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| TITLE: *MICROSOFT RESTRICTED SUBSTANCES CONTROL SYSTEM* |

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| A | 7/3/2000 | C00045 | Initial Release | KC Wee |
| B | 3/15/02 | 5701 | Added Form H00642-A, new section ‘Microsoft Auditing & Compliance Control’, requirements for Tier-1 in ‘Prevention and Control & Compliance’. | Hasan Jafri |
| C | 11/14/2003 | 6217 | Update R&R, updated CoC & added ODC requirements, added Checklist & Flowcharts. | Michael Rulien |
| D |  | C10002A | Changed the document format in line with the ISO14001 environmental management system with emphasis on minimum supplier responsibility, added training and continual improvement.  This procedure is now focused on standardizing terminology, streamlining the workflow, defining the responsibility of suppliers, setting the minimum requirements of a Restricted Substance Control System (RSC System), adding the requirements of training and continual improvement, and has taken due consideration of the provisions of ISO 14001:2004 to enhance the compatibility of these two documents for the benefit of suppliers. The level of detail and complexity of the RSC System, the extent of documentation and the resources devoted to it depend on a number of factors, such as the scope of the RSC System, the size of a company and the nature of its activities, products and services.  For ease of use, the sub-section numbers in Section 7 of this procedure and the requirements of ISO14001: 2004 have been related in Appendix B.  Removed R&R, Removed CoC and added SDoC, added additional requirements throughout the section to enhance RS controls in addition to providing guidelines. Removed Confidentiality statement in order to allow supplier to flow the SDoC form and requirement to subtiers.  NOTE: Throughout the document, guidance is provided to the suppliers in ***italics***. | Tom Schafenacker |
| E | 2/15/07 | C18630 | Reorganized, simplified, updated testing and documentation requirements, removed ODC form, and integrated current exemption form into SDoC. | Ken Jennings, Kim Braun, Kim Thompson, Bahram Fallah, Adrienne Lema |
| F | 7/30/08 | C25687 | Update process for sampling sustaining products for testing, added ne high risk components, update SDoC to excel file, require full material declaration for all components and subassemblies. | Kimberly Braun, Kim Thompson, Bahram Fallah, Ken Jennings, Steven Xie |
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## TERMS AND DEFINITIONS

For the purposes of this Procedure, the following terms and definitions apply:

Bill of Materials (BOM) – A logical ordering of components required to produce an assembly (which may include FPP products) consisting of the following elements: Item Number, Item Revision, Item Lifecycle, Quantity, Reference Designator, and any relevant BOM notes.

Component Family – Components from the same manufacturer, location and process, containing the same raw material, and using the same component construction and construction methodologies.

Component Purchase Agreement (CPA) – Microsoft contract typically used for direct contracts with component suppliers for strategic materials.

Corrective Action – Action agreed to by supplier to eliminate the cause of a detected Non-conformity, such as correction in supplier’s processes or standards.

Design Validation Review (DVR) – Stage in Microsoft’s product development cycle validating comprehensive evidence that the product is ready for commercial production. DVR units are built at the factory in the exact manner used during commercial production. Product documentation is complete, corner tests and component sources are validated, and all product changes are implemented prior to production.

Document– Information and its supporting medium.

Finished Packaged Product (FPP)– A final product assembled and packaged with an assigned Manufacturer Part Number (MPN)***.***

Manufacturer Part Number (MPN) – A unique identifier assigned to a component or subassembly by the company manufacturing the part.

Material Declaration – An official document declaring the substances present in a component and/or finished product that includes a statement of compliance and is signed by supplier.

Microsoft Approved Labs – A list of Microsoft approved test laboratories and Procedures set forth in “Microsoft Analytical Test Methods and Approval Process” (H02446).

Non-conformity – Non-fulfillment of a requirement.

Other Contracted Supplier – Any manufacturing partner with a direct relationship with Microsoft who is responsible for the manufacture of components, subassemblies, and/or materials (formerly referred to as Tier 2 CPA suppliers). This includes commodity vendors who are qualified and sourced by Microsoft.

Policy – Overall intentions and direction of a supplier related to its restricted substance control performance as formally endorsed by top management.

Procedure – Specified way to carry out an activity or a process.

Production Lot – Components are defined as being from the same lot if their construction follows identical methods and they and their raw materials are from the same manufacturers, locations, and processes. Raw materials must also be traceable to their individual homogeneous production lots.

Restricted Substance Control System (RSC System) – Part of a supplier's management system used to develop and implement its policy regarding restricted substance compliance and to manage its products.

Stock Keeping Unit (SKU) – Unique numeric identifier that refers to a specific product in an inventory.

Sub-tier Supplier – Manufacturer that supplies components and/or materials to a Microsoft supplier. Sub-tiers do not have a direct contractual relationship with Microsoft.

Supplier Compliance Index (SCI) – Systematic approach to track compliance status of suppliers. Scores are based on performance and account for improvement, or lack thereof, over time. The SCI assesses how Microsoft’s suppliers are performing with respect to compliance.

Supplier’s Declaration of Conformity (SDoC) – Supplier’s attestation of conformity to Microsoft’s “Restricted Substances for Hardware Products” (H00594).

Tier 1 Supplier – Any manufacturing partner with a direct contractual relationship with Microsoft who is responsible for the manufacture of Microsoft hardware products.

## REFERENCES

* Microsoft Analytical Test Methods and Approval Process (H02446)
* “Restricted Substances for Hardware Products” (H00594)
* IPC 1752 for Materials Declaration ([www.ipc.org/ipc-175x](http://www.ipc.org/ipc-175x).)
* Joint Industry Guide (JIG) Material Composition Declaration Guide for Electronic Products (Suppliers are responsible to obtain the latest copy of JIG from Electronic Industries Alliance (EIA) Organization. Suppliers may contact their Microsoft contact or [ecteam@microsoft.com](mailto:ecteam@microsoft.com) to obtain the form.)

## Purpose

It is the policy of Microsoft that hardware suppliers worldwide shall comply with regulations for restricted or banned substances in manufactured products, components, materials, and processes, and with specified requirements for documentation and auditing. Microsoft further defines specific requirements for prevention and control of restricted substances in Microsoft hardware products, and works together with its suppliers to maintain continuous compliance with product environmental, regulatory, and safety requirements. This document states the requirements that Microsoft places upon its supply chain to demonstrate compliance with Microsoft’s environmental specifications.

## Introduction

In its contracts, Microsoft requires its suppliers to conform to a series of environmental specifications that relate to restricted substances. These specifications are as follows:

* H00594: Restricted Substances Specification – Identifies substances restricted in Microsoft products and the limits that apply to these substances
* H00642: Restricted Substances Control System – Identifies the management system, documentation, and testing requirements for Microsoft’s suppliers to demonstrate conformity with H00594
* H02446: Microsoft Analytical Test Methods and Approval Process – Describes the analytical methods that must be used to determine conformity with restricted substance limits

The relationship of these specifications is illustrated in .

While Microsoft provides minimum requirements, supplier is solely responsible to deliver components and/or products that are fully compliant with all international directives, laws, and regulations that restrict the type and concentration of potentially hazardous substances. Microsoft does not, by its provision of these guidelines and minimum requirements, assume any responsibility for supplier’s compliance or the compliance of any supplier-manufactured component and/or product, nor does Microsoft guarantee that supplier’s compliance with this document will ensure that the component and/or product manufactured by supplier is fully compliant. Each supplier will be solely responsible for any non-compliant component and/or product as well as any related Corrective Actions and/or resulting damages in accordance with the contract between Microsoft and the supplier.

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H02462

Battery Specification for Environmental and Safety Requirements

Environmental Statement and Marking Specification for Microsoft Hardware Products

H00594 – Restricted Substances Specification

H00642 – Restricted Substances Control System

H02446 – Restricted Substances Test Methods, Laboratory Approval Process, & List of Microsoft Approved Labs

H02050

Social & Environmental Accountability

S002689

Environmental Requirements for Packaging

H08224

H00875 – Microsoft Audit Protocol for Quality & Compliance

Supplier Declarations

Supplier

Test Reports

Figure 1: Relationship of Microsoft Environmental Specifications

**Figure 1: Relationship of Microsoft Environmental Specifications**

## Policies and Management Systems

Suppliers must ensure that anything they and their Sub-tier suppliers manufacture for Microsoft are fully compliant with all international directives, laws, and regulations that restrict the type and concentration of potentially hazardous substances. The best way to meet these requirements is by having a management system in place that addresses environmental compliance, quality, and safety. Examples of these systems include ISO 9000, ISO 14000, and OHSAS 18000.

At a minimum, Microsoft requires the following from its suppliers:

* Obtain current copies of all pertinent Microsoft environmental and restricted substances specifications (such as those listed in Section 4.0 above) and implement systems to meet those specifications, including but not limited to the following:
  + **Material traceability system** by which suppliers can trace a finished product serial number to raw material batch number(s)
  + **Supplier management system** by which suppliers ensure ongoing compliance of their sub-tiers. This system must include training, auditing, supplier selection criteria, and material inspection
  + **Data management system** to store, maintain, and organize data to ensure traceability of data and provide requested documentation in a timely fashion. Routine documentation must be received within one month of request. Priority requests for information to trace components or lots must be provided to Microsoft within 48 hours. Documents must be maintained for a minimum of six years.
  + **Material screening system** for incoming and outgoing lots as well as finished products
    - Incoming and outgoing material lots – The following materials vary in quality and may result in non-compliance, so Microsoft requires that they be XRF screened or wet chemistry tested per production lot: solder, resins, pigments, ink, plasticizer, stabilizers, recycled metals, and cable materials. These reports must be maintained at supplier’s facility and available for inspection by Microsoft. *Screening and testing for solder can be conducted on a monthly basis because of the potentially small lot sizes associated with it*
    - Finished product – It is recommended that finished products are periodically monitored using proper XRF screening methods to provide additional assurance beyond the supplier’s management system that restricted substances have not been introduced through manufacturing processes
* Declarations, test reports, and communications with Microsoft must be written in English
* Suppliers must identify an individual who will serve as Microsoft’s contact for Environmental Compliance. This person must be capable of making decisions, addressing questions, and responding to issues raised by Microsoft
* In unusual situations, when a complete BOM is considered proprietary information and is not provided, supplier must at least provide Microsoft with appropriate declarations and test reports that allow Microsoft to trace and report to the level required by law (e.g. homogenous material)
* Tier-1 suppliers must provide products for testing as requested by the Factory Manager or Environmental Compliance Team. The testing is conducted up to a total of six times per year via Microsoft’s internal XRF test lab or a Microsoft designated third party RoHS test lab. Shipping instructions are provided in H02446 Appendix D.

## Deliverables Required of Suppliers to Demonstrate Conformity with the Microsoft Restricted Substance System

This section describes the deliverables Microsoft requires from its suppliers in order to demonstrate conformity with the Microsoft Restricted Substance specifications. The deliverables are (1) Declarations and (2) Test reports. In addition to these deliverables, this specification describes their frequency based on whether the product is under development or in production (sustaining phase).

Table . Documentation Deliverables and Frequency

|  |  |  |  |
| --- | --- | --- | --- |
| **Supplier Category** | **Deliverable** | **During Development (dev)** | **During Production (sustaining)** |
| **T-1 Suppliers** | 1 of the following Declarations:   * Microsoft SDoC * Supplier Material Declaration * IPC1752 form | Product level declarations submitted to Microsoft by DVR. Must be <1 year old | Product level declarations submitted to Microsoft every 12 months or earlier if something changed, e.g. when MPN or specification changes occur |
| **Other Contracted Suppliers and T-1 sub-tiers** | 1 of the following Declarations:   * Supplier Material Declaration * IPC 1752 form | Declarations submitted to Microsoft by DVR for products in development. Must be <1 year old | Resubmit every 12 months or earlier if something changes, e.g. when part number or component/ subassembly changes |
| Test Reports | Test Reports submitted to Microsoft by DVR. Must be <1 year old | Resubmit new report every 3 yearsor if process, materials, part number, or vendor name change |

2. Declarations

Microsoft requires one of three declarations from its suppliers. Product level declarations can be Appendix A SDoC, while all component and subassembly declarations must be complete material declarations:

1. SDoC in Appendix A of this specification or an equivalent official document affirming compliance to H00594. This must be signed and dated. **This declaration is acceptable only for product level declarations from Microsoft Tier-1 Suppliers.**
2. IPC 1752-2 Class 5 or 6, with Detailed Declaration in PDF or XML format.
3. Supplier-formatted Material Declaration that includes a statement of declaration or signature, in which all materials and exempted applications are identified.

During product development, declarations must be submitted to Microsoft by the Design Validation Review (DVR). Each product level declaration must be associated with a Manufacturer Part Number (MPN) and component level declarations must have a direct correlation to the Microsoft part number, supplier part number, or manufacturer part number to ensure traceability to a Bill of Materials (BOM). Component level declarations must be updated every three years while in production.

Use the following naming conventions for declarations:

* MPN level Declarations – “SUPPLIER\_PRODUCT NAME\_MPN DECLARATION\_DATE MONTH YEAR”
* Component level Declaration – “SUB-TIER NAME\_COMPONENT\_DECLARATION\_DATE MONTH YEAR”. For example, “Supplier1\_resistors\_Declaration\_12 March 07”

Information provided in the declarations—namely, the exemptions and reportable substances—will be used by Microsoft to make China Management Method and EU Waste Electrical and Electronic Equipment declarations. Consequently, declarations must be thorough and complete.

1. Test Reports

Microsoft will only accept test reports from Microsoft Approved Laboratories, as defined in H02446. Specification H02446 also identifies the substances that require testing. The test report must have a direct correlation to the Microsoft part number, supplier part number, or manufacturer part number to ensure traceability to a BOM. It must also be dated within a year of the product’s DVR and updated every three years or when there is a change in the component’s material or production process. Use the following naming convention for component level test report(s): “SUB-TIER NAME\_COMPONENT\_TEST REPORT\_DATE MONTH YEAR”. For example, “Supplier1\_resistors\_Test report\_15 Jan 07”.

Microsoft recommends that suppliers test one representative from a Component Family in lieu of testing all the components individually. A Component Family must exhibit all of the following:

* Same manufacturer, location, and processes
* Same raw material(s)
* Same component construction
* Same construction methodologies

**Example**: SMT resistors with different resistor values, but meeting the conditions above, only need to submit one SDoC and one test report for the entire resistor family.

## Non-conformity, Corrective Action, and Issue Closure

Microsoft requires supplier to respond to Non-conformities in restricted substance testing in the following manner:

1. Inform Microsoft immediately when a suspected or confirmed non-conformity is identified
2. Confirm through testing that a Non-conformity exists (and not a false-positive result)
3. Begin an investigation into the cause and extent of the Non-conformity
4. Undertake Corrective Action and root cause analysis, immediately
5. Undertake weekly testing of the product in question, at supplier’s sole expense, for a minimum of 5 consecutive production weeks

* The results of each week’s testing must conform to Microsoft’s specifications to demonstrate that the manufacturing process has been corrected to eliminate Non-conformity(ies)

Microsoft will respond to Non-conformities in restricted substance testing in the following manner:

1. Microsoft will immediately initiate Microsoft’s Internal Corrective and Preventive Action (CAPA) Process
2. Schedule a Microsoft Restricted Substance Control audit to confirm that Corrective Action has successfully eliminated Non-conformity(ies)
3. Offer on-site training on H00594, H00642, H02446 by Microsoft’s Environmental Compliance Team

The Supplier Compliance Index (SCI) is calculated by Microsoft based on supplier’s performance in audits, documentation, and restricted substance detections. An SCI score deemed unsatisfactory by Microsoft could result in increased audit frequency, training, and FPP testing, as well as potential disqualification of supplier.

# *Appendix A – Supplier’s Declaration of Conformity (SDoC)*

**Note: See Section 6.1 for additional Declaration Options.**

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