EEC	Textiles and leather	0.003% by weight (30 ppm) of the finished textile/leather product	Pigment, dyes, colorants
Beryllium Oxide (BeO) <sup>(1)</sup>	CAS# 1304-56-9	I	DIGITALEUROPE <sup>(3)</sup> /CECED/AeA <sup>(4)</sup> /EERA guidance	Ceramics	0.1% by weight (1,000ppm) of the product	ceramics
Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)	See Annex B	I	DIGITALEUROPE <sup>(3)</sup> /CECED/AeA <sup>(4)</sup> /EERA guidance	Plastic parts >25 grams other than in Printed Circuit Assemblies	0.1% by weight (1,000ppm) of the product	flame retardant, printed wiring board laminate, connectors, package molding sealing

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Cadmium/cadmium compounds	See Annex B	R	EU Directive 76/769/EEC; EU Directive 2002/95/EC; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50	All, except batteries	0.01% by weight (100 ppm) of homogeneous materials	Pigment, anti-corrosion surface treatment, electric and electronic materials, optical material, stabilizer, plating, pigment for resin, fluorescent, electrode, solder, electric contact, contact point, zinc plating, stabilizer for PVC
Cadmium/cadmium compounds	See Annex B	R	Swiss Ordinance on Reduction of Risk from Chemical Products; EU Directive 2006/66/EC	Batteries <sup>(5)</sup>	0.0005% by weight (5 ppm) of battery	batteries

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Chromium VI compounds	See Annex B	R	EU Directive 2002/95/EC; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50	All	0.1 % by weight (1,000 ppm) of homogeneous materials	pigment, paint, ink, catalyst, plating, anti-corrosion surface treatment, dye, paint dryer, surface treatment, chromate treatment, paints adhesion enhancement, anti-corrosion
Diarsenic Pentoxide <sup>(1)</sup>	CAS# 1303-28-2	R	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006	All	0.1 % by weight (1,000 ppm) of the product	glass
Diarsenic Trioxide <sup>(1)</sup>	CAS# 1327-53-3	R	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006	All	0.1 % by weight (1,000 ppm) of the product	glass
Fluorinated greenhouse gases (PFC, SF6, HFC)	See Annex B	R	EU Reg. No. 842/2006; Austrian Ordinance by the Federal Minister for Agriculture, Forestry, Environment and Water Management on Bans and Restrictions for Partly Fluorinated and Fully Fluorinated Hydrocarbons and Sulphur Hexafluoride	All	Intentionally Added	Refrigerants, blowing agents, extinguishing agents, cleaning agents, insulating media, caustic gas

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Formaldehyde	See Annex B	R	US/CA CARB Rule	Composite wood (plywood, particle board, MDF) products or Components <sup>(6)</sup>	Intentionally added	stereo cabinets, kiosk enclosures
Formaldehyde	See Annex B	R	Austria - BGB I 1990/194: Formaldehydverordn ung, §2, 12/2/1990;  Lithuanian Hygiene Norm HN 96:2000 (Hygiene standards and regulations)	Textiles	0.0075%by weight (75 ppm) of textile product	Textiles
Hexabromocyclododecane (HBCDD) and all major diastereoisomers <sup>(1)</sup>	CAS #25637-99-4 and CAS# 3194-55-6 (See Annex B for diastereoisomer CAS #)	R	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006	All	0.1 % by weight (1,000 ppm) of the product	Flame retardant mainly used for expanded polystyrene and some types of fiber

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Lead/lead compounds	See Annex B	R	EU Directive 2002/95/EC; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50	All, except as noted below	0.1 % by weight (1,000 ppm) of homogeneous materials	rubber hardener, pigment, paint, lubricant, plastic stabilizer, materials for battery, free-machining alloy, free-cutting steels, optical materials, X-ray shielding in CRT glass, electrical solder material, mechanical solder materials, curing agent, vulcanizing agent, ferroelectrics, resin stabilizer, plating, metal alloy, resin additive
Lead/lead compounds	See Annex B	R	U.S. Consumer Product Safety Improvement Act	Consumer products designed or intended primarily for children 12 years of age or younger	0.03% by weight (300 ppm) of children's product	toy electronic product



Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Lead/lead compounds	See Annex B	R	U.S. Consumer Product Safety Improvement Act	Paint and similar surface coatings of toys and other articles intended for use by children	0.009% by weight of surface coating	toys
Lead/lead compounds	See Annex B	R	US/CA Proposition 65 Case law	Cables/cords with thermoset or thermoplastic coatings	0.03% by weight (300 ppm) of surface coating	Cables/cords
Lead/lead compounds	See Annex B	R	EU Directive 2006/66/EC	Batteries <sup>(5)</sup>	0.004% by weight (40 ppm) of battery	batteries
Mercury/mercury compounds	See Annex B	R	Vermont act relating to comprehensive management of exposure to mercury; Rhode Island General Laws 23-24.9 and amendment of 2007; Louisiana Mercury Risk Reduction Act; 2002/95/EC; 76/769/EEC; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50	All, except batteries	Intentionally added or 0.1% (1,000 ppm) at homogeneous material <sup>(7)</sup>	fluorescent bulb, contact point material, pigment, anti-corrosion, switches, high-efficiency phosphor, antibacterial treatment

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Mercury/mercury compounds	See Annex B	R	New York : Battery reduction and elimination N.Y. Env'tl. Conserv. § 27-0719; Taiwan Restrictions on the Manufacture, Import, and Sale of Dry Cell Batteries; China QZHG 1997 No. 4: Regulation on mercury content limitation for batteries; Korea: Law on quality management and control of safety of industrial products Battery regulation; 2006/66/EC	Batteries <sup>(5)</sup>	0.0001% by weight (1 ppm) of battery	batteries
Nickel <sup>(8)</sup>	See Annex B	R	EU Directive 76/769/EEC and EU Directive 94/27/EC	All, where prolonged skin contact is expected <sup>(6)</sup>	Intentionally added	Stainless steel, plating; Example application for prolonged skin contact is an ear bud (headphone)

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Ozone Depleting Substances	See Annex B	R	Montreal Protocol EU EC No. 2037/2000 US Clean Air Act	All	Intentionally added	refrigerant, foaming agent, extinguishant, solvent cleaner
Perchlorates	See Annex B	R	US/CA DTSC Rulemaking	All	0.0000006 % by weight (0.006 ppm) of the product	Coin cell batteries
Perfluorooctane sulfonate (PFOS)	See Annex B	R	76/769/EEC and 2006/122/EC; Canadian Environmental Protection Act SOR/SOR/2008-178	All	Intentionally added	antistatic agent for films and plastics
Phenol,2-(2H-benzotriazol-2-yl)- 4,6-bis(1,1-dimethylethyl) <sup>(1)</sup>	CAS# 3846-71-7	R	Japan Law concerning the evaluation of chemical substances	All	Intentionally added	Adhesives, paints, printing inks, plastics, inked ribbons, putty, caulking or sealing fillers
Phthalates <sup>(1)</sup> DEHP DBP BBP	CAS# 117-81-7 CAS# 84-74-2 CAS# 85-68-7	R	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006; EU Directive 2005/84/EC	All	0.1 % by weight (1,000 ppm) of the product	plasticizer, dye, pigment, paint, ink, adhesive, lubricant
Phthalates <sup>(1)</sup> DINP DIDP DNOP	CAS# 28553-12-0 CAS# 68515-48-0 CAS# 26761-40-0 CAS# 68515-49-1 CAS# 117-84-0	R	EU Directive 2005/84/EC; Consumer Product Safety Improvement Act	Children's toy that can be placed in a child's mouth or Child care article	0.1 % by weight (1,000 ppm) of plasticized material	plasticizer, dye, pigment, paint, ink, adhesive, lubricant

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Polybrominated Biphenyls (PBBs)	See Annex B	R	EU Directive 2002/95/EC; China MII Methods; Korea RoHS; Japan J-MOSS	All	0.1 % by weight (1,000 ppm) in homogeneous material	Flame retardant
Polybrominated Diphenylethers (PBDEs)	See Annex B	R	EU Directive 2002/95/EC; China MII Methods; Korea RoHS; Japan J-MOSS	All <sup>(9)</sup>	0.1 % by weight (1,000 ppm) in homogeneous material	Flame retardant
Deca-Bromodiphenylether (Deca-BDE) (PBDE)	CAS# 1163-19-5	R	Maine: Title 38 §1609 Restrictions on sale and distribution of brominated flame retardants	TV and computer housings <sup>(9)</sup>	Intentionally added	Flame retardant
Polychlorinated Biphenyls (PCBs) and specific substitutes	See Annex B	R	Japan Law concerning the evaluation of chemical substances; EU Directive 76/769/EEC; US TSCA.	All	Intentionally added	insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; Plasticizers, fire retardants, coatings for electrical wire and cable, dielectric sealants

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Polychlorinated Terphenyls (PCTs)	See Annex B	R	Japan Law concerning the evaluation of chemical substances; EU Directive 76/769/EEC; US TSCA.	All	Intentionally added	insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; Plasticizers, fire retardants, coatings for electrical wire and cable, dielectric sealants
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	See Annex B	R	Japan Law concerning the evaluation of chemical substances	All	Intentionally added	lubricant, paint, stabilizer (electric characteristic, flame-resistant, water-resistant) insulator, flame retardant
Polyvinyl Chloride	See Annex B	I	IEEE1680 (EPEAT: Electronic Product Environmental Assessment Tool)	All	0.1% by weight (1,000 ppm) of product	Insulator, chemical resistance, transparency, sheath material

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Radioactive substances	See Annex B	R	EU-D 96/29/Euratom; Japan Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors, 1986; US NRC	All <sup>(6)</sup>	Intentionally added	optical properties (thorium), measuring devices, gauges, detector
Shortchain Chlorinated Paraffins (C10 – C13) <sup>(1)</sup>	CAS# 85535-84-8	R	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006, Norway Product Regulations FOR-2004-06-01-922; Swiss Ordinance on Reduction of Risk from Chemical Products	All	0.1 % by weight (1,000 ppm) of product	plasticizer for PVC, flame retardant
Certain Tributyl Tin (TBT) and Triphenyl Tin (TPT) compounds	See Annex B	R	Japan Law concerning the evaluation of chemical substances	All	Intentionally added	Stabilizer, antioxidant, antibacterial and antifungal agents, antifoulant, antiseptic, anti-fungal agent, paint, pigment, antistaining

Substance/ Category <sup>(1)</sup>	CAS #/EC#	Criteria Rationale for Disclosure 1-R (Regulated) 2-A (For Assessment Only) 3-I (For Information Only)	Key Legal and Regulatory or industry standard/ agreement citation	Reportable Application(s)	Threshold Level (Reporting level)	Examples of Use
Tributyl Tin Oxide (TBTO) <sup>(1)</sup>	CAS# 56-35-9	R	Japan Law concerning the evaluation of chemical substances Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006,	All	Intentionally added or 0.1 % by weight (1,000 ppm) of the product <sup>(7)</sup>	antiseptic, antifungal agent, paint, pigment, antistaining, refrigerant, foaming agent, extinguishant, solvent cleaner
Tris (2-chloroethyl) phosphate (TCEP) <sup>(1)</sup>	CAS# 115-96-8	A	ECHA Registry of Intentions	All	0.1 % by weight (1,000 ppm) of the product	Flame retardant

**Footnotes:**

(1) When a substance is listed in Table A with CAS number, then the reporting applies to the substance with that specific CAS number only.. For substances without a specific CAS number, refer to Annex B tables to find examples of common substances within that substance category.

(2) The European Community's ban applies to azocolorants and azodyes that by reductive cleavage of azo groups may release one of the aromatic amines listed in Annex B. The threshold level given applies to these amines, not to the azocolorants and azodyes.

(3) Formerly known as EICTA

(4) Now part of TechAmerica

(5) The battery reporting threshold level is based on the strictest known legal requirement. However, for simplification, the same reporting threshold level is set for all kind of batteries, even if the underlying legal requirement, is only applicable for only one specific battery type.

(6) Regulatory thresholds for substances in these applications are based on emission or exposure limits rather than on the concentration in the product. The regulatory limits are:

- Formaldehyde in composite wood products - 0.08 ppm until 2010 (measured as gaseous emission from product);
- for Nickel in applications of prolonged skin contact - 0.5 micrograms/sq cm/week per DIN EN 1811;
- Radioactive substances -a dose rate exceeding 1 μSv h<sup>-1</sup> at a distance of 0,1 m.

Because emission and exposure levels cannot be derived from concentration levels, compliance testing to regulatory limits may be warranted if the substance is present in the product being declared. If the substance is known to be present, a default concentration of 0.1% by weight in the article may be reported as an estimate of the quantity present to indicate that compliance testing to emission requirements may apply.

(7) See Annex C for clarification of how the two reporting thresholds apply.

(8) Nickel must be reported in certain regulated applications where it is likely to result in prolonged skin exposure (e.g., an outer enclosure for a portable electronic product designed to be carried). Use of nickel or nickel contained in components and parts designed to be located inside the outer enclosure of a product need not be reported.

(9) TV and computer housings have a lower PBDE reporting threshold for Deca-BDE only. See the separate Deca-BDE entry in Table A above for more details.

**Annex B (Informative) Detailed Substance Lists with CAS Numbers and/or EC Numbers**

These lists are not comprehensive; they represent examples of chemicals listing CAS numbers and/or EC numbers if applicable or available.

**TABLE — Asbestos**

<b>Asbestos</b>	<b>CAS Numbers</b>
Asbestos	1332-21-4
Actinolite	77536-66-4
Amosite (Grunerite)	12172-73-5
Anthophyllite	77536-67-5
Chrysotile	12001-29-5
Crocidolite	12001-28-4
Tremolite	77536-68-6

**TABLE— Azocolorants and azodyes which form certain aromatic amines**

<b>Aromatic Amines</b>	<b>CAS Numbers</b>
Biphenyl-4-ylamine	92-67-1
Benzidine	92-87-5
4-chloro-o-toluidine	95-69-2
2-naphthylamine	91-59-8
o-aminoazotoluene	97-56-3
5-nitro-o-toluidine	99-55-8
4-chloroaniline	106-47-8
4-methoxy-m-phenylenediamine	615-05-4
4,4'-methylenedianiline	101-77-9
3,3'-dichlorobenzidine	91-94-1
3,3'-dimethoxybenzidine	119-90-4
3,3'-dimethylbenzidine	119-93-7
4,4'-methylenedi-o-toluidine	838-88-0
6-methoxy-m-toluidine	120-71-8
4,4'-methylene-bis(2-chloroaniline)	101-14-4
4,4'-oxydianiline	101-80-4
4,4'-thiodianiline	139-65-1
o-toluidine	95-53-4
4-methyl-m-phenylenediamine	95-80-7
2,4,5-trimethylaniline	137-17-7
o-anisidine	90-04-0
4-amino azobenzene	60 09 3

*Note: The European Community's ban applies to azocolorants and azodyes that by reductive cleavage of azo groups may release one of the above 22 aromatic amines.*

**TABLE — Beryllium Oxide**

<b>Beryllium Oxide</b>	<b>CAS Numbers</b>
Beryllium oxide	1304-56-9



**TABLE — Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)**

<b>Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)</b>	<b>CAS Numbers</b>
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(14) [Aliphatic/alicyclic brominated compounds]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(15) [Aliphatic/alicyclic brominated compounds in combination with antimony compounds]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(16) [Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(17) [Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls] in combination with antimony compounds]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(22) [Aliphatic/alicyclic chlorinated and brominated compounds]	-
Brominated flame retardant which comes under notation of ISO 1043-4 code number FR(42) [Brominated organic phosphorus compounds]	-
Poly(2,6-dibromo-phenylene oxide)	69882-11-7
Tetra-decabromo-diphenoxy-benzene	58965-66-5
1,2-Bis(2,4,6-tribromo-phenoxy) ethane	37853-59-1
3,5,3',5'-Tetrabromo-bisphenol A (TBBA)	79-94-7
TBBA, unspecified	30496-13-0
TBBA-epichlorhydrin oligomer	40039-93-8
TBBA-TBBA-diglycidyl-ether oligomer	70682-74-5
TBBA carbonate oligomer	28906-13-0
TBBA carbonate oligomer, phenoxy end capped	94334-64-2
TBBA carbonate oligomer, 2,4,6-tribromo-phenol terminated	71342-77-3
TBBA-bisphenol A-phosgene polymer	32844-27-2
Brominated epoxy resin end-capped with tribromophenol	139638-58-7
Brominated epoxy resin end-capped with tribromophenol	135229-48-0
TBBA-(2,3-dibromo-propyl-ether)	21850-44-2
TBBA bis-(2-hydroxy-ethyl-ether)	4162-45-2
TBBA-bis-(allyl-ether)	25327-89-3
TBBA-dimethyl-ether	37853-61-5
Tetrabromo-bisphenol S	39635-79-5
TBBS-bis-(2,3-dibromo-propyl-ether)	42757-55-1
2,4-Dibromo-phenol	615-58-7
2,4,6-tribromo-phenol	118-79-6
Pentabromo-phenol	608-71-9
2,4,6-Tribromo-phenyl-allyl-ether	3278-89-5
Tribromo-phenyl-allyl-ether, unspecified	26762-91-4
Bis(methyl)tetrabromo-phthalate	55481-60-2
Bis(2-ethylhexyl)tetrabromo-phthalate	26040-51-7
2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-ethyl-TBP	20566-35-2
TBPA, glycol-and propylene-oxide esters	75790-69-1
N,N'-Ethylene -bis-(tetrabromo-phthalimide)	32588-76-4
Ethylene-bis(5,6-dibromo-norbornane-2,3-dicarboximide)	52907-07-0
2,3-Dibromo-2-butene-1,4-diol	3234-02-4
Dibromo-neopentyl-glycol	3296-90-0
Dibromo-propanol	96-13-9
Tribromo-neopentyl-alcohol	36483-57-5

<b>Brominated Flame Retardants (other than PBBs, PBDEs or HBCDD)</b>	<b>CAS Numbers</b>
Poly tribromo-styrene	57137-10-7
Tribromo-styrene	61368-34-1
Dibromo-styrene grafted PP	171091-06-8
Poly-dibromo-styrene	31780-26-4
Bromo-/Chloro-paraffins	68955-41-9
Bromo-/Chloro-alpha-olefin	82600-56-4
Vinylbromide	593-60-2
Tris-(2,3-dibromo-propyl)-isocyanurate	52434-90-9
Tris(2,4-Dibromo-phenyl) phosphate	49690-63-3
Tris(tribromo-neopentyl) phosphate	19186-97-1
Chlorinated and brominated phosphate ester	125997-20-8
Pentabromo-toluene	87-83-2
Pentabromo-benzyl bromide	38521-51-6
1,3-Butadiene homopolymer, brominated	68441-46-3
Pentabromo-benzyl-acrylate, monomer	59447-55-1
Pentabromo-benzyl-acrylate, polymer	59447-57-3
Decabromo-diphenyl-ethane	84852-53-9
Tribromo-bisphenyl-maleinimide	59789-51-4
Brominated trimethylphenyl-lindane	-
Other Brominated Flame Retardants	-
Tetrabromo-cyclo-octane	31454-48-5
1,2-Dibromo-4-(1,2 dibromo-methyl)-cyclo-hexane	3322-93-8
Tetrabromophthalic acid Na salt	25357-79-3
Tetrabromo phthalic-anhydride	632-79-1

**TABLE — Cadmium/Cadmium Compounds**

<b>Cadmium/Cadmium Compounds</b>	<b>CAS Numbers</b>
Cadmium	7440-43-9
Cadmium oxide	1306-19-0
Cadmium sulfide	1306-23-6
Cadmium chloride	10108-64-2
Cadmium sulfate	10124-36-4
Other cadmium compounds	-

**TABLE — Chromium VI Compounds**

<b>Chromium VI Compounds</b>	<b>CAS Numbers</b>
Chromium (VI) oxide	1333-82-0
Barium chromate	10294-40-3
Calcium chromate	13765-19-0
Chromium trioxide	1333-82-0
Lead (II) chromate	7758-97-6
Sodium chromate	7775-11-3
Sodium dichromate	10588-01-9/ EC Number 234-190-3
Strontium chromate	7789-06-2
Potassium dichromate	7778-50-9
Potassium chromate	7789-00-6
Zinc chromate	13530-65-9
Other hexavalent chromium compounds	-

**TABLE — Diarsenic Pentoxide**

Diarsenic Pentoxide	CAS Numbers	EC Numbers
Diarsenic Pentoxide	1303-28-2	215-116-9

**TABLE — Diarsenic Trioxide**

Diarsenic Trioxide	CAS Numbers	EC Numbers
Diarsenic Trioxide	1327-53-3	215-481-4

**TABLE – Fluorinated Greenhouse Gases – PFC, SF6, HFC**

Fluorinated Greenhouse Gases	CAS Numbers
Carbon tetrafluoride (Perfluoromethane)	75-73-0
Perfluoroethane (Hexafluoroethane)	76-16-4
Perfluoropropane (Octafluoropropane)	76-19-7
Perfluorobutane (Decafluorobutane)	355-25-9
Perfluoropentane (Dodecafluoropentane)	678-26-2
Perfluorohexane (Tetradecafluorohexane)	355-42-0
Perfluorocyclobutane	115-25-3
Sulfur Hexafluoride (SF6)	2551-62-4
Trifluoromethane - (HFC-23)	75-46-7
Difluoromethane - (HFC-32)	75-10-5
Methyl fluoride – (HFC-41)	593-53-3
2H,3H-Decafluoropentane – (HFC-43-10mee)	138495-42-8
Pentafluoroethane (HFC-125)	354-33-6
1,1,2,2-Tetrafluoroethane – (HFC-134)	359-35-3
1,1,1,2-Tetrafluoroethane – (HFC-134a)	811-97-2
1,1-Difluoroethane – (HFC-152a)	75-37-6
1,1,2-Trifluoroethane–(HFC-143 )	430-66-0
1,1,1-Trifluoroethane – (HFC-143a)	420-46-2
2H-Heptafluoropropane– (HFC-227ea)	431-89-0
1,1,1,2,2,3-hexafluoro-propane ( HFC-236cb)	677-56-5
1,1,1,2,3,3-Hexafluoropropane – (HFC-236ea)	431-63-0
1,1,1,3,3,3-Hexafluoropropane – (HFC-236fa)	690-39-1
1,1,2,2,3-Pentafluoropropane – (HFC-245ca)	679-86-7
1,1,1,3,3-Pentafluoropropane – (HFC-245fa)	460-73-1
1,1,1,3,3-Pentafluorobutane – (HFC-365mfc)	406-58-6

**TABLE – Formaldehyde**

Formaldehyde	CAS Numbers
Formaldehyhde	50-00-0

**TABLE – Hexabromocyclododecane (HBCDD)**

HBCDD and all Major Diastereoisomers	CAS Numbers	EC Numbers
Hexabromocyclododecane (HBCDD)	25637-99-4 and 3194-55-6	247-148-4 and 221-695-9
alpha-hexabromocyclododecane	134237-50-6	NA
beta-hexabromocyclododecane	134237-51-7	NA
gamma-hexabromocyclododecane	134237-52-8	NA

**TABLE — Lead/lead Compounds**

Lead/lead Compounds	CAS Numbers
Lead	7439-92-1
Lead (II) sulfate	7446-14-2
Lead (II) carbonate	598-63-0

<b>Lead/lead Compounds</b>	<b>CAS Numbers</b>
Lead hydrocarbonate	1319-46-6
Lead acetate	301-04-2
Lead (II) acetate, trihydrate	6080-56-4
Lead phosphate	7446-27-7
Lead selenide	12069-00-0
Lead (IV) oxide	1309-60-0
Lead (II,IV) oxide	1314-41-6
Lead (II) sulfide	1314-87-0
Lead (II) oxide	1317-36-8
Lead (II) carbonate basic	1319-46-6
Lead hydroxidcarbonate	1344-36-1
Lead (II) phosphate	7446-27-7
Lead (II) chromate	7758-97-6
Lead (II) titanate	12060-00-3
Lead sulfate, sulphuric acid, lead salt	15739-80-7
Lead sulphate, tribasic	12202-17-4
Lead stearate	1072-35-1
Other lead compounds	-

**TABLE — Mercury /Mercury Compounds**

<b>Mercury /Mercury Compounds</b>	<b>CAS Numbers</b>
Mercury	7439-97-6
Mercuric chloride	33631-63-9
Mercury (II) chloride	7487-94-7
Mercuric sulfate	7783-35-9
Mercuric nitrate	10045-94-0
Mercuric (II) oxide	21908-53-2
Mercuric sulfide	1344-48-5
Other mercury compounds	-

**TABLE — Nickel**

<b>Nickel</b>	<b>CAS Numbers</b>
Nickel	7440-02-0

**TABLE — Ozone Depleting Substances/Isomers\***

<b>Ozone Depleting Substances/Isomers*</b>	<b>CAS Numbers</b>
Trichlorofluoromethane	75-69-4
Dichlorodifluoromethane (CFC12)	75-71-8
Chlorotrifluoromethane (CFC 13)	75-72-9
Pentachlorofluoroethane (CFC 111)	354-56-3
Tetrachlorodifluoroethane (CFC 112)	76-12-0
Trichlorotrifluoroethane (CFC 113)	354-58-5
1,1,2 Trichloro-1,2,2 trifluoroethane	76-13-1
Dichlorotetrafluoroethane (CFC 114)	76-14-2
Monochloropentafluoroethane (CFC 115)	76-15-3
Heptachlorofluoropropane (CFC 211)	422-78-6
	135401-87-5
Hexachlorodifluoropropane (CFC 212)	3182-26-1
Pentachlorotrifluoropropane (CFC 213)	2354-06-5
	134237-31-3
Tetrachlorotetrafluoropropane (CFC 214)	29255-31-0
1,1,1,3-Tetrachlorotetrafluoropropane	2268-46-4
Trichloropentafluoropropane (CFC 215)	1599-41-3
1,1,1-Trichloropentafluoropropane	4259-43-2

Ozone Depleting Substances/Isomers*	CAS Numbers
1,2,3-Trichloropentafluoropropane	76-17-5
Dichlorohexafluoropropane (CFC 216)	661-97-2
Monochloroheptafluoropropane (CFC 217)	422-86-6
Bromochlorodifluoromethane (Halon 1211)	353-59-3
Bromotrifluoromethane (Halon 1301)	75-63-8
Dibromotetrafluoroethane (Halon 2402)	124-73-2
Carbon Tetrachloride (Tetrachloromethane)	56-23-5
1,1,1, - Trichloroethane (methyl chloroform) and its isomers except 1,1,2-trichloroethane	71-55-6
Bromomethane (Methyl Bromide)	74-83-9
Dibromofluoromethane	1868-53-7
Bromodifluoromethane	1511-62-2
Bromofluoromethane	373-52-4
Tetrabromofluoroethane	306-80-9
Tribromodifluoroethane	-
Dibromotrifluoroethane	354-04-1
Bromotetrafluoroethane	124-72-1
Tribromofluoroethane	-
Dibromodifluoroethane	75-82-1
Bromotrifluoroethane	421-06-7
Dibromofluoroethane	358-97-4
Bromodifluoroethane	420-47-3
Bromofluoroethane	762-49-2
Hexabromofluoropropane	-
Pentabromodifluoropropane	-
Tetrabromotrifluoropropane	-
Tribromotetrafluoropropane	-
Dibromopentafluoropropane	431-78-7
Bromohexafluoropropane	2252-78-0
Pentabromofluoropropane	-
Tetrabromodifluoropropane	-
Tribromotrifluoropropane	-
Dibromotetrafluoropropane	-
Bromopentafluoropropane	460-88-8
Tetrabromofluoropropane	-
Tribromodifluoropropane	70192-80-2
Dibromotrifluoropropane	431-21-0
Bromotetrafluoropropane	679-84-5
Tribromofluoropropane	75372-14-4
Dibromodifluoropropane	460-25-3
Bromotrifluoropropane	421-46-5
Dibromofluoropropane	51584-26-0
Bromodifluoropropane	-
Bromofluoropropane	1871-72-3
Bromochloromethane	74-97-5

\* Note: These materials may contain isomers that are not listed here. Isomers with CAS numbers have been included when available.

**TABLE — Ozone Depleting Substances - Hydrochlorofluorocarbons/Isomers\***

Ozone Depleting Substances/Hydrochlorofluorocarbons/Isomers*	CAS Numbers
Dichlorofluoromethane (HCFC 21)	75-43-4
Chlorodifluoromethane (HCFC 22)	75-45-6
Chlorofluoromethane (HCFC 31)	593-70-4
Tetrachlorofluoroethane (HCFC 121)	134237-32-4
1,1,1,2-tetrachloro-2-fluoroethane (HCFC 121a)	354-11-0
1,1,2,2-tetrachloro-1-fluoroethane	354-14-3
Trichlorodifluoroethane (HCFC 122)	41834-16-6

Ozone Depleting Substances/Hydrochlorofluorocarbons/Isomers*	CAS Numbers
1,2,2-trichloro-1,1-difluoroethane	354-21-2
Dichlorotrifluoroethane(HCFC 123)	34077-87-7
Dichloro-1,1,2-trifluoroethane	90454-18-5
1,1-dichloro-2,2,2-trifluoroethane	306-83-2
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4
1,1-dichloro-1,2,2-trifluoroethane (HCFC-123b)	812-04-4
Chlorotetrafluoroethane (HCFC 124)	63938-10-3
2-chloro-1,1,1,2-tetrafluoroethane	2837-89-0
1-chloro-1,1,2,2-tetrafluoroethane (HCFC 124a)	354-25-6
Trichlorofluoroethane (HCFC 131)	27154-33-2; (134237-34-6)
1-Fluoro-1,2,2-trichloroethane	359-28-4
1,1,1-trichloro-2-fluoroethane (HCFC131b)	811-95-0
1-Chloro-1-fluoroethane (HCFC-151)	1615-75-4
Dichlorodifluoroethane (HCFC 132)	25915-78-0
1,2-dichloro-1,1-difluoroethane (HCFC 132b)	1649-08-7
1,1-dichloro-1,2-difluoroethane (HCFC 132c)	1842-05-3
1,1-dichloro-2,2-difluoroethane	471-43-2
1,2-dichloro-1,2-difluoroethane	431-06-1
Chlorotrifluoroethane (HCFC 133)	1330-45-6
1-chloro-1,2,2-trifluoroethane	1330-45-6
2-chloro-1,1,1-trifluoroethane (HCFC-133a)	75-88-7
Dichlorofluoroethane(HCFC 141)	1717-00-6; (25167-88-8)
1,1-dichloro-1-fluoroethane (HCFC-141b)	1717-00-6
1,2-dichloro-1-fluoroethane	430-57-9
Chlorodifluoroethane (HCFC 142)	25497-29-4
1-chloro-1,1-difluoroethane (HCFC142b)	75-68-3
1-chloro-1,2-difluoroethane (HCFC142a)	25497-29-4
Hexachlorofluoropropane (HCFC 221)	134237-35-7
Pentachlorodifluoropropane (HCFC 222)	134237-36-8
Tetrachlorotrifluoropropane (HCFC 223)	134237-37-9
Trichlorotetrafluoropropane (HCFC 224)	134237-38-0
Dichloropentafluoropropane (HCFC 225)	127564-92-5;
2,2-Dichloro-1,1,1,3,3-pentafluoropropane(HCFC 225aa)	128903-21-9
2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC 225ba)	422-48-0
1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225bb)	422-44-6
3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC 225ca)	422-56-0
1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC 225cb)	507-55-1
1,1-Dichloro-1,2,2,3,3-pentafluoropropane(HCFC 225cc)	13474-88-9
1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC 225da)	431-86-7
1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC 225ea)	136013-79-1
1,1-Dichloro-1,2,3,3,3-pentafluoropropane(HCFC 225eb)	111512-56-2
Chlorohexafluoropropane (HCFC 226)	134308-72-8
Pentachlorofluoropropane (HCFC 231)	134190-48-0
Tetrachlorodifluoropropane (HCFC 232)	134237-39-1
Trichlorotrifluoropropane (HCFC 233)	134237-40-4
1,1,1-Trichloro-3,3,3-trifluoropropane	7125-83-9
Dichlorotetrafluoropropane (HCFC 234)	127564-83-4
Chloropentafluoropropane (HCFC 235)	134237-41-5
1-Chloro-1,1,3,3,3-pentafluoropropane	460-92-4
Tetrachlorofluoropropane (HCFC 241)	134190-49-1
Trichlorodifluoropropane (HCFC 242)	134237-42-6
Dichlorotrifluoropropane (HCFC 243)	134237-43-7
1,1-dichloro-1,2,2-trifluoropropane	7125-99-7
2,3-dichloro-1,1,1-trifluoropropane	338-75-0
3,3-Dichloro-1,1,1-trifluoropropane	460-69-5
Chlorotetrafluoropropane (HCFC 244)	134190-50-4

Ozone Depleting Substances/Hydrochlorofluorocarbons/Isomers*	CAS Numbers
3-chloro-1,1,2,2-tetrafluoropropane	679-85-6
Trichlorofluoropropane (HCFC 251)	134190-51-5
1,1,3-trichloro-1-fluoropropane	818-99-5
Dichlorodifluoropropane (HCFC 252)	134190-52-6
Chlorotrifluoropropane (HCFC 253)	134237-44-8
3-chloro-1,1,1-trifluoropropane (HCFC 253fb)	460-35-5
Dichlorofluoropropane (HCFC 261)	134237-45-9
1,1-dichloro-1-fluoropropane	7799-56-6
Chlorodifluoropropane (HCFC 262)	134190-53-7
2-chloro-1,3-difluoropropane	102738-79-4
Chlorofluoropropane (HCFC 271)	134190-54-8
2-chloro-2-fluoropropane	420-44-0

\*Note: These materials may contain isomers that are not listed here. Isomers with CAS numbers have been included when available.

**TABLE – Perchlorate Compounds**

Perchlorate Compounds	CAS Numbers
Lithium perchlorate	7791-03-9
Other perchlorate compounds	-

**TABLE – PFOS Compounds**

PFOS Compounds	CAS Numbers
Perfluorooctane Sulfonates (PFOS) C <sub>8</sub> F <sub>17</sub> SO <sub>2</sub> X, where X = OR, NR or other derivative	-

**TABLE Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)**

Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	CAS Numbers
Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	3846-71-7

**TABLE — Phthalates**

Phthalates	CAS Numbers	EC Numbers
Butyl benzyl phthalate (BBP)	85-68-7	201-622-7
Dibutylphthalate (DBP)	84-74-2	201-557-4
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	204-211-0
1,2-Benzenedicarboxylic acid diisodecyl ester (DIDP)	26761-40-0 68515-49-1	NA
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	NA
Di-n-octyl phthalate (DNOP)	117-84-0	NA

**TABLE — Polybrominated Biphenyls (PBBs)\***

Polybrominated Biphenyls (PBBs)	CAS Numbers
Polybrominated Biphenyls	59536-65-1
Dibromobiphenyl	92-86-4
2-Bromobiphenyl	2052-07-5
3-Bromobiphenyl	2113-57-7
4-Bromobiphenyl	92-66-0
Tribromobiphenyl	59080-34-1
Tetrabromobiphenyl	40088-45-7
Pentabromobiphenyl	56307-79-0
Hexabromobiphenyl	59080-40-9
hexabromo-1,1-biphenyl	36355-01-8
Firemaster FF-1	67774-32-7
Heptabromobiphenyl	35194-78-6

<b>Polybrominated Biphenyls (PBBs)</b>	<b>CAS Numbers</b>
Octabromobiphenyl	61288-13-9
Nonabromobiphenyl	27753-52-2
Decabromobiphenyl	13654-09-6

\* Note: As defined in the EU Directive 2002/95/EC

**TABLE — Polybrominated Diphenyl Ethers (PBDEs)\***

<b>Polybrominated Diphenyl Ethers (PBDEs)</b>	<b>CAS Numbers</b>
Bromodiphenyl ether	101-55-3
Dibromodiphenyl ether	2050-47-7
Tribromodiphenyl ether	49690-94-0
Tetrabromodiphenyl ether	40088-47-9
Pentabromodiphenyl ether (note: Commercially available PeBDPO is a complex reaction mixture containing a variety of brominated diphenyloxides.	32534-81-9 (CAS number used for commercial grades of PeBDPO)
Hexabromodiphenyl ether	36483-60-0
Heptabromodiphenyl ether	68928-80-3
Octabromodiphenyl ether	32536-52-0
Nonabromodiphenyl ether	63936-56-1
Decabromodiphenyl ether	1163-19-5

\* Note: As defined in the EU Directive 2002/95/EC

**TABLE — Polychlorinated Biphenyls (PCBs) and specific substitutes**

<b>Polychlorinated Biphenyls (PCBs)</b>	<b>CAS Numbers</b>
Polychlorinated Biphenyls (all isomers and congeners)	1336-36-3
Monomethyl-tetrachloro-diphenyl methane (Ugilec 141)	76253-60-6
Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21)	81161-70-8
Monomethyl-dibromo-diphenyl methane (DBBT)	99688-47-8

**TABLE — Polychlorinated Terphenyls (PCTs)**

<b>Polychlorinated Terphenyls (PCTs)</b>	<b>CAS Numbers</b>
Polychlorinated Terphenyls (all isomers and congeners)	61788-33-8

**TABLE — Polychlorinated Naphthalenes**

<b>Polychlorinated Naphthalenes</b>	<b>CAS Numbers</b>
Polychlorinated Naphthalenes	70776-03-3
Other polychlorinated Naphthalenes	-

**TABLE— (PVC) Polyvinyl Chloride**

<b>Polyvinyl Chloride</b>	<b>CAS Number</b>
Polyvinyl chloride (PVC)	9002-86-2



**TABLE — Radioactive Substances (Radioactive Isotope)**

Radioactive Substances	CAS Numbers
Uranium-238	7440-61-1
Radon	10043-92-2
Americium-241	14596-10-2
Thorium-232	7440-29-1
Cesium (Radioactive Isotopes only)	7440-46-2 (Cs-137 010045-97-3)
Strontium (Radioactive Isotopes only)	(elemental 7440-29-6) (Sr-90 10098-97-2)
Other radioactive substances	-

Note: Naturally occurring substances have been removed

**TABLE — Shortchain Chlorinated Paraffins (C10-13)**

Shortchain Chlorinated paraffins (C10-13)	CAS Numbers	EC Numbers
Chlorinated paraffins (C10-13)	85535-84-8	287-476-5

Note: Only short-chain chlorinated paraffins with carbon length of 10-13 atoms are covered

**TABLE — Certain Tributyl Tins (TBTs) and Triphenyl Tins (TPTs)**

Tributyl Tin, Triphenyl Tin	CAS Numbers
Triphenyltin=N, N-dimethyldithiocarbamate	1803-12-9
Triphenyltinfluoride	379-52-2
Triphenyltinacetate	900-95-8
Triphenyltinchloride	639-58-7
Triphenyltinhydroxide	76-87-9
Triphenyltin fattyacid((9-11)salt)	18380-71-7 18380-72-8 47672-31-1 94850-90-5
Triphenyltinchloroacetate	7094-94-2
Tributyltinmethacrylate	2155-70-6
Bis(tributyltin)fumalate	6454-35-9
Tributyltinfluoride	1983-10-4
Bis(tributyltin)2,3-dibromosuccinate	31732-71-5
Tributyltinacetate	56-36-0
Tributyltinlaurate	3090-36-6
Bis(tributyltin)phthalate	4782-29-0
Copolymer of alkyl(c=8) acrylate,methyl methacrylate and tributyltin methacrylate	67772-01-4
Tributyltinsulfamate	6517-25-5
Bis(tributyltin)maleate	14275-57-1
Tributyltinchloride	1461-22-9, 7342-38-3
Tributyltin cyclopentane carbonate=mixture	5409-17-2
Tributyltin-1, 2,3,4,4a, 4b, 5,6,10,10a-decahydro-7-isopropyl-1, 4a-dimethyl-1-phenanthrenecarboxylatemix	26239-64-5

**TABLE — Tributyl Tin Oxide**

Tributyl Tin Oxide	CAS Numbers	EC Numbers
Bis(tri-n-butyltin) oxide	56-35-9	200-268-0

**TABLE – Tris (2-chloroethyl) phosphate (TCEP)**

Tris (2-chloroethyl)phosphate	CAS Numbers	EC Numbers
Tris (2-chloroethyl)phosphate (TCEP)	115-96-8	NA

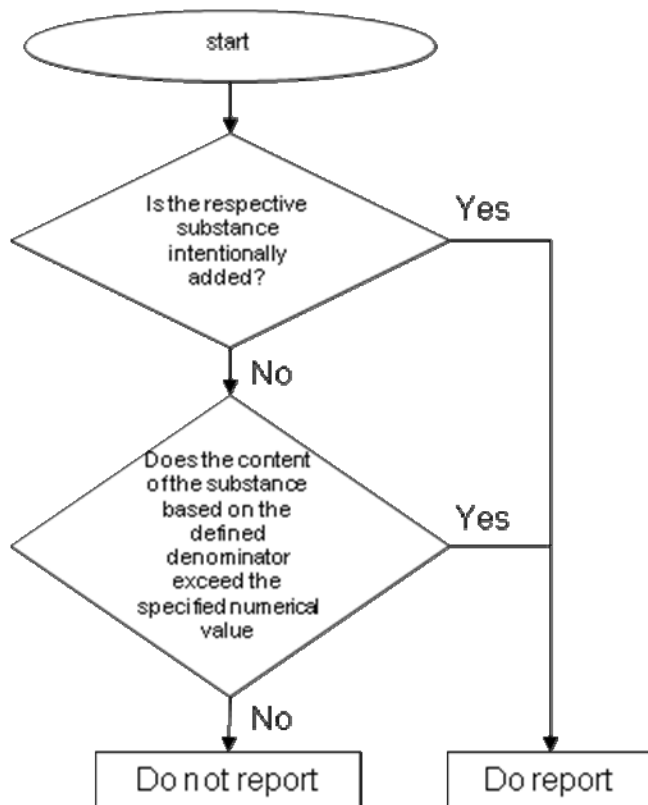
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**Annex C (Normative) Dual Threshold Level and Reporting Flow Chart**

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Figure C-1 – Reporting flow chart

Note: This flow chart is only applied when dual thresholds are set for the same substance category with the same reportable application.



**Annex D (Normative) Set of Data Fields**

#	Category	Data field	Status	Description
1	DECLARATION	Response Date (timestamp date e.g. DD-MON-YYYY)	Required	The declaration contains a date and time identifier.
		Declaration note	Optional	Additional information about the declaration may be added
2	INFORMATION SENDER	Company Name	Required	The company name.
		DUNS	Optional	Dun&Bradstreet's Data Universal Numbering System. <a href="http://www.dnb.com">http://www.dnb.com</a> . The D&B D-U-N-S Number is the standard for keeping track of the world's businesses. Its unique nine-digit code helps identify and link more than 60 million companies worldwide.
		Address	Optional	The address of company.
		Contact Name	Optional	The name of the contact person at the company.
		Email-Contact	Optional	Email-address for the contact person
3	PRODUCT	Product Name	Required	The item that the respondent is supplying (e.g., assembly, subassembly, component).
		Supplier's Product Number	Required	The supplier product item number
		Receiver's Product Number	Optional	The customer product item number
		Product Total Mass (g)	Required	Grams of the Product Total mass. Disclosure must be in SI units as defined in ISO 31.
4	SUBSTANCE GROUP/ SUBSTANCE	Substance Group/ Substance Name	Required	From Annex A (Normative)
		Substance Group/ Substance present or not (Y/N) above threshold level	Optional	Provides declaration that substance group/ substance is not present above threshold level in product which is declared. Allows for negative declaration, if desired.
		Substance CAS-number, or EC number or ISO Number	Required* Optional	Chemicals Abstract Service Numbering System. ISO International Standards number for identifying substance. * Mandatory only when declaring the substances shown with CAS number or EU number in Table A.
		Substance Group/ Substance Mass (g)	Required	Substance Group/substance mass in grams if present above the threshold level. Disclosure must be in SI units as defined in ISO 31.
		Substance Group/ Substance (wt %)	Optional	Weight percentage of Substance Group/Substance mass if present above threshold levels
		Detailed Substance Information	Optional	Location/application information. This object may be needed for ensuring e.g., RoHS-compliance.
		Detailed Substance Note	Optional	Additional information about the substance. If applicable, additional information about radioactivity, e.g. radioactivity isotope name and code, max activity Level (MBq), typical activity level (MBq)

**Annex E (Informative) Examples of Material Declaration Forms**

This annex provides two examples of a declaration for the same product meeting the requirements of this Guide. Example 1 represents the most basic form limited to required data fields only. Example 2 is more detailed. It lists all required fields and provides in addition the optional "negative declaration" field and the optional field on "detailed substance information".

**EXAMPLE 1 — SAMPLE MATERIAL DECLARATION FORMAT WITH REQUIRED DATA FIELDS**

**Date:** 21-JUL-2009  
**Company Name:** Any Company  
**Product Name:** Motor  
**Product Number:** 001  
**Product Total Mass (g):** 500.0 g

Substance Category Name	Substance Mass (g)
Lead/lead compounds	0.2
Polyvinyl Chloride (PVC)	2.0

**EXAMPLE 2 — SAMPLE MATERIAL DECLARATION FORMAT WITH OPTIONAL DATA FIELDS THAT ACHIEVES NEGATIVE DECLARATION**

**Date:** 21-JUL-2009  
**Company Name:** Any Company  
**Product Name:** Motor  
**Product Number:** 001  
**Product Total Mass (g):** 500.0g

**Criteria 1 – R (Regulated) Substance Declaration:**

Substance Category Name	Substance Category present (Y/N) above threshold level	Substance Mass (g)	Detailed Substance Information
Asbestos	N		
Azocolorants and azodyes which form certain aromatic amines	N		
Cadmium/Cadmium compounds	N		
Chromium VI compounds	N		
Diarsenic pentoxide	N		
Diarsenic trioxide	N		
Fluorinated greenhouse gases (PFC, SF6, HFC)	N		
Formaldehyde	N		
Hexabromocyclododecane (HBCDD) and all major diastereoisomers	N		
Lead/lead Compounds	Y	0.2	Solder
Mercury/Mercury Compounds	N		
Nickel	N		
Ozone Depleting Substances	N		
Perchlorates	N		
Perfluorooctane sulfonate (PFOS)	N		
Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	N		
Phthalates DEHP, DBP, BBP	N		
Phthalates DINP, DIDP, DNOP	N		
Polybrominated Biphenyls (PBBs)	N		
Polybrominated Diphenylethers (PBDEs)	N		
Deca-bromodiphenylether (Deca-BDE)	N		

Substance Category Name	Substance Category present (Y/N) above threshold level	Substance Mass (g)	Detailed Substance Information
Polychlorinated Biphenyls (PCBs) and specific substitutes	N		
Polychlorinated Terphenyls (PCTs)	N		
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	N		
Radioactive Substances	N		
Shortchain			
Chlorinated Paraffins (C10 – C13)	N		
Certain Tributyl Tin (TBT) and Triphenyl Tin (TPT)	N		
Tributyl Tin Oxide (TBTO)	N		

**Criteria 2 – A (For Assessment Only) Substance Declaration:**

Substance Category Name	Substance Category present or not (Y/N) above threshold level	Substance Mass (g)	Detailed Substance Information
Tris (2-chloroethyl) phosphate(TCEP)	N		

**Criteria 3 – I (For Information Only) Substance Declaration:**

Substance Category Name	Substance Category present or not (Y/N) above threshold level	Substance Mass (g)	Detailed Substance Information
Beryllium Oxide (BeO)	N		
Brominated Flame Retardants (other than PBBs, PBDEs, or HBCDD)	N		
Polyvinyl Chloride (PVC)	Y	2.0	Cables

**EXAMPLES OF OTHER MATERIAL DECLARATION FORMATS:**

For examples of other material declaration format and tools, see:

JGPSSI – <http://www.jgpssi.jp/>

RosettaNet – <http://www.rosettanet.org>

IPC 1752 – [www.ipc.org/ipc-175x](http://www.ipc.org/ipc-175x)

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## Annex F (Informative) REACH Screening Methodology

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EU regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) entered into force on June 1, 2007. REACH Article 33 requires certain chemical information to be supplied to recipients and consumers and Article 7.2 requires notification to the European Chemicals Agency (ECHA) on articles containing substances of very high concern (SVHC) listed on the candidate list. The first candidate list was published on Oct. 28, 2008. If a substance on the candidate list exceeds the concentration of 0.1 % weight in the article, the recipient needs to be informed immediately. If in addition, the quantity of such a substance contained in all articles of a legal entity exceeds the tonnage of 1 ton per year, notification to ECHA becomes mandatory (as of June 1, 2011).

As REACH regulates chemical across all industries, not all of the substances publicized on the candidate list occur in products of the electrotechnical industry. Therefore, this Guide introduces a generic screening methodology. This screening methodology allows identifying only those substances that are relevant for the electrotechnical industry product disclosure.

The following three criteria and point scores are provided as conditions for indentifying relevant declarable substances using this screening method.

- 1) Substance is identifiable by a CAS number or an EC number (1 point). Substances that do not meet this criterion will score “-10.”
- 2) Substance potentially remains in the product after its production (1 point). This criterion eliminates manufacturing substances that are not part of final product (e.g., substances that represent a gas or liquid). Substances that do not meet this criterion will score “-10.”
- 3) Application information exists indicating the use of the substance in products of the electrotechnical industry (add 1 point to the score for each type of application). Such information is gathered from public databases relating to chemical substances which are readily accessible and information contained in REACH related EU member countries’ documentation such as the Dossier (when Dossier is available). Then, technical knowledge of industry chemical experts is applied to determine known historical and/or existing uses of the substance in electrotechnical products.

Only substances that score with “1” for the first two criteria can have further scores for criterion 3). Substances with a total score of 3 points or higher are included in the JIG declarable substance list after final review and regional approval.

The above described generic screening method was applied to the candidate list of 15 substances published by ECHA on October 28, 2008, resulting in 8 substances that were found to meet the relevancy criteria. These 8 substances are listed under Criteria 1-R in Annex A (Table A), indicating that there is an immediate legal obligation for reporting. The screening method was also applied to the 7 substances listed in the “Registry of Intentions” published by ECHA. This Registry provides information on the intentions of the Member States to submit future proposals for identification of SVHCs. The Registry of Intentions can be used as a source for early information on substances that may be transferred to the candidate list in the future and allows users of this Guide to proactively prepare for REACH. One substance from the Registry of Intentions meets the criteria; it is listed as Criteria 2-A in Annex A (Table A), reflecting the fact that the effective date for the legal reporting obligation is yet unknown.

Figure F-1 shows the final results of the screening method when applied to 15 substances of the REACH candidate list and the 7 substances of the Registry of Intentions. The substances that meet the screening criteria are highlighted by an asterisk in the rightmost column.

Note: Supplier information provided based on this “JIG REACH screening list” does not guarantee compliance with the REACH Regulation for the Article 33 communication and Article 7.2 notification duty for articles. Please consult with legal counsel regarding compliance.

Figure F-1 JIG REACH Screen Process Score Sheet

JIG REACH Screening Methodology for Relevance to Electrotechnical Products

				Application (Positive factor for Electrotechnical Products)																	Add to JIG Passed REACH Screen				
No.	Substance Name	CAS #	EC #	N/A	CAS # or EC # ID	Does not remain in product	Remains in product	Colorant /dye	Surface Finish (ink, paint, plating)	Surfactant /lubricating	Antioxidant	Dielectrics		Wood	Metals/ metal alloys	Glass/ ceramic	Additive of plastic, rubber, and other polymers								
												Additive	Preservative	Preservative	Additive	Additive	Photo degradation prevention	Flame retardant	Plasticizer	Filler		Other additive (eg. cunnig agents, etc)			
<b>Candidate list published on 10/28/08</b>				-10	1	-10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Total	
1	Anthracene	120-12-7	204-371-1		1		1																	2	
2	4,4'- Diaminodiphenylmethane	101-77-9	202-974-4		1		1																	2	
3	Dibutyl phthalate	84-74-2	201-557-4		1		1	1	1	1						1					1			8	*
4	Cobalt dichloride	7646-79-9	231-589-4		1		1																	2	
5	Diarsenic pentaoxide	1303-28-2	215-116-9		1		1	1		1				1	1	1								7	*
6	Diarsenic trioxide	1327-53-3	215-481-4		1		1	1	1					1	1	1							1	8	*
7	Sodium dichromate	7789-12-0, 10588-01-9	234-190-3		1		1																	2	
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4		1		1								1									2	
9	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	204-211-0		1		1	1	1					1								1		6	*
10	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD)	134237-50-6, 134237-51-7, 134237-52-8	247-148-4, 221-695-9		1		1													1				3	*
11	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	65635-84-8	267-476-5		1		1			1											1	1		5	*
12	Bis(tributyltin)oxide	56-35-9	200-268-0		1		1	1						1									1	5	*
13	Lead hydrogen arsenate	7784-40-9	232-064-2		1		1																	2	
14	Benzyl butyl phthalate	85-68-7	201-622-7		1		1	1	1													1		6	*
15	Triethyl arsenate	15606-95-8	427-700-2		1		1																	2	
																						<b>Total</b>	<b>8</b>		
<b>(Registry of Intentions)</b>																									
1	Residues (coal tar), pitch distn. ; Pitch Redistillate	92061-94-4	295-507-9		1		1																	2	
2	Distillates (coal tar), heavy oils ; Heavy Anthracene Oil	90640-86-1	292-607-4		1		1																	2	
3	Distillates (coal tar), heavy oils, pyrene fraction ; Heavy Anthracene Oil Redistillate	91995-42-5	295-304-5		1		1																	2	
4	Distillates (coal tar), pitch, pyrene fraction ; Heavy Anthracene Oil Redistillate	91995-52-7	295-313-4		1		1																	2	
5	Pitch, coal tar, high-temp. ; Pitch	65996-93-2	266-028-2		1		1																	2	
6	tri(2-chloroethyl)phosphate	115-96-8			1		1			1											1			4	*
7	Arsenic and its salts			-10			1																	-9	
																						<b>Total</b>	<b>1</b>		

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## **Annex G (Informative) JIG Update Process**

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Due to the changing regulatory and industry substance declaration requirements, this Guide will be updated on an annual basis. The maintenance process is discussed below.

During the maintenance process, the general document and its Annexes will be reviewed. A special focus will be put on the JIG declarable substance list to ensure that it is up to date, including a review of the:

- Declarable substance list (Annex A): addition, modification or deletion;
- Detailed substance list (Annex B): addition, modification or deletion; and
- Revision of the threshold levels.

### Organizational structure

- International JIG Steering Committee (SC):
  - a. Composed of representatives from CEA, DIGITALEUROPE & JGPSSI
  - b. SC members will be the Representative, Deputy Representative and Revision Review Team Leader for each region
  - c. The Steering Committee Secretariat will be established at CEA.
- Revision Review Teams (RRT):
  - a. Will be formed individually by CEA, DIGITALEUROPE and JGPSSI. These 3 associations have regional responsibilities (CEA - US, DIGITALEUROPE - Europe and JGPSSI – Japan) and are accountable for the member composition in their RRT;
  - b. Will include Participation by stakeholders for each region (participation will be left to the discretion of each regional association); and
  - c. Will have a leading role for legislative updates within their region.

### Annual revision process and proposed schedule

- Review by the Revision Review Team in each region (May – July annually)
  - Minutes of each Revision Review Team will be shared with other regions
- Creation of Revision Request Forms (July – August annually)
  - Completed individually by each regional Revision Review Team and focusing on regional responsibility. Results will be shared with other regional teams by end of August
- Review of the Revision Request Form (September – November annually)
  - Cross regional review and opinion exchange on submitted Revision Request Forms
  - Preliminary decisions on submitted Revision Request Forms will be prepared by conferences of the Steering Committee
- International Steering Committee Meeting (December annually)
  - Objective of this meeting will be to examine the results of each organization's Revision Request Form review and reach a final conclusion
  - Venue of this meeting should be rotated among the regions
- Editing of the Revised JIG (January annually)
  - CEA Secretariat will edit revised JIG reflecting the decisions of the SC.
- Regional approval of the Revised JIG (February annually)
  - Approval process is left to the discretion of the leading association
- Release of the Revised JIG (March annually)
  - CEA Secretariat will release the revised JIG on March 15



- CEA Secretariat will issue a joint press release

NOTE: Annexes can be modified or added as interim updates following a condensed review process and an accelerated balloting schedule. Example: Modification of Annex A based on legal developments that require immediate maintenance action. All other maintenance actions should follow the regular annual maintenance process as described above. JIG revisions will be called JIG -101 Ed. x.y. where “x” refers to the annual update and “y” specifies the interim update.

**Annex H (Informative) JIG Revision History**

This annex lists the key milestones in the development of the JIG and summarizes the changes made.

JIG Revision #	Date	Summary of Updates
<b>JIG -101</b>	April 2005	<ul style="list-style-type: none"> <li>• First guide of this series.</li> <li>• Concept of two criteria: regulated (Level A) and market need (Level B).</li> </ul>
<b>JIG -101A</b>	Sept. 2007	<ul style="list-style-type: none"> <li>• Minimal changes to the declarable substance list and its annexes. Mainly regulatory updates like the addition of Polychlorinated Terphenyls (PCT) and a revised reporting threshold for Nickel as well as some editorial changes.</li> <li>• Material/substance, thresholds levels, legal and regulatory information and examples of use have been combined from several annexes for both level A &amp; B to enhance readability.</li> <li>• Threshold level and reporting level flow charts have been added to further explain the concept of dual reporting levels (numerical threshold or “intentionally added”) a concept already introduced in JIG-101 but not understood by all users.</li> </ul>
<b>JIG -101 Ed 2.0</b>	April 2009	<ul style="list-style-type: none"> <li>• Batteries are now explicitly covered by JIG. Specific threshold levels for this application have been added to Table A.</li> <li>• When legislation restricts substances only in specific reportable applications, such reportable applications are specified; Reporting is required only when the product declared falls under the reportable applications.</li> <li>• Regulatory updates triggered the revision of JIG declarable substance list: Fluorinated Greenhouse Gases, Formaldehyde, Perchlorates, Perfluorooctanesulfonate, Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl), have been added, and some threshold levels have been adapted.</li> <li>• Criteria for determining the threshold level have been added.</li> <li>• Three criteria now determine if substances shall be declared. These revised criteria replace the former criteria for level A and level B disclosure. The criteria have been revised to act more proactively and with a broad industry consensus.</li> <li>• All declarable substances appear in single list. This JIG declarable substance list records also the rationale for inclusion (criteria 1 - R (Regulated), criteria 2 – A (For Assessment Only), criteria 3 – I (For Information Only)).</li> </ul>

JIG Revision #	Date	Summary of Updates
		<ul style="list-style-type: none"> <li>• European REACH regulation (EC 1907/2006) entered into force on June 1, 2007. With respect to electrotechnical products, Article 7.2 (Notification) and Article 33 (Information communication) both require knowledge of substances of very high concern (SVHC) listed on the REACH candidate list that are contained in the products above 0.1% by weight. To identify SVHCs that are relevant for the electrotechnical industry, a generic scientific screening methodology has been established and included in this Guide. Substances that are determined to be relevant for disclosure due to the application of this screening methodology to the candidate list published on Oct. 28, 2008 and the Registry of Intentions (ROI) have been added to Annex A. The inclusion of relevant substances from the ROI offers JIG users the possibility to proactively prepare for REACH as these substances may be transferred to the candidate list in the future.</li> <li>• Maintenance chapter added, detailing the regular update cycle that will be applied to the future annual revisions of JIG-101.</li> <li>• History chapter added.</li> </ul>

DIGITALEUROPE 



*Association Connecting Electronics Industries*

