

Celestica Environmental Requirements for Purchased Chemicals and Consumables

Policy Description

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. This document also describes compliance requirement for Candidate List Substances (SVHC)'s under EU Regulation (EC) 1907/2006: Registration, Evaluation, Authorization and Restriction of Chemicals and U.S. Toxic Substances Control Act (TSCA), Section 6(h).

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

2. Scope

2.1. 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).

2.2. 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.

2.3. 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

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

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3.2. 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 endeavours 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

Article	An object which during production is given a special shape, surface or design which determines its function to a greater degree than its chemical composition.
CMAP	Compliance Map Third party solution tool manages environmental compliance information
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.
C of C	Certificate of Compliance
ECHA	The European Chemicals Agency is the driving force among regulatory authorities in implementing the EU's groundbreaking chemicals legislation for the benefit of human health and the environment as well as for innovation and competitiveness. ECHA helps companies to comply with the legislation, advances the safe use of chemicals, provides information on chemicals and addresses chemicals of concern.
EIA	Electronic Industries Alliance
EU	European Union

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Homogenous	Means a good with uniform composition throughout
Homogeneous Material	Means a material that cannot be mechanically disjoined (separated) into different materials.
IEC 62474	Material Declaration for Products of and for the Electrotechnical Industry An International Standard for the electrical and electronics industry on material declaration. Since 21 Jan 2014, JIG 101 was officially declared obsolete and replaced by IEC 62474 standard.
IEC 62474 DSL	IEC 62474 Declarable Substance List List of regulated substances and substance groups that a manufacturer should declare to downstream manufacturers if present in the product. Each substance or substance group entry in the list is accompanied with a reportable application and a reporting threshold level. Example of DSL is REACH Candidate List, Annex XVII of REACH, EU Batteries Directive, EU/RoHS Directive, California Prop 65 etc.
iNEMI	International Electronics Manufacturing Initiative, Inc
IPC	Institute for Interconnecting and Packing 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
PCN	Process Change Notification
PBT	Persistent, Bioaccumulative, and Toxic
QSPEC	Celestica's Quality Specifications applicable to each good
REACH	An acronym for European Commission Regulation Number 1907/2006 concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals
RoHS	Means the European Union's directive on the Restriction on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (Directive 2011/65/EU). 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 2011/65/EU, and can withstand the lead-free processing requirements as documented in the Minimum Process Requirements section

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RoHS Compliant	Means a good that complies with the materials restrictions specified by RoHS
RoHS Exempt	Means a good that complies with Directive 2011/65/EU by qualifying for an exemption listed in the Annex of Directive 2011/65/EU; or where a goods' end application has been ruled exempt from RoHS or WEEE by an authority of competent jurisdiction
Substance	A chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.
SVHC	<p>Substance(s) of Very High Concern</p> <p>a. Substances meeting the criteria for classification in accordance with EU Directive 67/548/EEC: Carcinogenic category 1 or 2 Mutagenic category 1 or 2 Toxic for reproduction category 1 or 2;</p> <p>b. Substances which are persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) in accordance with the criteria set out in Annex XIII of the EU REACH Regulation;</p> <p>c. Substances- such as those having endocrine disrupting properties or those having PBT properties or vPvB properties which do not fulfill the criteria of 2 above - for which there is scientific evidence of probable serious effects to human health or the environment which give rise to an equivalent level of concern to those of other substances listed in 1 or 2 and which are identified on a case-by-case basis in accordance with the procedure set out in Article 59 of REACH. <i>[Source: EU REACH Regulation, Article 57]</i></p>
TSCA	<p>Means Toxic Substances Control Act administered by the United States Environmental Protection Agency (US EPA)</p> <p>TSCA section 6(h), 15 U.S.C. 2605(h), directs EPA to take expedited action on certain persistent, bioaccumulative, and toxic (PBT) chemicals. For chemicals that meet the statutory criteria, EPA is directed to issue final rules that address the risks of injury to health or the environment that the Administrator determines are present and to reduce exposure to the chemical(s) to the extent practicable.</p>
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 2012/19/EU)

5. Qualification Requirements

5.1. Supplier Qualification

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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 labelling 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).

5.2. 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.

5.2.1. 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.

5.2.2. Demonstration of Compliance

Upon request, the Supplier must provide the relevant Certificate of Compliance for RoHS, REACH, IEC 62474 and TSCA section 6(h) 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

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IEC 62474 Declarable Substance List (DSL) for IEC 62474 Material Declaration for Products of and for the Electrotechnical Industry.

6. 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/labelling 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 labelling requirements of IPC/JEDEC J-STD-609 (as applicable).

7. Logistical Requirements

7.1. PCN Submission

When any change occurs to parts covered by this Policy, it must be identified to Celestica through our documented Celestica Notification of Product / Process Changes, Discontinued Availability and Product Alerts by Suppliers DOC0073917 (Legacy No: 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. PCN approval will be performed as per the Celestica Notification of Product / Process Changes, Discontinued Availability and Product Alerts by Suppliers (DOC0073917)

7.2. 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
- Marking, Symbols, and Labels of Leaded and Lead-Free Terminal Finished Materials Used in Electronic Assembly IPC/JEDEC J-STD-609.

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:

- a) Method of Identification (see below for part numbering requirements)

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- b) 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)
- c) Lead (Pb)-free/RoHS logo usage, description, and location on part (refer to IPC/JEDEC J-STD-609)
- d) Part Labeling usage, description, and location (refer to IPC/JEDEC J-STD-609)
- e) Part technical specifications as required in the Qualification of Goods – Test Methods section
- f) 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.

7.2.1. 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.
- There is no datecode traceability (applied to the lowest-level packaging labels).

8. Documentation Requirements

8.1. 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.

- a) Date code cutover information for Lead (Pb)-free or RoHS Compliant parts (whichever stage applies)
- b) CMAP Material Declaration Collection form which covers for environmental information for RoHS, REACH Candidate List and IEC 62474 or
- c) RoHS compliance certification (Celestica Inbound RoHS Certificate of Compliance Form DOC0078184 (Legacy No: CELQ-033-FORM-18) or per IPC-1752, see below) or
- d) Material composition details for IEC 62474 Material Declaration for Products of and for the Electrotechnical Industry DSL above the listed threshold (Declaration of Compliance to Celestica Environmental Requirements for Chemicals and Consumables DOC0078188 (Legacy no: CELQ-033-FORM-27) or
- e) Celestica REACH Candidate List Survey DOC0078195 (Legacy No: CELQ-033-Form-62)
- f) Celestica TSCA Survey DOC0166430
- g) Indication of requirements for any substance or part within the component to be selectively recycled according to WEEE Annex 2

8.2. 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 shipped¹

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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 compatible with RoHS (either full compliance or as an exempt² 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:

- a) 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.
This document is a legally binding declaration from the Supplier that the referenced parts meet all RoHS material requirements (refer to 2011/65/EU). 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 DOC0078184, (which is in-line with IPC-1752 requirements).
- b) 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 IEC 62474 DSL 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 IEC 62474 DSL reporting class (either homogeneous material or part level) shall be provided to Celestica upon request.
- c) RoHS Compliance of a given part number may require verification through analytical testing, which may be performed by an internal or external laboratory. At Celestica's request, the Supplier shall provide Celestica with appropriate test data which demonstrates RoHS compliance of the part.

8.3. Substance Restricted by REACH Candidate of SVHC

8.3.1. List of REACH Candidates of Substances of Very High Concern may refer to <https://echa.europa.eu/candidate-list-table>

8.3.2. REACH 1907/2006/EC Regulation of European Parliament of Council of December 2006 requires Celestica to provide information to recipients of articles placed on the market in cases where substances are present in the article, which are listed on the candidate list for inclusion in Annex XIV of the regulation and present above a concentration of 0.1 % weight by weight (w/w) concentration.

8.3.3. Supplier must respond to customer inquiries within 45 days. Suppliers shall monitor the development of the candidate list for inclusion in Annex XIV of the REACH Regulation.

8.4. Substance Restricted by U.S TSCA

8.4.1. TSCA section 6(h) requires Celestica to make sure the supply chain meets the TSCA requirements.

8.4.2. List of PBT chemicals under TSCA Section 6(h)

<https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/persistent-bioaccumulative-and-toxic-pbt-chemicals>

8.4.3. Supplier must respond to customer inquiries within agreed timeframe. Supplier shall monitor the development of the PBT chemicals of the TSCA Section 6(h).

¹ Including the marking and labelling requirements of China RoHS, along with the obligation to disclose the presence of hazardous substances present within the suppliers' products.

² Refer to Directive 2011/65/EU for the list of part applications that are exempt from the requirements covering specific restricted materials.

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9. 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), IEC 62474 DSL, and the IPC-1752 reporting standard format. Celestica requires the material declaration report content to include all IEC 62474 DSL substance above the thresholds as defined in DSL as a minimum. Celestica requests that suppliers report ppm concentrations of materials & substances where possible even when their concentrations fall below the reporting thresholds defined in IEC 62474 DSL. Material declaration also shall be provided per REACH SVHC threshold defined by ECHA Candidate List and TSCA section 6(h).

On request from Celestica supplier may be required to use the following forms for the declaration:

- a) CMAP Material Declaration Collection Form or
- b) Declaration of Compliance to Celestica Environmental Requirements for Chemicals and Consumables DOC0078188 or
- c) Celestica REACH Candidate List Survey DOC0078195 for the declaration and
- d) Celestica TSCA Survey DOC0166430

Celestica *may* specify additional requirements for the Declaration, such as materials not specified in IEC 62474 DSL or REACH SVHC ECHA Candidate List 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.

References

External Celestica Specifications can be found on the Celestica internet site:

<https://www.celestica.com/suppliers>

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

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



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Internal References

Document Name	Document Number	Current Revision
Celestica Bar Coding Standard for Procured Production Goods	DOC0078257 (CELQ-033-STD-51)	See ETQ Reliance
Celestica Notification of Product / Process Changes, Discontinued Availability and Product Alerts by Suppliers	DOC0073917 (CELQ-033-POL-2)	See ETQ Reliance
Celestica RoHS Certificate of Compliance Form	DOC0078184 (CELQ-033-FORM-18)	See ETQ Reliance
Celestica Declaration of Compliance to Celestica Environmental Requirements for Chemicals and Consumables	DOC0078188 (CELQ-033-FORM-27)	See ETQ Reliance
Celestica REACH Candidate List Survey	DOC0078195 (CELQ-033-FORM-62)	See ETQ Reliance
Celestica TSCA Survey	DOC0166430	See ETQ Reliance
Celestica Packaging and Handling Specification (PK0763)	PK0763-1 (available on the Celestica website www.celestica.com/supplierresources)	
Quality Specification (QSPEC)		

External References

Document Name	Document Number	Current Revision
Restriction of the use of certain hazardous substances in electrical and electronic equipment - EU RoHS	Directive 2002/95/EC	http://ec.europa.eu/environment/waste/rohs_eee/legis_en.htm
	Directive 2011/65/EU	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32002L0095
	Directive (EU) 2015/863	http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.137.01.0010.01.ENG

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Waste electrical and electronic equipment – EU WEEE	Directive 2002/96/EC Directive 2012/19/EU	http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32002L0096 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1575359896893&uri=CELEX:32012L0019
IEC 62474 Material Declaration for Products of and for the Electrotechnical Industry.	IEC 62474 IEC 62474 Declarable Substance List (DSL) & Reference Substance List	http://std.iec.ch/iec62474 http://std.iec.ch/iec62474/iec62474.nsf/Ind ex?open&q=084311
RoHS Enforcement Guidance Document	UK's Department of Trade and Industry (DTI)	1 (updated January 2007)
Registration, Evaluation, Authorization, and Restriction of Chemicals.	EU Regulation (EC) 1907/2006	https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1575359705449&uri=CELEX:32006R1907
ECHA Candidate List		https://echa.europa.eu/candidate-list-table
U.S. Toxic Substances Control Act (TSCA), Section 6(h)	TSCA Section 6(h)	https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/persistent-bioaccumulative-and-toxic-pbt-chemicals-under
Management Methods for Control of Pollution Caused by Electronic Information Products	Ministry of Information Industry Order #39 (China RoHS), and related documents	http://www.chinarohs.com/
RosettaNet Technical Dictionary		
Customer Notification of Product/Process Changes by Semiconductor Suppliers	JESD46	See standards agency
Lead-Free Finishes for Components Used in High-Reliability Products (May 2005)	iNEMI Tin Whisker User Group Recommendations	
Marking, Symbols, and Labels of Leaded and Lead-Free Terminal Finished Materials Used in Electronic Assembly	IPC/JEDEC J-STD-609	See standards agency
IPC Materials Declaration Management	IPC-1752	See standards agency



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EIA Electrical and Electronic Components and Products Hazardous Substance Free Standard and Requirements	EIA/ECCB-954	See standards agency
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