

**Celestica Environmental Requirements for  
Chemicals/Consumables**  
Revision 4  
2007-04-05  
(This "Policy")

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## 1 Purpose

This Policy will define Celestica's environmental requirements to our suppliers. The intent of the policy is to assist Celestica's customers in complying with RoHS (defined below) and WEEE (defined below) type directives, such as those promulgated by the European Union and the People's Republic of China, along with other similar existing or emerging legislation or regulations.

Celestica reserves the right to amend this Policy from time to time.

## 2 Scope

This Policy applies to all chemicals and consumables purchased worldwide, encompassing all of Celestica's sites and affecting Celestica's entire global supply base (as applicable). Goods that must comply with a RoHS-type directive will be identified in the relevant QSPEC document (defined below). Any exceptions to this Policy will be documented in the applicable QSPECs. These exceptions may add to the requirements for a particular part number.

This Policy applies to, but is not limited to, the following commodity categories:

Solders  
Fluxes  
Adhesives  
Wires  
Sealants  
Conformal Coatings  
Encapsulates  
Lubricants  
Paints  
Solvents  
Inks  
Aerosols  
Cleaners  
Labels

## 3 Responsibilities

The Supplier shall ensure that all goods supplied to Celestica fully comply with the requirements of this Policy.

### 3.1 Franchised Distributors

The requirements set out in this policy are applicable to original material manufacturers, and as such cannot reasonably be met by our Approved Distributors. However, Celestica does require our Distribution partners to assist in our compliance requirements through the following actions:

- Distributors must establish & maintain internal processes to identify, segregate and store RoHS compliant materials, so as to minimize the opportunity to mix compliant with non-compliant materials. Celestica encourages suppliers to demonstrate compliance capability through the use of external accreditation. (e.g. EIA/ECCB-954, BSI Kitemark)
- Distributors must take reasonable steps to pick & ship materials that meet the requirements of Celestica quality Specifications (QSPECs). Where the QSPEC specifies date code restrictions, these *must* be adhered to, as some suppliers are not changing manufacturer part numbers when their materials become compliant.
- The manufacturer's part number (& date code) referenced on Celestica's Purchase Order (P.O.) and QSPEC will take precedence over any conflicting information, although Celestica expects suppliers to make best endeavors to notify us of any discrepancies noted in our purchasing documentation.

- The P.O. will identify whether an ordered part needs to comply with this Policy. Should supplier have reason to believe a material does not meet the requirements of this Policy, they should immediately inform their Celestica purchasing contact for resolution.

Distributors must take reasonable steps to provide Celestica with compliance documentation from the original part manufacturer, including material declarations and certificates of compliance, per the Documentation Requirements below.

## 4 Definitions

Chemicals and Consumables	Items used in the manufacture of electronics which are not generally considered functional components of the final product. Examples include solder paste, flux, inks, etc.
EIA	Electronic Industries Alliance
Homogeneous Material	Means a material that cannot be mechanically disjointed (separated) into different materials.
Homogeneous	Means a good with uniform composition throughout.
iNEMI	International Electronics Manufacturing Initiative, Inc
IPC	Institute for Interconnecting and Packaging Electronic Circuits
J-STD	Joint IPC/JEDEC standard document
JEDEC	Joint Electron Device Engineering Council
JESD	JEDEC standard document
Lead (Pb)-Free	Means that a good does not contain lead (Pb) above the material limit specified by RoHS
Lead (Pb)-Free Compatible	Means a good does not contain lead (Pb) and can withstand the lead-free processing requirements as documented in the Minimum Process Requirements section
MSL	Moisture Sensitivity Level (per J-STD-020)
PCN	Process Change Notification
QSPEC	Celestica's Quality Specifications applicable to each good
RoHS	Means the European Union's directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (Directive 2002/95/EC). May also be used to describe similar legislations from other jurisdictions, such as China, Korea, and California.
RoHS Compatible	Means a good that complies with the materials restrictions specified by Directive 2002/95/EC, <i>and</i> can withstand the lead-free processing requirements as documented in the Minimum Process Requirements section
RoHS Compliant	Means a good that complies with the materials restrictions specified by RoHS
RoHS Exempt	Means a good that complies with Directive 2002/95/EC by qualifying for an

exemption listed in the Annex of Directive 2002/95/EC; or where a goods' end application has been ruled exempt from RoHS or WEEE by an authority of competent jurisdiction

Waiver	Means a Celestica standard format used to document deviations from the specifications as written on the QSPEC. A valid waiver must be signed by the appropriate authorized Celestica representative
WEEE	Means the Waste Electrical and Electronic Equipment (Directive 2002/96/EC)

## 5 References

The following are incorporated into and made part of this Policy:

- QSPEC [available on the Celestica website [www.celestica.com](http://www.celestica.com)]\*
- Celestica Packaging and Handling Specification (PK0763) [available on the Celestica website [www.celestica.com](http://www.celestica.com)]\*
- Celestica Bar Coding Standard for Procured Production Goods (CELQ-033-STD-51) [available on the Celestica website [www.celestica.com](http://www.celestica.com)]\*
- Celestica Notification of Product/Process Changes, Discontinued Availability and Product Alerts by Suppliers (CELQ-033-POL-2) [available on the Celestica website [www.celestica.com](http://www.celestica.com)]\*
- Celestica RoHS Certificate of Compliance Form (CELQ-033-FORM-18) [available at [www.celestica.com](http://www.celestica.com)]\*
- Celestica Declaration of Compliance to Celestica Environmental Requirements for Chemicals and Consumables (CELQ-033-FORM-27)
- Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- Management Methods for Control of Pollution Caused by Electronic Information Products, Ministry of Information Industry Order #39 (China RoHS), and related documents
- RosettaNet Technical Dictionary (V4.1.1)
- EMS Forum Guidelines for Suppliers Transitioning to RoHS Compliant Components (Rev. 2.0)
- EIA Joint Industry Guide (JIG) – Material Composition Declaration Guide (JIG-101)
- JEDEC Marking, Symbols and Labels for Identification of Lead-Free Assemblies, Components and Devices (JESD97)<sup>1</sup>
- IPC Marking, Symbols and Labels for Identification of Lead-Free and Other Reportable Materials in Assemblies, Components and Devices (IPC-1066)<sup>1</sup>
- IPC Materials Declaration Management (IPC-1752)
- EIA Electrical and Electronic Components and Products Hazardous Substance Free Standard and Requirements (EIA/ECCB-954)
- RoHS Enforcement Guidance Document (Version 1 – updated January 2007) from the UK's Department of Trade and Industry (DTI)

\* External Celestica Specifications can be found on the Celestica internet site:  
<http://www.celestica.com/SupplyChain/SupplyChain.aspx?id=798>

Questions or concerns relative to these references should be highlighted to the appropriate Celestica contact for clarification. In cases where newer published revisions of the industry standards listed in this Policy are available, the newest revision shall be utilized by both Celestica and the Supplier. Celestica does not specify reference revision levels in this Policy unless required for clarity where a significant change has occurred as compared to the previous revision.

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<sup>1</sup> JESD97 and IPC-1066 are expected to be supplanted by J-STD-609. When this happens, all references in this policy to JESD97 and IPC-1066 shall be understood to include J-STD-609.

In case of conflict between Celestica requirements, the following order of precedence shall apply:

- Waiver
- QSPEC
- OEM Specification / Drawing
- This Policy
- Referenced Industry Standards

## 6 Revision History

Revision	Date	Updated By
Rev 0	May 25, 2005	Steven Boychyn
Rev 1	August 15, 2005	Arshad Khan
Rev 2	October 3, 2005	Arshad Khan
Rev 3	December 8, 2005	Arshad Khan
Rev 4	April 5, 2007	Nathaniel Jeffries

## 7 Qualification Requirements

### 7.1 Supplier Qualification

Successful qualification by Celestica as an Environmental Compliant Supplier is a required prerequisite for shipment to Celestica.

Supplier qualification will be initiated by Celestica following confirmation that the Supplier agrees to the requirements set forth in this policy document. This qualification process will include the following elements:

- Confirmation of an appropriate Green Product policy per EIA/ECCB-954 documentation and enforcement
- Documentation review of relevant Supplier procedures detailing part ordering, inventory control, shipping, inspection processes, quality assurance, internal audit, certification, etc.
- Confirmation of dedicated Supplier contact for Environmental Compliance
- Confirmation of ability to provide material declarations and certificates of compliance for any parts ordered by Celestica
- Celestica acceptance of Supplier's part numbering, marking, and labeling practices
- On-site Supplier audits may be conducted by Celestica for randomly selected Suppliers or as needed

Upon successful completion of this process, Celestica will inform the Supplier that they are qualified to supply Environmentally Compliant parts. These selected parts will be designated as Environmentally Compliant on the Celestica QSPEC documents once a successful Part Qualification has been completed for a given Celestica part number (P/N).

### 7.2 Part Qualification

The Supplier has the responsibility to perform internal qualification activities for each part number prior to sale to Celestica. Celestica will have the option, but not the obligation to take part in additional part or application-level qualification activities. This process may entail a review of applicable part information, part testing, application/product level testing, and compliance verification testing. Specific Supplier requirements for qualification will be detailed as needed. General informational items that will optionally be considered as part of Celestica's additional qualification activities are listed in the General section below, and upon request by Celestica will be made available by Supplier. Please note that Supplier part or process changes (documented as PCN's) may also require additional qualification activities by Celestica, therefore the following data must be available from the Supplier at the time the PCN is issued.

### 7.2.1 Test Methods

In order to be considered for the initial peer-to-peer qualification round, all new environmentally compliant candidates must meet or exceed the RoHS requirements, and may need to meet or exceed the requirements of other pending legislation. Demonstrated compliance may be in the form of the appropriate Certificate of Compliance, but may include composition analysis test data provided by the Supplier and/or verification testing performed by Celestica.

Chemicals and consumables which are to be added to a final product (e.g. paste, flux, adhesive, conformal coating, etc...) may be subjected to Surface Insulation Resistance (SIR) testing or an equivalent Material Compatibility testing. This is in addition to any requisite functional qualification against existing market peers.

### 7.2.2 Demonstration of Compliance

Upon request and/or upon order placement, the Supplier must provide the relevant Certificate of Compliance or where appropriate, the RoHS exemption status of the part(s) in question. The Supplier may subsequently be required to provide the material composition by weight or weight percentage, as well as any environmental marking notation and location. The material composition declaration may comprise a subset of or all elements & compounds listed in the EIA Joint Industry Guide (JIG) for Material Composition Declarations (JIG-101).

## 8 Minimum Process Requirements

All Lead (Pb)-free or RoHS compliant parts covered by this Policy must meet or exceed the requirements of this policy, and their respective governing QSPECs.

The Supplier shall not provide a quotation for a part not complying with this policy unless Celestica has provided an approved Waiver (defined above) which documents that the deviation from these requirements is acceptable.

If a Waiver is provided, the Supplier will provide the good with a revised part marking/labeling scheme permitting visual confirmation of non-compliant parts. The Revised Marking must be pre-approved by Celestica.

To provide for identification of Lead (Pb)-free and/or RoHS compliant parts in manufacturing, the supplier will comply with the Marking and Labeling requirements of JESD97/IPC 1066 (as applicable).

## 9 Logistical Requirements

### 9.1 PCN Submission

When any change occurs to parts covered by this Policy, it must be identified to Celestica through our documented Product Change Notification (PCN) procedure CELQ-033-POL-2. Supplier will provide a minimum of 90 days prior notice of a PCN before the planned change implementation date. Any changes related to environmental compliance or manufacturing process are considered to be Major Changes as defined in JESD46-B. PCN approval will be performed as per the Celestica Notification of Product/Process Changes, Discontinued Availability and Product Alerts by Suppliers document (CELQ-033-POL-2)

### 9.2 Part Identification

Part identification is critical for Lead (Pb)-free, RoHS compliance, or RoHS exemption conversions. The method used must be capable of distinguishing the revised parts from the prior versions of the same part. Preference will be given to industry-standard methodologies as they are established. Existing standards for descriptive terminology and marking are as follows:

- Terminology – RosettaNet RNTD Version 4.1.1
- Marking, Symbols, and Labels for Identification of Lead (Pb) Free Assemblies, Components, and Devices - JESD97

- Marking, Symbols and Labels for Identification of Lead-Free and Other Reportable Materials in Assemblies, Components and Devices - IPC-1066

Note: if a Lead (Pb)-free version of a part is followed by a RoHS compliant version, the method used must be able to distinguish the two variants. As such, when parts are converted to either or both of these compliance conditions, the PCN issued to Celestica must include the following information:

1. Method of Identification (see below for part numbering requirements)
2. Effective cutover date and datecode (date and datecode after which all parts shipped to Celestica will be converted, as indicated on the parts/packaging materials)
3. Lead (Pb)-free/RoHS logo usage, description, and location on part (refer to JESD97))
4. Part Labeling usage, description, and location (refer to JESD97)
5. Part technical specifications as required in the Qualification of Goods – Test Methods section
6. Part documentation as outlined in the Documentation Requirements section (below)

Note: If a supplier product/process change results in a PCN being issued to Celestica, and this PCN invalidates a Certificate of RoHS Compliance (C of C) previously issued to Celestica, the supplier shall notify Celestica of the status of the C of C. If the revised parts are RoHS compliant and subject to a new C of C, this document shall be made available to Celestica as part of this notification procedure.

#### 9.2.1 *New Orderable Supplier Part Numbers*

Celestica's preferred method of identification is for the creation of new orderable supplier part numbers for any compliance-related part conversions. New orderable supplier part numbers are required under either of the following conditions:

- The material change requires a modification to Celestica's manufacturing processes – these are referred to as non-backwards compatible parts. (Refer to the EMS Forum Guidelines for Suppliers Transitioning to RoHS Compliant Components (current revision).
- There is no datecode traceability (applied to the lowest-level packaging labels).

## 10 Documentation Requirements

### 10.1 Required Environmental Information

The Supplier shall provide the following information (as applicable) to Celestica upon request, or at the time of any part changes communicated through PCN's.

1. Date code cutover information for Lead (Pb)-free or RoHS Compliant parts (whichever stage applies)
2. RoHS Compliance Certification (CELQ-033-FORM-18 or IPC-1752, see below)
3. Indication of requirements for any substance or part within the component to be selectively recycled according to WEEE Annex 2
4. Material composition details for Joint Industry Guide List A substances, and any List B substances above the listed threshold (Per IPC-1752, refer to Materials Requirements section)

### 10.2 RoHS Compliance

RoHS Compliance within this policy encompasses both EU and China RoHS at the time of writing. The material and documentation requirements of this policy apply to both legislations for all parts. There may be related legal requirements placed upon the supplier that are not detailed within this policy. The supplier *must* meet all legal requirements of the jurisdiction to which their parts are shipped<sup>2</sup>

Celestica will communicate RoHS requirements in the QSPEC, and/or on the purchase order, (P.O.), When Celestica orders a RoHS compliant or compatible chemical or consumable, or alternatively if, through the PCN process, the Supplier informs Celestica of their plan to convert a chemical or consumable to be

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<sup>2</sup> Including the marking and labeling requirements of China RoHS, along with the obligation to disclose the presence of hazardous substances present within the suppliers' products.

compatible with RoHS (either full compliance or as an exempt<sup>3</sup> part), the Supplier shall provide part number-level documentation, as requested by Celestica. The documentation may include, but not be limited to, the items indicated below:

1. The first form of required documentation is a Certificate of RoHS Compliance, which must be generated, signed, and received by Celestica prior to delivery of any RoHS Compliant or exempt parts. Certificate of RoHS Compliance documents shall be sent to CofC@Celestica.com. This document is a legally binding declaration from the Supplier that the referenced parts meet all RoHS material requirements (refer to 2002/95/EC). The format of the Certificate of RoHS Compliance shall comply with IPC-1752 industry standard guidelines. Celestica recommends the use of the Certificate of Compliance format documented in CELQ-033-FORM-18, (which is in-line with IPC-1752 requirements), or the “Class 1 – RoHS Only” Declaration Type of IPC-1752-1.
2. The second form of documentation is a Materials Declaration, which states the content (by weight) at either a homogeneous material level or part level of each of the JIG-101 listed materials present in the part. Refer to the Materials Requirements section for more details. The reporting format to be used shall comply with IPC-1752 industry standard guidelines. Materials Declarations to the appropriate IPC reporting class (either homogeneous material or part level) shall be provided to Celestica upon request.

In special cases, RoHS Compliance of a given part number may require verification through analytical testing by an external laboratory. At Celestica’s request, the Supplier shall provide Celestica with appropriate test data which demonstrates RoHS compliance of the part.

## 11 Materials Requirements

Celestica requires that all parts purchased with Environmental Compliance Requirements (as listed in the purchasing documentation) be fully compliant with the legal requirements of whichever indicated legislation applies, as they exist on the date of purchase. Materials declaration reports may be requested at any time from the supplier in order to determine whether the parts meet existing legal, customer, or market requirements.

Celestica’s Materials Declaration reporting requirements for purchased chemicals and consumables are derived from the RoHS Directive’s Enforcement Guidelines Document (Updated – January 2007), EIA Joint Industry Guide (JIG) for Material Composition Declarations (JIG-101), and the IPC-1752 reporting standard format. Celestica requires the material declaration report content to include all Level A & Level B materials & substances above the thresholds as defined in JIG-101 as a minimum. Celestica requests that suppliers report ppm concentrations of all JIG-101 Level A & B materials & substances where possible even when their concentrations fall below the reporting thresholds defined in JIG-101. Material declarations shall be provided per IPC 1752 Class 5 at a minimum. On request from Celestica supplier may be required to use the “Declaration of Compliance to Celestica Environmental Requirements for Chemicals and Consumables” (CELQ-033-FORM-27) for the declaration. Celestica *may* specify additional requirements for the Declaration, such as materials not specified in JIG-101, more stringent reporting thresholds (as required by our customers), or reporting all substances at a homogeneous material level.

These reporting requirements apply to all parts covered by this Policy, unless specifically stated otherwise in the applicable Celestica QSPEC document.

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<sup>3</sup> Refer to Directive 2002/95/EC for the list of part applications that are exempt from the requirements of Article 4(1) which covers the banned materials.