

Green Procurement



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Revision History

Rev	Name	Change	Date
<i>Refer to internal doc. control system for details on earlier revisions</i>			
29	Troy Schulze	5.8.1 – Laboratory Analysis – Updated to include fluorine analysis for PFAS detection (alignment to SQ03-0188)	6/1/2023
30	Troy Schulze	<p>Title change</p> <p>Deleted JIG-201 Packaging List and Substance Restrictions in Packaging section</p> <p>Appendix I – Added link to IEC 62474 homepage with instructions to download the latest DLS and RSL.</p> <p>Added Appendix II – Reportable Substances and Future Restrictions (changed from previous Skyworks – Supplemental Substance Restrictions list).</p> <p>Deleted obsolete links and references throughout</p> <p>General document clean-up throughout</p>	2/16/2024

1 Purpose and Scope

1.1 Purpose

This specification provides requirements to suppliers and procurement teams as well as design teams regarding Skyworks Solutions' standard of **Substance Restrictions in Products** applicable to products, components, and materials supplied to Skyworks Solutions. This specification has been developed to fulfill the following requirements:

- To ensure suppliers, supplied materials, and Skyworks finished goods comply with applicable legal, regulatory, and end-customer requirements
- To prevent specific substances from being used in Skyworks' products
- To provide Skyworks the necessary information to fully identify and declare the materials make-up of all Skyworks finished goods
- To provide guidance to suppliers regarding substances for future phase-out
- To reduce adverse impacts to the environment from the materials make-up of Skyworks finished goods

1.2 Scope

The scope of this document is applicable to Product, Component, and Material Suppliers whose supplied materials to Skyworks are for incorporation into Skyworks products. This includes:

- Semi or Fully assembled parts (e.g. module, functional units, board assemblies, and other assembled parts and accessories)
- Parts (e.g. electrical parts, mechanical parts, semiconductor devices, PWB-s)
- Materials (e.g. wire, solder paste, epoxy, etc...)
 - Packaging that does not remain in the final product is not covered by this specification (e.g. trays, reels, sticks, bags, cushions, staples, sheets, wraps, tapes, labels, corrugated cardboard, wooden frames, pallet, vinyl ties, and inks or paints for printing)

For some specific applications (e.g. aerospace, military applications), portions of this document may be exempted at the discretion of Skyworks.

2 Acronyms / Terminology and Description / Definition

Green	Refer to Skyworks controlled definition in <u>SQ04-0074 - Skyworks Definition of Green.</u>
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 or subpart where its continued presence is desired to provide a specific characteristic, appearance or quality. If listed materials or substances are contained in products or subparts purchased by supplier and are incorporated, such materials/substances must be disclosed.

Lead Free	Refer to Skyworks controlled definition in SQ04-0073 - Skyworks Definition of Pb-Free .
Packaging	Materials used to prepare a product for shipment including Reels, bags, trays and inner and outer boxes. Packaging that does not remain in the final product are not covered by this specification.
Substances	Substances are chemical elements and their compounds. CAS numbers are provided for these substances where known.
Threshold level	Concentration level, which defines the limit, above which substance bans or restrictions apply (refer to Substance Restriction Lists).

3 Associated Documents

3.1 For Suppliers

Access to key information applicable to suppliers can be found on external website on the [Suppliers](#) page. The documents listed below are incorporated into the contractual agreement between the supplier and Skyworks (either via contracts or a Purchase Order agreement).

- SQ02-0020 - [Supplier Quality Manual](#)
- SQ03-0337 – [Supplier Sustainability Specification](#)
- SQ03-0132 – [Green Procurement](#) (this document)

3.2 Internal

Listed here are Skyworks documents detailing internal requirements associated with this document. These documents are not available to the supplier and are referenced here only for Skyworks' reference.

SQ03-0138 – Supplier Qualification and Monitoring

SQ03-0185 - Material and Part Compliance

3.3 External References

- IEC 62474 - Material Declaration for Products of and for the Electrotechnical Industry
- IPC/DEDEC J-STD-609 – "Marking, Symbols, and Labels of Leaded and Lead-Free Terminal Finished Materials Used in Electronic Assembly."
- DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast)
- Directive (EU) 2015/863 (a.k.a. RoHS 3)
- Directive 2002/96/EC of the European Parliament and the Council of 27 January 2003 titled The Waste Electrical and Electronic Equipment (WEEE).
- 2006/122/EC (Amendment for the 30th time council Directive EU 76/769/EEC)
- Directive EC 1907/2006 - **R**egistration, **E**valuation, **A**uthorization and Restriction of **C**hemical Substances (REACH)

4 Supplier Responsibilities

Overall Supplier requirements pertaining to Sustainability are found in the [Supplier Sustainability Specification \(SQ03-0337\)](#). This document (Green Procurement) is referenced therein. [In-scope](#) suppliers shall adhere to the materials restrictions and other requirements as detailed in this document and shall provide Skyworks with completed materials information and supporting [laboratory analysis](#) via the [Green Supplier Survey \(GSS\)](#) process on request.

5 Requirements

5.1 Management System

Skyworks requires its suppliers maintain a management system to manage the requirements of this specification. Suppliers shall have established their own Substance Restriction lists which meet, at a minimum, the substance requirements within this specification. Upon request by Skyworks, Suppliers shall provide documented proof showing the source of all materials content data provided to Skyworks.

5.2 Substance Restrictions in Products

Skyworks bases its materials restrictions in products on the International Electrotechnical Commission's (IEC) [IEC 62474 - Material Declaration for Products of and for the Electrotechnical Industry](#). As stated by the IEC, "The electrical and electronics industry and its supply chain use material declarations to track and declare specific information about the material composition of its products. To harmonize requirements across the supply chain and to improve economic efficiencies, IEC 62474 provides an International Standard for the exchange of material composition data and provide requirements for material declarations. This International Standard benefits the electrotechnical industry by establishing requirements for reporting of substances and materials, standardizing protocols, and facilitating transfer and processing of data." The IEC's **Declarable Substance List (DSL)** has been incorporated into this specification. Instructions to download the latest version of the DSL can be found in [Appendix I](#). Also download the *Reference Substance List (RSL)* which provides additional details/information on *DSL* substances. **Reportable Substances and Future Restrictions** can be found in [Appendix II](#). **Suppliers shall adhere to the requirements and restrictions referenced in both Appendix I and II.**

The *DSL* identifies substances according to three criteria; 'Criteria 1,' which identifies those substances currently regulated; 'Criteria 2,' which identifies those substances with potential to be regulated, prompting their use to be assessed; and 'Criteria 3,' which identifies those substances not currently regulated, but where market-driven reporting is required for electrotechnical products to enable implication assessments against industry standards and agreements. **ALL substances on the DSL (Criteria 1, 2, and 3) are prohibited above referenced thresholds in all [in-scope materials](#) provided to Skyworks.**

5.2.1 Exceptions to IEC 62474 DSL ([Appendix I](#)) Restrictions

- Per- and Polyfluoroalkyl Substances (PFAS) – Follow information and restrictions referenced in [Appendix II](#).
- REACH Candidate List of SVHC's – Follow information and restrictions referenced in [Appendix II](#).

5.3 Regulatory Exemptions

All valid exemptions approved and referenced in the EU RoHS2 standard (Directive 2011/65/EU) as well as exemptions as referenced in the EU PFOS standard (2006/122/EC) may be utilized.

5.4 Conflict Minerals

Refer to [SQ03-0337 – Skyworks Supplier Sustainability Specification](#), for special requirements applicable to suppliers of metals identified as "Conflict Minerals."

5.5 Labeling Requirements

Refer to the marking and labeling requirements as specified in IPC/DEDEC J-STD-609 (latest revision) – “Marking, Symbols, and Labels of Leaded and Lead-Free Terminal Finished Materials Used in Electronic Assembly.”

Where applicable, also refer to the requirements as detailed in DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast) – Also known as RoHS2.

5.6 Green Supplier Survey

It is the responsibility of all [in-scope](#) suppliers to comply with the materials restriction, reporting and labeling requirements contained in this procedure for all parts and substances and raw materials sold to Skyworks. Material declaration, reporting, and certification to the requirements of this specification shall be completed according to Skyworks Green Supplier Survey process on request from Skyworks.

Upon receiving a survey request from Skyworks, suppliers are responsible for completing the survey according to instructions provided.

In-scope suppliers are prohibited from supplying materials to Skyworks that are not in full compliance to this specification and must disclose to Skyworks any potential non-conformance via Green Supplier Survey.

5.6.1 Laboratory Analysis

Upon request from Skyworks, Supplier shall provide laboratory analysis (from a third-party analytical company such as SGS) to verify the information provided in the Green Supplier Survey. The required analytical is summarized in the table below. Requests for laboratory analysis will typically be made along with the Green Supplier Survey.

Chemical or Chemical Group	Test Results Required For:	Test Method
Arsenic (As)	Glass	Total acid digestion followed by ICP-MS
Beryllium	Metal alloys that contain copper and beryllia ceramics. For metals and alloys that contain copper and solder, it is acceptable to submit a Certified Mill Test Report (also known as a Mill Test Certificate) in lieu of a test report as defined later in this section, if it provides full composition information	US EPA 3050B US EPA 3052 ICP-AES in addition to ICP-MS ICP-OES in addition to ICP-MS
Bis(2-ethylhexyl) phthalate (DEHP) Butyl benzyl phthalate (BBP) Cadmium (Cd) Dibutyl phthalate (DBP) Diisobutyl phthalate (DIBP) Hexavalent Chromium (Cr6+) Lead (Pb) Mercury (Hg) Polybrominated biphenyl (PBB) Polybrominated diphenyl ether (PBDE)	All materials. Test reports are not required for PBB, PBDE, DEHP, BBP, DBP, and DIBP in metals, glass, or ceramic	Methods described or referenced in IEC 62321 ISO17075-2 for Hexavalent Chromium (Cr6+) in leather EN 14372 followed by GC-MS for Phthalates

Bromine (Br) Chlorine (Cl) Fluorine (F)	All materials except metals and ceramics	EN 14582 US EPA SW-846 5050/9056 ASTM D 7359-14a, DIN 53474:2017-12, or IEC62321-3-2, followed by IC testing
PFOS PFOA	Inks, leather, coated textiles, lubricants, coatings (e.g., primers, varnishes, paints, CVDs, photoresist, solder resist; see Definitions section), fluoropolymer materials	DIN CEN/TS 15968 LC-MS-MS methods that can achieve an MDL of 25 ppb
Any other substance listed in Skyworks Green Procurement Supplier Specification – SQ03-0132	Any material if requested by Skyworks	As required

All test reports must meet the following requirements:

- Test reports may be no more than two years old.
- Materials tested must be homogeneous. Test reports that are not at a homogeneous level (e.g. modules made up of several homogeneous materials tested after grinding the entire subassembly) are not acceptable.
- A nationally or internationally certified laboratory must issue the test report. Supplier owned laboratories are acceptable if they are independently certified. One example of international certification is ISO 17025.
- Test reports based on X-ray Fluorescence Spectroscopy (XRF) are not acceptable forms of compliance documentation.
- An analytical process flow chart is required for each lab analytical report.
- All compliance documentation (e.g. test reports and declarations) must be retained by the supplier for a minimum of ten years as part of the supplier’s records-keeping process. Digital formats are acceptable unless otherwise noted.

5.7 Product Change Notice (PCN)

Any change to the material content of an approved material must be reported in written form to Skyworks Solutions. Refer to the Supplier Process Change Notice (PCN) requirements as referenced in the [Supplier Quality Manual \(SQ02-0020\)](#). Upon approval of a supplier PCN that changes the materials content of a part or supplied material, the supplier will be issued a new [Green Supplier Survey](#) which must be completed and returned to Skyworks promptly upon receipt.

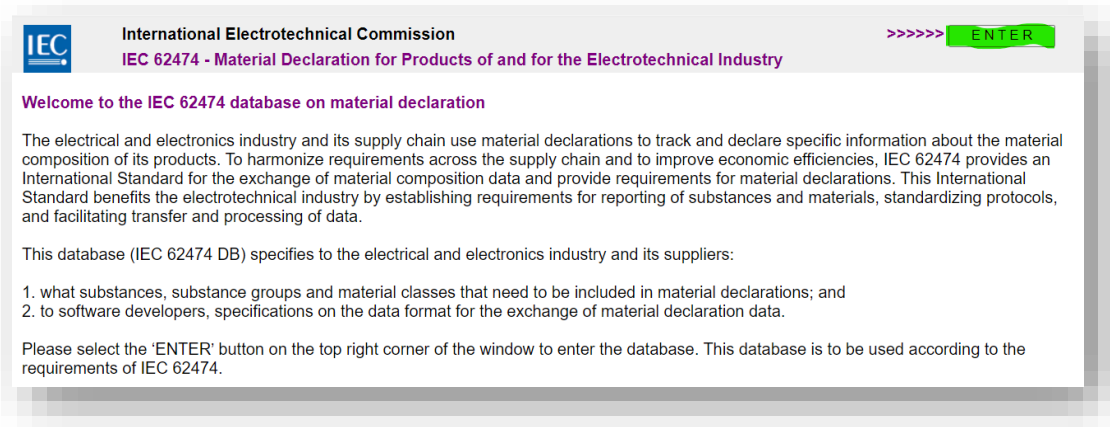
6 Quality Records

<i>DESCRIPTION</i>	<i>COLLECTION</i>	<i>STORAGE/FILING</i>	<i>MINIMUM RETENTION PERIOD</i>	<i>DISPOSITION</i>
Green Supplier Survey	Database	Electronic - SupplierSoft	10 years	Archive

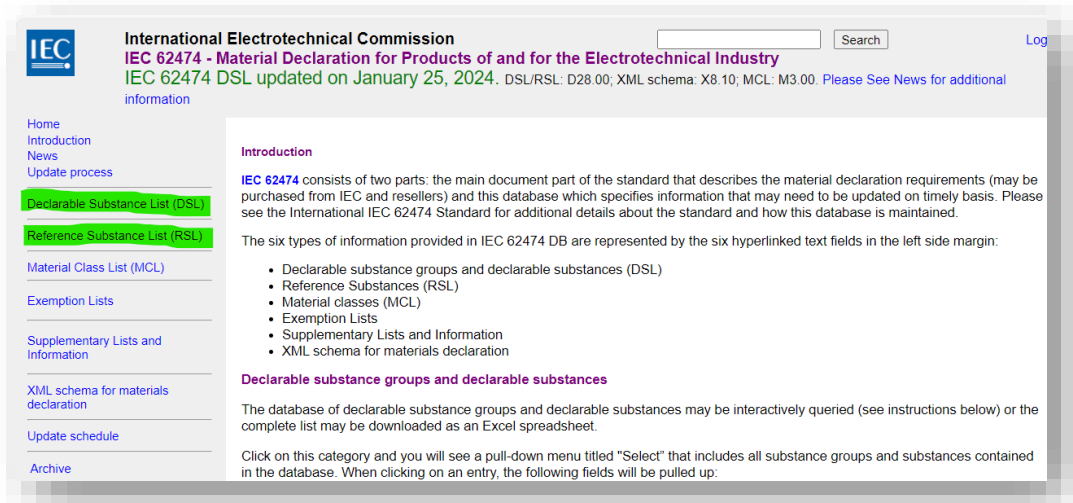
Appendix I – IEC 62747 Declarable Substance List and Reference Substance List

Follow these instructions to access and download the latest versions of the DSL and RSL.

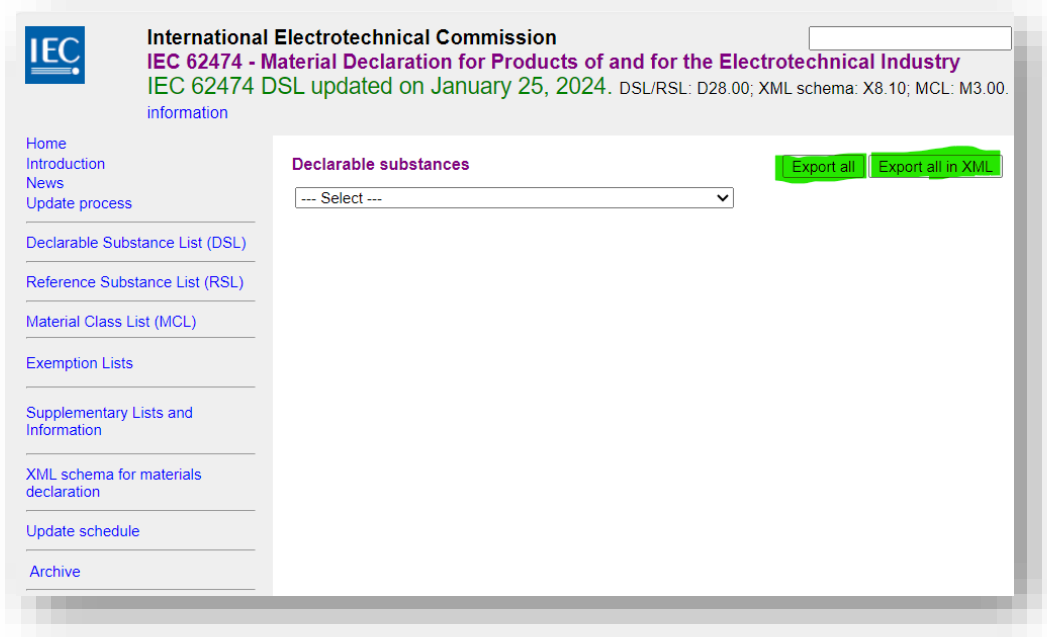
1. Go to the [IEC 62474 Homepage](#)
2. Click the “Enter” button at the upper right



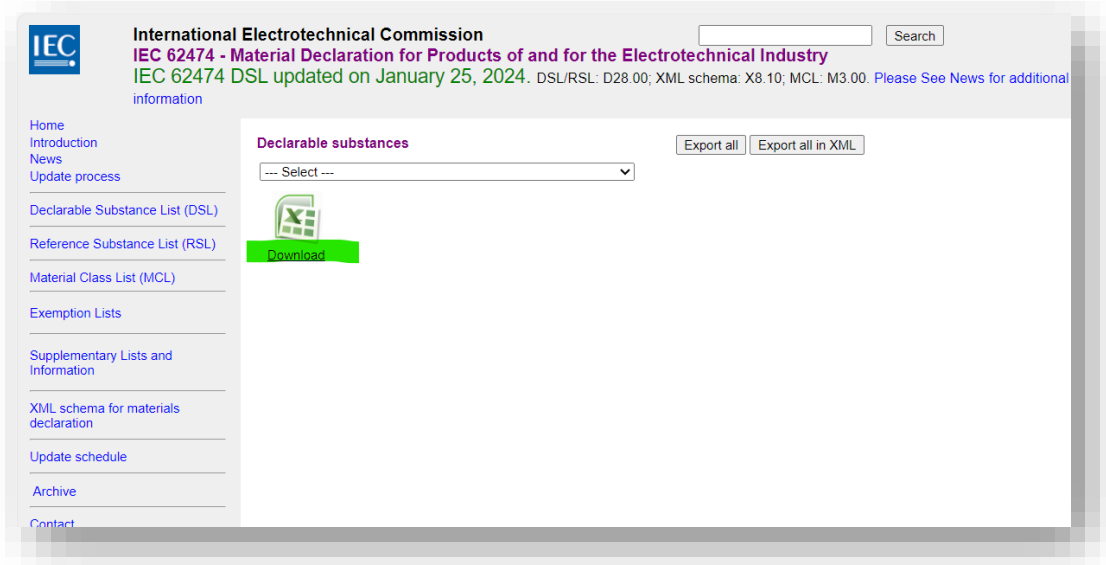
3. On the menu bar at the left, click “Declarable Substance List (DSL)” or “Reference Substance List (RSL)” depending on the list you wish to download. The RSL provides additional information on substances identified on the DSL.



4. Click your preference to "Export all" (exports as Excel) or "Export all in XML."



5. Save the exported file.



Appendix II – Reportable Substances and Future Restrictions

Chemical or Chemical Group	Substance Identifier or CAS No.	Reporting Threshold	Examples	Phase-Out & Future Restrictions	References
Per- and Polyfluoroalkyl Substances (PFAS)	See Skyworks PFAS Definitions and Substance List - SQ03-0701	25 ppb for non-polymeric PFAS 50 ppm for polymeric PFAS	Lubricants, corrosion resistance coatings, top coats, water repellency coatings, plastics	Begin phase-out immediately. Restriction by October 2025 for all but EU-approved essential use exemptions.	See Skyworks PFAS Definitions and Substance List - SQ03-0701
Perfluorohexanoic Acid (PFHxA)	See Skyworks PFAS Definitions and Substance List - SQ03-0701	25 ppb for the sum of PFHxA and its salts 1,000 ppb for the sum of PFHxA related substances	Protective coatings, color filter resist coatings	Prohibited	See Skyworks PFAS Definitions and Substance List - SQ03-0701
REACH Candidate List of SVHCs	Check the ECHA website for the updated list at http://echa.europa.eu/candidate-list-table	1,000 ppm at the material level		Begin phase-out immediately. Expect future restrictions	REACH Candidate List of SVHCs
Bisphenol Chemicals		100 ppm	Adhesives, plastics, epoxy resin	Begin phase-out immediately. Expect future restrictions	Skyworks
Brominated Organic Solvents		100 ppm		Begin phase-out immediately. Expect future restrictions	Skyworks
Formaldehyde-releasing substances	Including but not limited to the compounds in the reference link.	Formaldehyde released from substance exceeds a concentration of 0.124 mg/m ³ in the air of a test chamber used under the conditions prescribed in EN 717-1.		Begin phase-out immediately. Expect future restrictions	https://echa.europa.eu/documents/10162/13641/rest_formaldehyde_axvreport_en.pdf/
Parts/Components utilizing RoHS exemptions	http://ec.europa.eu/environment/waste/rohs_eee/index_en.htm	Individual substance thresholds as per the RoHS directive		Begin phase-out immediately. Expect future restrictions	2011/65/EU
Phenyl, Isopropylated Phosphate (3:1) or PIP 3:1	68937-41-7	Any intentional use	Plasticizer, flame retardant, or anti-wear additive in plastics, adhesives, lubricants	Restricted (See Section 3)	TSCA Section 6(h)
Skin sensitizing substances	Including but not limited to the compounds in the reference link.	Various	Only applicable to leather, textile, hide, and fur articles. Natural leather is exempt.	Begin phase-out immediately. Expect future restrictions	https://echa.europa.eu/de/registry-of-restriction-intentions/-/dislist/details/0b0236e182446136
Volatile Organic Compounds (VOCs)				Begin phase-out immediately. Expect future restrictions. Includes VOC content and substance restrictions for paints, coatings, inks, adhesives, primers, and cleaners	