

ESAM, Inc Environmental E-QAPP

The following provisions with their terms and conditions shall become an integral part of the purchase order to the extent specified in the purchase order and shall become a supplement to the presently existing terms and conditions of the purchase order. All specifications and standards referenced in this document are the latest issue in effect at the time of Purchase Order placement, unless otherwise stated. These provisions apply to all ESAM facilities and divisions as appropriate.

This specification is not intended to list all product limitations or restrictions that are or may be in the future covered by law or legal restrictions. The Seller has the obligation to comply with all applicable laws and legal/regulatory restrictions. This specification does not diminish or relieve the seller from complying with local applicable laws or legal/regulatory restrictions.

Precedence: If a conflict occurs between this specification and a ESAM individual specification the ESAM specification shall prevail if no legal laws or regulations are violated.

This specification is in addition to and does not in any way limit or supersede any other product specification that may be established by ESAM Inc.

1 Ozone Depleting Substances

Ozone depleting substances (ODS) per EPA Regulations 601-607 of the Clean Air Act and the Montreal Protocol shall not be used in process of manufacturing parts, assemblies, components or raw materials unless a written exemption is granted by ESAM Inc. Environmental Compliance Management for military applications (see addendum 1 and 2).

1. Supplier shall not introduce Ozone depleting substances into the product during the manufacturing process.
2. Supplier's standard Certificate of Conformance (C of C) shall be verification that product has been built in accordance with these requirements for ozone depleting substances and ESAM's legal terms, conditions and specifications.
3. If foreign suppliers use Class 2 ozone depleting substances during the manufacture of products, they must appropriately identify this on product shipping to the USA in accordance with government regulations.

2 WEEE and RoHS Compliance

- (a) Product must be compliant to European Union (EU) Directive 2011/65/EU (RoHS 2) Directive and subsequent amending Directives (except Directive (EU) 2015/863).
- (b) Product must be compliant to European Union (EU) Directives 2015/863 (RoHS 3) and supersedes Directive 2011/65/EU (RoHS 2), which was superseded as of July 22, 2019. Any reference on ESAM drawings or specifications to EU Directive 2002/95/EC or Directive 2011/65/EU shall be interpreted to require compliance to Directive (EU) 2015/863 (RoHS 3) after July 22, 2019. Marking must be applied as required per item 5 below and material declarations per item 11 below. Other applicable sections of this document apply to EU RoHS and WEEE.
- (c) Product must be compliant to WEEE Directive 2012/19/EC.

When specified by ESAM Product Management or ESAM Compliance Management, product must be compliant to China RoHS2 requirements as specified in SJ/T11363-2006 and subsequent released requirements, per Restricted substance thresholds per GB/T26572-2011 and SJ/T11364-2014 and provide material declarations per item 11 below and marking per item 13 below.

Supplier shall certify that RoHS substances were not introduced into the product during the manufacturing process.

Suppliers shall certify that the product is built to the specifications, prints and/or defined requirements.

If ESAM Inc. specifies the raw materials, assemblies or component Supplier shall certify via a material declaration that product has been built in accordance with these requirements and specifications.

3 REACH Compliance

Supplier must comply with European Union Regulation 1907/2006 E/C (EU REACH/224) and supply Material Declarations and comply with other subsequent REACH related sections of this document.

Supplier shall certify that REACH substances were not introduced into the product during the manufacturing process.

Supplier shall certify that the product is built to the specifications, prints and/or defined requirements.

If ESAM Inc. specifies the raw materials, assemblies or component Supplier shall certify via a material declaration that product has been built in accordance with these requirements and specifications.

Suppliers shall provide ESAM Inc. REACH updates in accordance with item 11 below.

4 Packaging Compliance

Supplier must comply with Directive 94/62/EC and subsequent revisions and United States Toxics in Packaging Prevention Act (TIPPA) and supply certificate of compliance upon request for any supplier packaging that was used to ship product to ESAM. Supplier shall supply certificate of compliance for all designed packaging items that are purchased by ESAM.

- (a) Supplier shall certify that heavy metals are not above limits in all finalized packaging materials used to ship products to ESAM
- (b) Supplier shall certify that designed packaging items are made to specifications, prints and/or defined requirements and are not above limits for all heavy metal requirements.
- (c) If ESAM Inc. specifies the raw materials or components of a packaging item, Supplier shall certify via a material declaration, per item 11, that packaging has been made in accordance with these requirements and specifications.
- (d) All packaging and printed material & products shipping from ESAM to China, must be China RoHS compliant and must be marked according to China RoHS Standards.
- (e) Packaging material must be recyclable or reusable and must be marked with the appropriate international recycling/reuse symbol to facilitate recycling or reuse.
- (f) Packaging shall meet the requirements of EU Directive 94/62/EC and subsequent revisions and US state laws consisting of Heavy Metals not greater than 100 PPM for Lead, Mercury and Hexavalent Chromium and less than 50 PPM for Cadmium. The sum of all four heavy metals cannot exceed 100 PPM by weight per US state laws (TIPPA).
- (g) Upon request from ESAM Inc., the packaging supplier shall provide Packaging Material Declaration with information requirements.
- (h) All packaging material shall be of non-ozone depleting materials; ref. Volume 40 of the Code of Federal Regulations, Part 82, Clean Air Act, Title VI.
- (i) Packaging material shall meet the requirements of REACH Regulation 1907/2006 (EC). If any Substances of Very High Concern (SVHC) per REACH Annex XIV are above the 0.1% wt/wt, then ESAM shall be notified via Email and per REACH a "Safety Data Sheet" must ship with the packaging when SVHC's are above the 0.1%wt/wt. As REACH substances are added to AnnexXIV, it is the Supplier's responsibility to automatically notify ESAM Inc. of any SVHC's above the 0.1% wt/wt. when changes are made to REACH SVHC list.

5 California Proposition 65 Compliance

California's Safe Drinking Water and Toxic Enforcement Act of 1986 requires that the Governor revise and republish at least once per year the list of chemicals known to the State to cause cancer or reproductive toxicity. Chemical identification requirements are in accordance with California OEHHA website.

5.1 Supplier Prop 65 Document Requirements

1. Acceptable Proposition 65 verification documents
 - a. Full Material Declarations
 - b. Supplier Prop 65 Declarations

- c. Toxicology Reports
2. Product and packaging shall be properly labeled according to California Proposition requirements.

6 WEEE Marking

ESAM Inc. does not hold seller responsible for European Product take back at the end of product life, unless contractually required. WEEE marking is required as convenience for electronic & electrical products upon determination of the following items;

- (a) If determined by ESAM that the finished goods product will ship to the European Union in the as received condition from the seller and no fixed site or military EU exemptions apply
- (b) Finished Goods fall under the definition of a covered WEEE item per Directive 2012/19/EU and subsequent amendments and changes
- (c) Subassemblies or fabricated parts that become part of a ESAM upper level assembly typically are not required to have WEEE marking unless specifically called out on the drawing or specification.
- (d) WEEE (Wheelie bin) Marking for Product Takeback
 - Company logo, Address, ESAM Part number & Country of Origin is required in addition to the wheelie bin marking
 - CE Marking per Directive 93/68/EEC marking permanency must be in accordance with CENELEC EN50419:2005

7 Segregation of RoHS and Non-RoHS Material

The supplier at all times shall maintain a process or system to ensure that RoHS compliant parts and Non-RoHS compliant parts are segregated and properly identified as to the compliance status. The supplier shall maintain appropriate controls and RoHS marking with vendor parts to ensure that received component parts are not mixed on reels or other packaging methods.

8 ESAM In-Process/Source Inspection (ODS/REACH/RoHS)

ESAM Inc. reserves the right to visit the plant of the seller or seller's sources to survey facilities, systems, and/or product to determine satisfactory conformance to the applicable environmental specifications. ESAM representative(s) may elect to conduct inspection either on a random basis or to the extent of 100% inspection. Seller will be notified if ESAM inspection is to be conducted on specific shipments. No shipments are to be held for ESAM inspection unless notification is received prior to, or at the time of, material being ready for shipment.

9 Hazardous Materials

The seller shall provide a valid REACH Safety Data Sheet (SDS) in the European Union ECHA English format when available with every shipment for substances, preparations, or articles with intentional release. Disclosure must include all substances on the current published SVHC candidate list. USA or Australia format SDS's may be acceptable under some conditions provided all hazardous substances are identified. All hazardous substances should be labeled according to the Globally Harmonized System (GHS) of Classification and Labeling. Please contact the ESAM for pre-approval of other country formats.

10 RoHS, REACH, and Packaging Product Testing

ESAM, Inc. reserves the right to have any advertised RoHS or REACH compliant product tested for RoHS or REACH compliance. ESAM, Inc. also reserves the right to have any advertised packaging item that is compliant to TIPPA or Directive 94/62/EU tested for compliance to the corresponding regulation. If product is determined to be noncompliant it is the responsibility of the supplier to replace or correct all noncompliant material at the seller's expense.

11 Material Declarations

ESAM Inc. requires RoHS, REACH, and /or Packaging Material Declarations prior to product shipment or with the first article approval (item 12 below). Upon request, seller shall provide a RoHS, REACH, or Packaging Declaration within 5 business days of the request.

12 Requirements for EU ROHS Material Declarations:

- (a) RoHS Compliance Material Declarations signed or authorized by personnel with appropriate authority is required on Company letterhead/website.
 - (b) Any RoHS technical exemptions that are used must be identified on the Material Declaration, if the product is fully compliant then a statement such as “No RoHS technical exemptions apply” must be included in the Material Declaration.
 - (c) Website declarations are acceptable if the items above in (a) and (b) are covered and product weight is provided.
 - (d) Drawings or Spec sheets of products from the Manufacture that just state “RoHS or RoHS3 Compliant” as required, is an acceptable Material Declaration.
 - (e) A RoHS statement of Compliance (a and b above) with supporting test results is acceptable provided any technical exemptions are identified that cause test results to be above acceptable RoHS PPM levels.
 - (f) Product homogenous material reports in PPM, Percentages or weights are acceptable provided product mass (weight) and (a) and (b) are included.
 - (g) IPC1752-2 formats Class1-6, IEC-62474, IPC 1754 and company formats are acceptable provided that all required fields on the form are completed. Suppliers are encouraged to use this format as the data will automatically load into ESAM’s Environmental database.
1. EU RoHS Material Declarations must be provided within 5 business days of the ESAM request.

13 China RoHS Material Declaration Requirements

It is the responsibility of ESAM’s Product Managers to notify ESAM Supply Chain if China RoHS 2 is required. In addition to the requirements stated in items (a)-(f) above under EU RoHS, the following requirements apply for a China RoHS:

- (a) If EU RoHS technical exemptions are identified, then the China Declaration must include the “Environmentally Friendly Use Period” in years as identified by your company per SJ/T 11364-2014.
- (b) EU RoHS and China RoHS declarations may be combined into one Material Declaration.
- (c) In addition to the requirements stated above, additional marking and documentation is required for finished products such as Cable Assemblies, RF equipment, Servers, Computers, monitors, etc. These requirements are covered below under “Environmental Marking Requirements”.

14 REACH Material Declarations

Within the European Union REACH is controlled by European Union’s European Chemical Agency (referred to as ECHA). Unlike RoHS, chemical substances are being added to this ECHA candidate list called Substances of Very High Concern (SVHC’s) on a regular basis. As a supplier to ESAM, you are required to monitor the SVHC candidate list and report any SVHC’s that are in your product supplied to ESAM that exceed an SVHC limit of 0.1% wt/wt. Please note SVHC’s above the limits will not be considered a product nonconformance. However, if seller does not provide regular updates (60-90 days) after the SVHC’s are updated; this may result in a Supplier Corrective Action. These notifications must be sent to ESAM.

Seller must provide a Safety Data Sheet format as described in ECHA Regulation 1907/2006 for any SVHC above 0.1% wt/wt with each product shipment which contains a preparation. (Note: SDS is not required for article shipments). If an SVHC is in seller’s finished product above 0.1% wt/wt and an SDS does not ship with the product, this shall be considered a nonconformance.

The following information is required on the REACH Material Declaration and must be provided if SVHCs are present or if SVHC’s are not present in the sellers in product.;

- (a) REACH Compliance Material Declarations signed or authorized by personnel with appropriate authority is required on Company letterhead/website.
- (b) Identification if the product is an article, article with intentional release, preparation or substance.
- (c) Identification of any SVHC above the 0.1% wt/wt in the supplied product and substance weight, PPM or percentage of any part within the shipped product.

- (d) The ECHA SVHC Candidate List date or number of substances that the product list was scanned/analyzed against.

15 Requirements for Packaging Declarations

- (a) Packaging Compliance Certificates signed or authorized by personnel with appropriate authority is required on Company letterhead/website.
- (b) Identification of whether the sum is equal to or above the 0.01% wt/wt threshold for all applicable heavy metals in the supplied packaging item. (Note: If the sum of heavy metals is below 0.01% then the packaging can be reported as compliant)
- (c) The individual concentrations for Heavy Metals shall not exceed concentrations of 100 PPM for Lead, Mercury and Hexavalent Chromium and 50 PPM for Cadmium.
- (d) If multiple components are used for a packaging item a declaration for the entire item or each individual component is acceptable.

16 First Article Inspection Requirements for Environmental Compliance

The supplier shall provide a First Article Inspection Report (FAIR) which shall include REACH, EU RoHS, China RoHS, Packaging and California Proposition 65 (if applicable) declarations and/or product analysis/test results in accordance with QAPP item 11 item 12 and/or 12A above.

17 ESAM, Inc. Purchased Raw Material/ Chemicals

With each raw material shipment to ESAM Inc., the seller shall forward reports of mechanical properties and chemical composition to show evidence of conformance to all applicable REACH (SVHC's), RoHS and California Proposition 65 substances as applicable for all raw material used in fabrication of the ordered product.

With shipment of chemical orders, the seller shall forward reports of chemical composition to show evidence of conformance to applicable specifications for all raw material used in the ordered material. This report shall comply with the requirements of the Safety Data Sheets (SDS) and shall be attached to the first article inspection report (FAIR) or sent to ESAM if a first article report is not required.

18 Environmental Packaging & Packaging Marking

There are various packaging and product labeling marking requirements implemented around the world to help identify particular aspects of the product and/or package.

19 China RoHS Marking and Documentation for Finished Goods Products

Per the China RoHS SJ/T11364-2014 "Marking Requirement for Control of Pollution Caused by Electronic Information Products" and Ministry of Information Industry (MII) initiative, effective **July 01, 2016**, all product received in country (China) must be properly marked with the appropriate compliance labeling as directed within the aforementioned directive.

20 ESAM Fabricated Items

20.1 Fabricated Item Environmental Compliance wording as it relates to Mechanical Drawings:

Requirement Update Notification:

As of January 02, 2013 EU Directive 2002/95/EC (RoHS) was superseded by EU Directive 2011/65/EU (RoHS 2). All references to RoHS 2002/95/EC (RoHS) shall be interpreted to mean the requirements specified in EU DIRECTIVE 2011/65/EU (RoHS 2). As of July 22, 2019, Product must be compliant to European Union (EU) Directives 2015/863 (RoHS 3) and supersedes Directive 2011/65/EU (RoHS 2), which was superseded as of July 22, 2019.

(a) This item may be referenced or the following wording may appear on ESAM Inc. Mechanical Drawings:

(b)

Environmental Compliance:

Finished part to be ROHS and REACH compliant per EU Directive 2011/65/EU and EU Regulation 1907/2006 and shall not use ozone depleting substances per US regulatory requirements. Fabricator shall add a unique permanent identification mark in accordance with E-QAPP "Fabricator Facility Marking". Material declarations for ROHS and REACH (SVHC's) shall be provided and updated as needed. REACH SVHC declaration updates shall be forwarded to ESAAM.

NOTE: AN ALTERNATE RoHS STATEMENT BELOW ON EXISTING DRAWINGS IS ACCEPTABLE MEETING REQUIREMENTS STATED ABOVE. IPC1752 REQUIREMENTS STATED BELOW IS SUPERSEDED BY MATERIAL DECLARATION REQUIREMENTS SPECIFIED IN THIS DOCUMENT.

RoHS COMPLIANCE

FINISHED PART TO BE RoHS COMPLIANT PER DIRECTIVE 2002/95/EC. FABRICATOR MUST PROVIDE A RoHS MATERIAL DECLARATION FOR THIS FINISHED PART IAW IPC-1752 (MINIMUM OF CLASS 1). IF EQUIVALENT ALTERNATIVE RoHS COMPLIANT MATERIALS/COMPONENTS ARE USED, A LIST OF THESE ALTERNATIVES (AND THEIR RESPECTIVE MATERIAL DECLARATIONS) MUST BE PROVIDED WITH THE FINISHED PART MATERIAL DECLARATION. THIS FINISHED PART MAY BE SUBJECTED TO RoHS TESTING/AUDITING, AND FABRICATOR MUST BE ABLE TO PROVIDE SUPPORT DOCUMENTATION FOR THEIR MATERIAL DECLARATION WITHIN 1 WEEK IF REQUESTED. FABRICATOR TO ADD A UNIQUE PERMANENT FABRICATION FACILITY IDENTIFICATION MARK ON EACH FINISHED FABRICATED PART FOR RoHS TRACABILITY. THE MARK USED MUST BE IDENTIFIED ON THE MATERIAL DECLARATION.

20.2 Fabricated Item "Fabrication Facility" Marking

When specified on the drawing for RoHS or REACH compliance, the Fabrication vendor shall apply a Fabrication Facility mark. ESAM Mechanical Engineering may specify the facility mark location on the drawing, if not specified, then, it must be applied to the part in a discreet location typically not seen by a ESAM customer in an in-service condition. If the part is too small or it is not possible to permanently mark the part, then placing the facility mark on the packaging (Bag & Tag) is acceptable with ESAM QA approval. This facility mark shall be approved by ESAM Inc. Quality Assurance. If product is supplied by a sole source supplier, ESAM QA may deviate from this requirement. Any other deviation to this requirement must be approved by ESAM.

BATTERY REQUIREMENTS

Packaging shall be marked where batteries are installed or shipped with the product-

- (a) All batteries installed in equipment must be protected from damage & short circuit and the equipment must be packaged to prevent accidental battery activation. The packaging marking is dependent upon the type of battery used in the product but must follow International Civil Aviation Organization (ICAO)'s *Technical Instructions for the Safe Transport of Dangerous Goods by Air*, as set forth in the most recent version of the International Air Transport Association's (IATA) *Dangerous Goods Regulations*.

21 Paints

Shall comply per Addendum 1 for substances including Lead in Paints cannot exceed 5 PPM and Short Chain Paraffins in paints cannot exceed 300 PPM

22 Inks

Shall comply per Addendum 1 for substances including heavy metals such as lead, mercury, and Hexavalent Chromium cannot exceed 100 PPM and Cadmium cannot exceed 50 PPM. Short Chain Paraffins in inks cannot exceed 300 PPM

23 Weldment Material

Shall comply with Addendum 1 including Hexavalent Chromium, Lead and Mercury not to exceed a 1000 PPM and Cadmium cannot exceed 100 ppm unless otherwise specified on the drawing or specification

24 Conversion Coatings for Metals

Shall comply with Addendum 1 and/or shall meet the requirements specified on the ESAM drawing or specification or identified ESAM part number for specific Conversion Coating type which may reference either a Mil Specification or ASTM Standard.

25 Specific ESAM Inc. Customer request

On occasions ESAM's customers may request specific substance data outside the scope of this document. This special request for information may be to determine if materials/substances such as/ but not limited to Magnesium, Zinc, PVC, Lithium Batteries, Selenium or Bromines used in flame retardants, etc. are used in the Seller's product and the locations of these substances in the products. ESAM will make a formal request to the Seller using a customized material declaration form for this type of request. The ESAM product supplier has 10 business days to respond to specific substance request.

26 References

EU Documents

- Directive 2002/95/EC EU RoHS Directive
- Directive 2012/19/EU EU WEEE Directive
- Directive 94/64/EC EU Packaging Directive
- Directive 1907/2006/EC (EU REACH/224) EU REACH Regulation
- Directive 2011/65/EU EU RoHS 2 Directive and subsequent amending Directives (ex. Directive (EU) 2015/863)
- Directive 2015/863 EU RoHS 3 Directive

China Documents

- SJ/T11363-2006 "Requirements on Concentration Limits to Toxic and Hazardous substances in Electronic Information Products"
- SJ/T11364-2014 "Marking Requirement for Control of Pollution Caused by Electronic Information Product"

IPC Documents

- IPC-1752-2, IPC-1752A, and IPC-1754 – Material Declaration Management forms
- IEC- International Electro technical Commission

Definitions

- **ABS** – Acrylonitrile Butadiene Styrene
- **CFC** – Chlorinated Fluorocarbons
- **DBDPO** – Decabromodiphenyl Oxide (a flame retardant)
- **ECHA** – **European Chemicals Agency** [European Chemicals Agency \(ECHA\)](#)
- **EFUP** – Environmentally Friendly Use Period as defined in China SJ/-T11364-2006, synonymous with EPUP
- **EPUP** – Environmental Protection Use Period (see EFUP)
- **EU** – European Union
- **HFC** – Halogenated Fluorocarbons

- **HIPS** – High Impact Polystyrene
- **Homogeneous Material** – A material that cannot be mechanically disjoined into different materials
- **Known to be Present**- Deliberately used in the formulation of a product where its continued presence is desired to provide a specific characteristic, appearance, property, attribute or quality
- **MCV** – Is the Maximum Concentration Value threshold of the substance that shall be accepted
- **OBDDPO** – Octabromodiphenyl Oxide (a flame retardant)
- **ODS** – Ozone Depleting Substance
- **Parts per Million (PPM)** – used to express concentration. The ppm is 1,000,000 x mass substance / mass of the homogeneous material. Concentrations are unit-less, for example 100 ppm = 0.01% = 100 mg/kg.
- **PeBDPO** – Pentabromodiphenyl Oxide (a flame retardant)
- **Product** – Any item of value sold to ESAM Inc.
- **PVC** – Polyvinyl Chloride
- **REACH** –Registration, Evaluation, Authorisation and Restriction of Chemical substances per EU regulation 1907/2006 E/C
- **Restricted** – Allowed in limited quantities
- **RoHS** – restriction of the use of certain hazardous substances in electrical and electronic equipment covered in EU Directive 2011/65 EU and subsequent addendums, China law SJ/-T11364-2006. RoHS Compliance limits and homogenous material examples are listed in Addendum 1& 2
- **RSL**- ESAM Restricted Substances List
- **Saleable Items**- Products sold by ESAM to customers or service providers, including but not limited to standard product lines, customized (“Special”) products, service/spare parts and materials
- **SDS** – Safety Data Sheet as defined in EU Regulation 1907/2006 E/C
- **Seller**– A person or organization that sells products, parts, assemblies, or raw materials to ESAM Inc. (same as Supplier)
- **Supplier** – A person or organization that sells products, parts, assemblies, or raw materials to ESAM Inc.
- **Suppliers Material Declaration** – a declaration made by a ESAM Inc. supplier that the product purchased by ESAM Inc. complies with an established list of requirements and standards.
- **SVHC**- Substance of Very High Concern as defined in EU Regulation 1907/2006 E/C
- **WEEE** – Waste Electrical and Electronic Equipment per European Union Directive 2012/19/EU

Addendum 1

1 Purpose

The purpose of the ESAM Restricted Substances List (RSL) is to identify substances that are controlled (“restricted”) by ESAM Inc. in order to comply with international regulations and ESAM policies to minimize the use of known or suspected hazardous substances. By requiring reporting on the presence of these substances in products purchased, ESAM will obtain the information necessary to ensure that all products are compliant with local, state and national law in the countries where they are sold. It is the goal of ESAM to eventually eliminate the use of all substances on the RSL.

The RSL will be used to inform ESAM employees, suppliers and other stakeholders about ESAM’ controlled substances and the associated compliance and declaration requirements. It will form an integral part of product specifications and contractual agreements with suppliers and customers.

2 Scope

This Specification applies to parts that are supplied to ESAM, parts manufactured by ESAM, and the final products ESAM delivers to its customers. It identifies materials and substances that are restricted or that require disclosure to ESAM if present in supplied parts and materials, including batteries and packaging materials.

The current version of the RSL is valid until next update is published.

This specification contains:

- List of substances that are controlled by ESAM for all parts, products and associated packaging (herein referred to as Restricted Substances (RS)).
- Threshold levels for substances in parts, products and packaging, equal to or above which the quantity of the substance must be disclosed
- ESAM approved exemptions for the use of listed substances above the threshold levels in certain specific applications
- Requirements for substance disclosure information exchange
- Requirements for suppliers of parts and materials

Where this document is called out, it applies to:

- All purchased raw materials, parts, components, subassemblies, assemblies, and packaging materials (herein collectively referred to as “parts”) that are used in the manufacture, repair, refurbishment and shipping of ESAM products.
- All suppliers of parts to ESAM and their sub-tier suppliers as those parts relate to ESAM end products.
- ESAM designed and “off-the-shelf” parts.
- All ESAM manufactured parts used in ESAM end products.

Limitations of scope:

- This specification defines only the ESAM requirements pertaining to RS and is not a complete or comprehensive listing of all ESAM regulatory compliance requirements.
- This specification does not apply to packaging materials and components (e.g. cardboard, plastic tray) if those items are not intended for use in shipping products out of ESAM facilities.

This specification does not apply to process chemicals (i.e. chemicals used and consumed during manufacture) unless those process chemicals constitute part of the finished part as delivered to ESAM.

3 References

EU RoHS Directive	Directive 2011/65/EU “Restrictions on the use of certain Hazardous Substances (RoHS 2)”
EU RoHS Directive	Directive 2015/863 “Restrictions on the use of certain Hazardous Substances (RoHS 3)”

EU REACH Regulation Regulation No. 1907/2006 (EU REACH/224) – “Registration, Evaluation, and Authorization of Chemicals (REACH)”

4 Definitions/ Abbreviations

See Appendix 1

5 ESAM Restricted Substances

This section identifies the substances restricted by ESAM for use in raw materials, parts, components, subassemblies, assemblies, and/or packaging materials. The substances are listed in Appendix 2, along with their reporting thresholds. This substance list and the reporting thresholds may be changed by ESAM at any time and does not always indicate regulatory bans or restrictions as substance disclosure is required to support regulatory labeling and/or reporting as well as ESAM’ design for environment requirements. Suppliers of parts are expected to ensure that those parts comply with the requirements of the current version of the RSL at the time of delivery to ESAM.

All ESAM new product programs beginning on or after January 31, 2019 shall incorporate the RSL requirements.

All ESAM products shall comply with the requirements of this RSL by July 31, 2019

Any and all requests for exceptions to compliance with the RSL shall be submitted to and approved by the ESAM.

5.1 Restricted Substances

These substances shall not be present above the listed threshold level in any part sold to or otherwise supplied to ESAM Corporation. It is the intention of ESAM to not use these substances unless no technologically feasible alternative exists. Therefore, these substances shall be identified for phase out and the supplier should detail their phase out plans as part of the reporting process. If a restricted substance is known to be present above the threshold level the quantity shall be reported.

6 Conformance Requirements

ESAM Engineering, Materials, Quality Assurance, and Suppliers shall ensure that delivered parts and materials are compliant with this RSL, when called out by drawing, specification or purchasing documents. Compliance requires that the restricted substance content in the delivered part or material does not exceed the limits stated in Appendix 2.

6.1 Declaration Data Responsibility

6.1.1 ESAM Responsibilities

- ESAM shall provide restricted substance declaration data for each part before production release and verify that the part and the declaration meet the requirements of the RSL.
- ESAM shall review RS compliance whenever a change is made and provide a new/updated substance declaration data as necessary.
- Materials shall assist with contacting suppliers of parts and materials in order to collect the required declaration data.
- Receiving Inspection shall collect and store declaration data for production parts and materials as directed in the inspection plan for each part.

- ESAM is responsible for conformance of sub-tier supplier provided parts when ESAM designates the sub-tier supplier.

6.1.2 Supplier Responsibilities

- Suppliers shall provide a completed Declaration of Hazardous Substances upon initial delivery of parts and throughout the production lifetime as required by ESAM.
- Suppliers shall review RS compliance whenever a change is made and provide a new/updated declaration as necessary.
- Suppliers shall collect appropriate declaration data from their supply chain to substantiate the declarations made to ESAM.
- Suppliers are responsible for RSL conformance of parts from sub-tier suppliers when the supplier chooses the sub-tier. Evidence showing conformance of sub-tier parts and materials must be made available to ESAM upon request.

6.2 Restricted Substance Content Data

Restricted Substance compliance relies upon obtaining data on the RS content of the parts and materials used in the end product. Methodologies for determining RS content vary depending on the part or material and may include:

- Data collection from suppliers
- Formulation analyses
- Use of Industry Standards for raw materials (e.g. metal alloys)
- Testing of actual part / material

The specific methodology used for obtaining RS content data and converting this to a declaration of conformity should be documented within the RS compliance system of the ESAM making the declaration.

6.3 Restricted Substance Reporting

Every part used in each RSL compliant product shall have a completed material declaration.

A completed material declaration shall be submitted for a part at the following key events in the product life cycle:

- New/revised part release
- Engineering changes
- Any change to supplier or sub-tier supplier materials or processes
- Non-conformances found
- Updates of the RSL

6.4 Declaration Verification

The recipient of the material declaration shall verify the accuracy and reliability of the declaration through the use of appropriate evaluation, inspection, and test methods, and/or review of certified test reports. The process used to verify declaration data should be documented as part of the RS compliance system.

Declarations need to be supported by appropriate objective evidence that the part complies with the RS requirements. Verification is a review of the objective evidence which may include:

- Material / Supplier risk assessments
- Supplier qualifications
- Formulation analyses
- Test Reports

6.5 Declaration Data Retention

Restricted substance declaration data shall be stored in accordance with the ESAM restricted substance data storage policy and retained for a period of not less than production life of the ESAM product(s) it is associated with, plus 10 years.

7 Supplier Controls and Records

7.1 Process Controls

Suppliers are responsible for establishing and maintaining an effective Restricted Substance Compliance Assurance System. This system should contain the documented processes necessary to ensure conformance of parts delivered to ESAM, including: design and process controls, supply chain controls, compliance data collection and verification, self-audits, and record keeping.

ESAM will also conduct its own audits of suppliers' part level conformance and Compliance Assurance Systems.

7.2 Frequency of Obtaining Compliance Data

ESAM expects suppliers to verify or re-verify conformance of their parts on a regular basis and at key events in the product life cycle.

7.3 Data Verification

Suppliers are expected to verify the accuracy and reliability of the Declaration through the use of appropriate evaluation, inspection, and test methods, and/or review of certified test reports. The process used to verify declaration data should be documented as part of the RS compliance system.

7.4 Data Retention

Restricted substance declaration data shall be stored for a period of not less than 10 years, or as specified by contract. This data must be readily available upon request.

7.5 Supplier Self-Audit

Suppliers are responsible to establish and implement a self-audit process to ensure they have an effective Compliance Assurance System in place that consistently produces RSL compliant parts for delivery to ESAM. Suppliers are responsible to ensure that any non-conformances are identified and analyzed and that appropriate root-cause and corrective actions are taken prior to any part being used in ESAM products.

8 Restricted Substance Use Exemptions

When a part cannot be produced without using a restricted substance, an exemption can be used for the specific applications defined in the appropriate directive. If and when an exemption is used, the exemption should be noted on the material declaration.

9 Document Revision Log

REVISION	DATE	APPROVED BY
Rev. B / Updated and revised requirements and reference callouts	6/16/22	K. Gahafer
Rev. C / Added "from the Manufacture, or RoHS3, as required" to Section 12 (d)	9/1/22	K. Gahafer
Rev. D / Updated sections 2, 3, 13, 20.1, 26 Addendum 1 section 3	9/14/22	K. Gahafer

Appendix 1: Definitions / Abbreviations

RSL	ESAM Restricted Substances List
Saleable Items	Products sold by ESAM to customers or service providers, including but not limited to standard product lines, customized (“Special”) products, service/spare parts and materials
Part	The term part as used in this document refers to any part, component, sub-assembly, assembly, raw material, and/or packaging component sold to or manufactured by ESAM.
Product	The term product as used in this document refers to any product offered for sale by ESAM Corporation
Known to be Present	Deliberately used in the formulation of a product where its continued presence is desired to provide a specific characteristic, appearance, property, attribute or quality
Homogeneous Material	A material that cannot, in principle, be mechanically disjointed into different materials. Examples of “homogeneous materials” are individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings
Mechanically Disjointed	Is used to describe processes that can, in principle, be used to separate one material from another by mechanical actions such as: unscrewing, cutting, crushing, grinding and abrasive processes.
PPM	Parts per Million – used to express the relative mass content of substances within materials and/or products
RS	Restricted Substances (RS) are those substances whose use ESAM has determined to control and monitor within all parts, products and associated packaging.

Appendix 2: ESAM Restricted Substance List (RSL)

ESAM Restricted Substances

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Actinolite	77536-66-4	1% for each	Microscopic examination; minimum magnification 1-250, polarized light filter attached; ratio of fiber length to diameter is at 3:1	any intentionally added	REACH Regulation EC 1907/2006 Annex XVII - Restrictions, line 6	plastics (mineral filler), insulation
Amosite	12172-73-5					
Anthophyllite	77536-67-5					
Chrysotile	12001-29-5					
Crocidolite	12001-28-4					
Tremolite	77536-68-6					

ALKYLPHENOL & ALKYLPHENOL ETHOXYLATES

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Nonylphenol	25154-52-3	10 mg/kg	Solvent extraction, LC-MS analysis	NP: 100 mg/kg Sum of AP&APEO: 1000 mg/kg	REACH Regulation EC 1907/2006 - Candidate SVHC	AP's and APEO's are used in detergents, etc. These chemicals are considered to be toxic, persistent to the environment and bioaccumulative.
Nonylphenol ethoxylate	9016-45-9	50 mg/kg				
Octylphenol	27193-28-8	10 mg/kg				
Octylphenol ethoxylate	9002-93-1	50 mg/kg				

AZO DYES (24 AMINES)

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
o-Toluidine	95-53-4	5 mg/kg	EN 14362-1 (textile & polyester)/ ISO 17234-1 :2010 (leather)/ EN 14362-3 (pAAB textiles) 17234-2 (pAAB leather)	0.1% by weight of article	REACH Regulation EC 1907/2006 - Candidate SVHC	Pigment, dyes, colorants in textiles and leathers
2,4-Xylidine	95-68-1			0.003% by weight of the finished textile/leather product	ANNEX XVII of REACH Regulation (EC) No 1907/2006	
2,6-Xylidine	87-62-7					
2-Methoxyaniline/o-Anisidine	90-04-0			0.1% by weight of article	REACH Regulation EC 1907/2006 -	
p-Chloroaniline	106-47-8					
p-Kresidine/ p-Cresidine	120-71-8					

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
					Candidate SVHC	
2,4,5-Trimethylaniline	137-17-7			0.003% by weight of the finished textile/leather product	ANNEX XVII of REACH Regulation (EC) No 1907/2006	
4-Chloro-o-Toluidine	95-69-2					
2,4-Tolulenediamine	95-80-7					
2,4-Diaminoanisoole	615-05-4					
2-Naphthylamine	91-59-8					
2-Amino-4-nitrotoluene	99-55-8					
4-Aminoazobenzene (pAAB)	60-09-3					
4-Aminodiphenyl	92-67-1					
4,4'-Oxydianiline	101-80-4					
Benzidine	92-87-5					
4,4'-Diaminodiphenylmethane	101-77-9					
o-Aminoazotoluene	97-56-3					
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0					
3,3'-Dimethylbenzidine	119-93-7					
4,4'-Thiodianiline	139-65-1					
3,3'-Dichlorobenzidine	91-94-1					
4,4'-Methylene-bis-(2-chloraniline)	101-14-4					
3,3'-Dimethoxybenzidine	119-90-4					

Bisphenol A

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Bisphenol A	80-05-7	1.0 mg/kg	Solvent extraction, LC-MS analysis	Not detected (<1 mg/kg)	EU 321/2011	Children's Articles

CARCINOGENIC & ALLERGIC DISPERSE DYES AND OTHER DYES (30 DYES)

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Navy Blue	118685-33-9	10 mg/kg	Solvent extraction, LCMS analysis	Not detected (<100 mg/kg)		common consumer goods, such as water bottles, sports equipment, CDs, and DVDs. Epoxy resins containing BPA are used to line water pipes, as coatings on the inside of many food and beverage cans and in making thermal paper such as that used in sales receipts.
C.I. Acid Red 26	3761-53-3	1 mg/L	DIN 54231/ §64LFGB B 82.02-10	Not Detected	Country bans for Germany, China, Korea	Dyes for synthetic fibers
C.I. Basic Red 9	569-61-9					
C.I. Basic Violet 14	632-99-5					
C.I. Direct Black 38	1937-37-7					
C.I. Direct Blue 6	2602-46-2					
C.I. Direct Red 8	573-58-0					
C.I. Disperse Blue 1	2475-45-8					
C.I. Disperse Blue 3	2475-46-9					
C.I. Disperse Blue 7	3179-90-6					
C.I. Disperse Blue 26	3860-63-7					
C.I. Disperse Blue 35	12222-75-2					
C.I. Disperse Blue 102	12222-97-8					
C.I. Disperse Blue 106	12223-01-7					
C.I. Disperse Blue 124	61951-51-7					
C.I. Disperse Blue Brown 1	23355-64-8					
C.I. Disperse Orange 1	2581-69-3					
C.I. Disperse Orange 3	730-40-5					
C.I. Disperse Orange 11	82-28-0					
C.I. Disperse Orange 37/59/76**	12223-33-5					
C.I. Disperse Orange 149	85136-74-9					
C.I. Disperse Red 1	2872-52-8					
C.I. Disperse Red 11	2872-48-2					
C.I. Disperse Red 17	3179-89-3					
C.I. Disperse Yellow 1	119-15-3					
C.I. Disperse Yellow 3	2832-40-8					
C.I. Disperse Yellow 9	6373-73-5					
C.I. Dispers Yellow 23	6250-22-3					
C.I. Disperse Yellow 39	12236-29-2					
C.I. Disperse Yellow 49	54824-37-2					

DIMETHYL FUMARATE (DMF)

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Dimethyl Fumarate (DMF)	624-49-7	0.1 mg/kg	Solvent extraction, GC-MS analysis	0.1 mg/kg	EU Commission Decision 2009/251	Used as a biocide in furniture or shoes to prevent growths of mold during storage or transport in a humid climate

DIOXINS AND FURANS

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Group 1		0.1 ug/kg	US EPA 8290	Sum of group 1: 1 ug/kg	Usage Ban across multiple organizations	Dioxins/ furans are common by-products of incomplete combustion (burning) of organics in a chlorine rich environment and are often associated with the production of pesticides, pvc, and other similar chlorinated chemicals.
2,3,7,8-Tetrachlorodib enzo-p-dioxin	1746-01-6	per congener				
1,2,3,7,8-Pentachlorodib enzo-p-dioxin	40321-76-4	(dioxin or furan)				
2,3,7,8-Tetrachlorodib enzofuran	51207-31-9					
2,3,4,7,8-Pentachlorodib enzofuran	57117-31-4					
Group 2		0.1 ug/kg	US EPA 8291			
1,2,3,4,7,8-Hexachlorodib enzo-p-dioxin	39227-28-6	per congener		Sum of group 1&	Usage Ban across multiple organizations	
1,2,3,7,8,9-Hexachlorodib enzo-p-dioxin	19408-74-3	(dioxin or furan)		2: 5 ug/kg		
1,2,3,6,7,8-Hexachlorodib enzo-p-dioxin	57653-85-7					
1,2,3,7,8-Pentachlorodib enzofuran	57117-41-6					
1,2,3,4,7,8-Hexachlorodib enzofuran	70648-26-9					
1,2,3,7,8,9-Hexachlorodib enzofuran	72918-21-9					
1,2,3,6,7,8-Hexachlorodib enzofuran	57117-44-9					
2,3,4,6,7,8-Hexachlorodib enzofuran	60851-34-5					

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Group 3						
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9			Sum of group 1,2&3: 100 ug/kg	Usage Ban across multiple organizations	
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9					
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4					
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7					
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0					
Group 4						
2,3,7,8-Tetrabromodibenzo-p-dioxin	50585-41-6			Sum of group 4: 1 ug/kg		
1,2,3,7,8-Pentabromodibenzo-p-dioxin	109333-34-8					
2,3,7,8-Tetrabromodibenzofuran	67733-57-7					
2,3,4,7,8-Pentabromodibenzofuran	131166-92-2					
Group 5						
1,2,3,4,7,8-Hexabromodibenzo-p-dioxin	11099944-5			Sum of group 4&5: 5 ug/kg		
1,2,3,7,8,9-Hexabromodibenzo-p-dioxin	110999-46-7					
1,2,3,6,7,8-Hexabromodibenzo-p-dioxin	110999-45-6					
1,2,3,7,8-Pentabromodibenzofuran	107555-93-1					

FLAME RETARDANTS

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Chlorinated paraffins (C10-C13) (SCCP)	85535-84-8	30 mg/kg	Solvent extraction, GC-MS,	1000 mg/kg	REACH Regulation EC 1907/2006 - Candidate SVHC	cleaner, degreaser, solvent, paints, stripper, adhesive, lubricant, cooler, insulation agent, additive, glue, flame retardant, plasticizer, leather coating, sealer, binder, repellent, pesticide
Chlorinated paraffins (C14-C17) (MCCP)	85535-85-9	100 mg/kg	GC-NPD & LC-MS analysis	1000 mg/kg		
Polybrominated biphenyls (PBBs)	59536-65-1			Not detected for each	REACH Regulation EC 1907/2006 Annex XVII	flame retardant in foams, printed circuit boards and other applications
Pentabromodiphenylether (PentaBDE)	32534-81-9					
Octabromodiphenylether (OctaBDE)	132536-52-0	5 mg/kg for each		1000 mg/kg	REACH Regulation EC 1907/2006 Annex XVII	flame retardant inelectrical equipment, ABS, high impact polystyrene and polyamides found in Textiles,
Tris-(2, 3-dibromopropyl) phosphate (TRIS)	126-72-7				US CPSC Japanese law for the control of household products containing harmful substances; Law no. 112, October 12, 1973. Partially amended in 1978 and 1981 REACH Regulation EC 1907/2006 Annex XVII	Found in Textiles, pajamas, bedding, curtains, floor carpets home textile, apparel, and footwear products home textile, apparel, and footwear products
Bis (2,3-dibromopropyl) phosphate (BDBBP)	5412-25-9					
Tris-(aziridinyl) phosphin oxide (TEPA)	545-55-1					
Decabromodiphenyl ether (DecaBDE)	1163-19-5					REACH Regulation EC 1907/2006 - Candidate SVHC

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Hexabromocyclododecane (HBCDD)	25637-99-4	100 mg/kg		1000 mg/kg	REACH Regulation EC 1907/2006 - Candidate SVHC	flame retardant, often found in polystyrene
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	5 mg/kg		Not detected	REACH Regulation EC 1907/2006 - Candidate SVHC	flame retardant, plasticizer
Tris (1,3-dichloro-2-propyl) phosphate (TDCPP)	13674-87-8	5mg/kg		Not detected	CA Prop 65	flame retardant in flexible polyurethane foams.flame retardants and plasticizers in rigid polyurethane foams,resins, plastics, textile coatings, and rubber
2-Propanol, 1-chloro-phosphate Mixture of isomers (contains 6145-73-9)	13674-84-5	5mg/kg		Not detected		Flame retardant
1-Propanol, 2-chloro-phosphate (isomer of TCPP)	6145-73-9	5mg/kg		Not detected		Flame retardant
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-bis(2-ethylhexyl)ester (TBPH)	26040-51-7	5mg/kg		Not detected		Flame retardant
2,3,4,5-Tetrabromobenzoic acid 1-ethylhexylester (TBB)	183658-27-7	5mg/kg		Not detected		Flame retardant
Benzene, 1,1'-(1,2-ethanediyl)bis[2,3,4,5,6-pentabromo;deca bromodiphenyl ethane) DBDPE (DBE-209)	84852-53-9	5mg/kg		Not detected		Flame retardant
Phosphoric acid, triethyl ester (TEP)	78-40-0	5mg/kg		Not detected		Flame retardant
Ethanol, 2-butoxy-, phosphate (3:1) (TBEP)	78-51-3	5mg/kg		Not detected		Flame retardant
Phosphoric acid, tris(methylphenyl) ester (TCP)	1330-78-5	5mg/kg		Not detected		Flame retardant

Chemical Name	CAS Number	Reporting Detection Limit	Test Method	United Stationers Limit	Legislation Source	Examples of Use
Phosphoric acid, bis(methylphenyl) phenyl ester	26446-73-1	5mg/kg		Not detected		Flame retardant
Phenol, isopropylated, phosphate (3:1) (PIP)	68937-41-7	5mg/kg		Not detected		Flame retardant
2-(2-Hydroxyethoxy)ethyl 2-hydroxypropyl 3,4,5,6-tetrabromobenzene dicarboxylate	77098-07-8	5mg/kg		Not detected		Flame retardant
3,4,5,6-Tetrabromo-1,2-benzenedicarboxylic acid, mixed esters with diethylene glycol and propylene glycol	20566-35-2	5mg/kg		Not detected		Flame retardant
1,1'-[1,2-Ethanedyl]bis(oxy)]bis[2,4,6-tribromobenzene] or 1,2-bis(2,4,6-tribromophenoxy) ethane	37853-59-1	5mg/kg		Not detected		Flame retardant
Triphenyl Phosphate (TPP)	115-86-6	5mg/kg		Not detected		Flame retardant

FLUORINATED GREENHOUSE GASES

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Hydrofluorocarbons (HFC's):		0.1 mg/kg	Headspace GC-MS	Not detected	Montreal Protocol and EU legislation	F-gases are used in several types of products and appliances, mainly as substitutes for ozone-depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons which are being phased out under the Montreal Protocol and EU legislation.
HFC-23 - CHF3	75-46-7					
HFC-32 - CH2F2	75-10-5					
HFC-41 - CH3F	593-53-3					
HFC-43-10mee - C5H2F10	138495-42-8					
HFC-125 - C2HF5	354-33-6					
HFC-134 - C2H2F4	359-35-3					

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
HFC-134a - CH ₂ FCF ₃	811-97-2					
HFC-152a - C ₂ H ₄ F ₂	75-37-6					
HFC-143 - C ₂ H ₃ F ₃	430-66-0					
HFC-143a - C ₂ H ₃ F ₃	420-46-2					
HFC-227ea - C ₃ HF ₇	431-89-0					
HFC-236cb - CH ₂ FCF ₂ CF ₃	677-56-5					
HFC-236ea - CHF ₂ CHF ₂ CF ₃	431-63-0					
HFC-236fa - C ₃ H ₂ F ₆	690-39-1					
HFC-245ca - C ₃ H ₃ F ₅	679-86-7					
HFC-245fa - CHF ₂ CH ₂ CF ₃	460-73-1					
HFC-365mfc - CF ₃ CH ₂ CF ₂ CH ₃	406-58-6					
Perfluorocarbons (PFC's):						
Perfluoromethane - CF ₄	75-73-0					
Perfluoroethane - C ₂ F ₆	76-16-4					
Perfluoropropane - C ₃ F ₈	76-19-7					
Perfluorobutane - C ₄ F ₁₀	355-25-9					
Perfluoropentane - C ₅ F ₁₂	678-26-2					
Perfluorohexane - C ₆ F ₁₄	355-42-0					
Perfluorocyclobutane - C ₄ F ₈	115-25-3					

FORMALDEHYDE

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Formaldehyde	50-00-0	Textile & Leather: 16 mg/kg	Textile: JIS L1041 Leather: ISO 17226-2 (UV-Vis method)	Baby (0-36 months) Textile & Leather: A-Ao ≤ 0.05abs (16mg/kg) Adult Textile & Leather: 75 mg/kg	Austria - BGBI 1990/194: Formaldehydverordnung, §2, 12/2/1990; Lithuanian Hygiene Norm HN 96:2000 (Hygiene standards and regulations)	Textiles
Formaldehyde Emissions in Composite Wood	50-00-0	Vary by test method	Airborne Toxic Control Measure (ATCM) California Code of Regulations Title 17,[193120/ ASTM D 6007	Intentionally added	US/CA CARB Rule US Federal Law 111-199/TSCA Section 601	Composite wood (plywood, particle board, medium density fiberboard) products or components

Heavy Metals

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Total Cadmium (Cd) content	7440-43-9	5 mg/kg	ASTM E1613 / E1645 (Mod.) /	100 mg/kg	Denmark: Statutory order No. 1199 of December 23, 1992 on the prohibition of sale, import and manufacture of cadmium-containing products	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
			Client Requirement		REACH Regulation EC 1907/2006 Annex XVII - Restrictions, line 23 Switzerland: Ordinance on Risk Reduction related to the Use of certain particularly dangerous Substances, Preparations and Articles	

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Lead (metallic form and compounds)	7439-92-1	5 mg/kg		100 mg/kg per homogeneous substance	Denmark: Statutory order No. 1012 of November 13, 2000, on prohibition of import and marketing of products containing lead USA: CPSIA	weights, small arms ammunition, anti-corrosion materials, electrodes in lead-acid batteries, solder, sheathing of power cables, radiation shielding, coolants, alloys (brass), glazing bars and stained glass, sound reduction barriers in walls, pipe organs, coloring agent in ceramic glazes (especially red and yellow), PVC, candle wicks, glass, paints (especially red, yellow, and orange), oil painting, and other uses
Total Lead (Pb) content (surface coatings)	7439-92-1	5 mg/kg	16 CFR 1303 (Scope widened)	90 mg/kg	USA: CPSIA CA Proposition 65	paints and surface-coatings on children's articles Jewelry, Belts, Duffle bags, Wallets
Total Lead (Pb) content (substrates)	7439-92-1	5 mg/kg	Client Requirement ASTM E1613 /	100 mg/kg	USA - CPSIA	Shall not contain Lead or Lead compounds in which the Lead content is in excess of: - 90ppm for Hole punches - 100ppm for Office and School Supplies (Note: Only includes erasers, vinyl pencil cases, calculators, vinyl pens and toppers for pens, vinyl clip boards, vinyl flexible rulers, vinyl LED book light and vinyl pencil sharpeners) - 100ppm for Photo Frames
ssssLead (PVC)	7439-92-1	5 mg/kg	Client Requirement ASTM E1613 / E1645(Mod.)	30 ppm	CA Proposition 65	clothing made from lead containing PVC, Backpacks materials
			Client Requirement ASTM E1613 /E1645(Mod.)	200 ppm	CA Proposition 65	Jewelry, Belts, Duffle bags, Wallets

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Lead (Leather)	7439-92-1	5 mg/kg	Client Requirement ASTM E1613 / E1645(Mod.)	300 ppm	CA Proposition 65	Jewelry, Belts, Wallets
			Client Requirement ASTM E1613 / E1645(Mod.)	200 ppm	CA Proposition 65	Duffle bags
Total Mercury (Hg) content	7439-97-6	0.1mg/kg	2011/65/EU / IEC 62321 Client Requirement	1 mg/kg	"USA: Maine and other IMERC states, California's Mercury Reduction Act of 2001 Switzerland"	Plastics, paints, inks, synthetic fibers, metal components
Chromium VI (Cr VI) content	18540-29-9	3 mg/kg	Test method: refer to IEC62321.	100 ppm	"EU Packaging Directive 94/62/EEC USA: State Toxics in Packaging Clearinghouse"	Packaging materials
Tin-screening test for organotins	7440-31-5	If tin>0.1 mg/kg, organotins analysis required		0.1 mg/kg		Vinyl (PVC) products, including toys, school supplies, wallpaper, VCT floor tile, rain jackets, backpacks, shower curtains
Nickel (Ni) release content	7440-02-0	0.1 ug/cm2/week		0.28 ug/cm2/week (prolonged skin contact)	REACH Regulation EC 1907/2006 Annex XVII	Stainless steel, plating; example application for prolonged skin contact is an ear bud (headphone), mobile phone
Hexavalent Chromium in Plastics	18540-29-9	1mg/kg	No Hexavalent Chromium (Cr VI) shall be detected in all kinds of plastics. Test method: refer to IEC62321	CA prop 65 List Client Requirement.	CA Prop 65	Plastics
Hexavalent Chromium in Leather	18540-29-9	1mg/kg	IEC62321	3mg.kg	REACH Regulation EC 1907/2006 Annex XVII	Leather articles coming into contact with skin and articles containing leather components coming into contact with skin shall not contain Chromium VI equal to or greater than 3 ppm.

Pesticides

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
2,4,5-T	93-76-5	0.5 mg/kg	Solvent extraction, GC-MS/GC-NPD/LCMS analysis	Not detected		Natural fibers used in textiles
Aldrin	309-00-2					
Chlordane	57-74-9					
DDD	53-19-0,					
	72-54-8					
DDE	3424-82-6,	0.5 mg/kg	Solvent extraction, GC-MS/GC-NPD/LCMS analysis	Not detected		Natural fibers used in textiles
	72-55-9					
DDT	50-29-3,					
	789-02-6					
Dieldrine	60-57-1					
Endrine	72-20-8					
Heptachlorine	76-44-8					
Heptachlorore poxide	1024-57-3					
Hexachlorobe nzene	118-74-1					
Hexachlorcycl ohexane (HCH, all isomer)	608-73-1					
Hexachlorcycl ohexane, a-	319-84-6					
Hexachlorcycl ohexane, b-	319-85-7					
Hexachlorcycl ohexane, d-	319-86-8					
Isodrin	465-73-6					
Kelevane	4234-79-1					
Kepone	143-50-0					
Lindane	58-89-9					
Methoxychlor	72-43-5	0.5 mg/kg	Solvent extraction, GC-MS/GC-NPD/LCMS analysis	Not detected		Natural fibers used in textiles
Mirex	2385-85-5					
Perthane	72-56-0					
Strobane	8001-50-1					
Telodrin	297-78-9					
Toxaphene	8001-35-2					
Quintozene	82-68-8					
2-(2,4,5-trichlorophen oxy) propionic acid	93-72-1					

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
(2,4,5-TP), its salts, 2-(2,4,5-trichlorophenoxy)						
propionyl compounds						
Halogenated naphthalene	Various					
Halogenated diarylalkanes	Various					
Halogenated diphenyl methanes, including	99688-47-8					
Monomethyl-dibromodiphenyl methane	81167-70-8					
Monomethyl-dichlorodiphenyl methane	76253-60-6					
Monomethyl-tetrachlorodiphenyl methane						

PFOS & PFOA

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Perfluorooctane sulphonate (PFOS)	2795-39-3	1.0 ug/m2	Solvent extraction,	Not detected	EG 850/2004 (POP)	Textiles
Perfluorooctanoic acid (PFOA)	68141-02-6	0.1 mg/kg	LC-MS-MS analysis	0.1 mg/kg		consumer goods as Teflon. In 2013, Gore-Tex eliminated the use of PFOAs in the manufacture of its weatherproof functional fabrics

PHTHALATES

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Di-n-butyl phthalate (DBP)	84-74-2	50 mg/kg	CA prop 65 Court Cases	1000 mg/kg (sum)	REACH Regulation EC 1907/2006 - Candidate SVHC	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
Butyl benzyl phthalate (BBP)	85-68-7		(Scope Widened) /		REACH Regulation EC 1907/2006 - Candidate SVHC	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
Di-2-ethylhexyl phthalate (DEHP)	117-81-7		Client Requirement		REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer in PVC and some other plastics, hydraulic fluid, dielectric fluid in capacitors, solvent in light sticks, cosmetics
Di-n-octyl phthalate (DNOP)	117-84-0				REACH Regulation EC 1907/2006 Annex XVII	plasticizer
Di-iso-decyl phthalate (DIDP)	26761-40-0		CPSC-CH-C1001-09.3		REACH Regulation EC 1907/2006 Annex XVII	plasticizer
Di-iso-nonyl phthalate (DINP)	28553-12-0				REACH Regulation EC 1907/2006 Annex XVII	plasticizer
Di-iso-butyl phthalate (DIBP)	84-69-5				REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer
Di-n-hexyl phthalate (DnHP)	84-75-3				REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer used in the manufacture of polyvinyl chloride (PVC) and other plastics.
Dimethyl phthalate (DMP)	131-11-3					plastics, and insect repellents.
Diethyl phthalate (DEP)	84-66-2					plasticizer

POLYCHLORINATED PHENOLS

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Pentachlorophenol (PCP)	87-86-5	0.05 mg/kg	ISO 17070 (modified) / §64 LFGB BLV B82.02-8 (modified)	Adult: 100 mg/kg Baby: 50 mg/kg	REACH Regulation EC 1907/2006 Annex XVII	Textiles, synthetic leather
Tetrachlorophenol (TeCP)	25167-83-3					Textiles, synthetic leather
Orthophenylphenol (OPP)	90-43-7					5 mg/kg

POLYCHLORINATED BIPHENYLS (PCBs)

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Polychlorinated Biphenyls (PCBs)	1336-36-3	50 mg/kg	Solvent extraction followed by GC-MS analysis	100 mg/kg	REACH Regulation EC 1907/2006 Annex XVII US TSCA	Insulation oil, lubricant oil, electrical insulation, medium, solvent, electrolytic solution; plasticizers, flame retardants, dielectric sealants

POLYCHLORINATED TERPHENYLS (PCTs)

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Polychlorinated Terphenyls (PCTs)	61788-33-8	50 mg/kg	Solvent extraction followed by GC-MS analysis	100 mg/kg	REACH Regulation EC 1907/2006 Annex XVII	Insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; plasticizers, flame retardants, coatings for electrical wire and cable, dielectric sealants

VOLATILE ORGANICS

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Benzene	71-43-2	1 mg/kg	Solvent extraction, GC-MS analysis or direct HS-GCMS analysis	5 mg/kg	REACH Regulation EC 1907/2006 Annex XVII	solvent, degreaser, thinner in waxes, resins, oils, rubbers, paints, adhesives
Phenol	108-95-2	5 mg/kg		10 mg/kg		
Toluene	108-88-3			1000 mg/kg each		
Trichloroethylene	79-01-6					
Tetrachloroethylene	127-18-4					
Dichloromethane (CH ₂ Cl ₂)	75-09-2					
Di-methyl-formamide (DMFA)	68-12-2					
Formaldehyde	50-00-0					
1,1,1,2-Tetrachloroethane	630-20-6					
1,1,1,2,2-Pentachloroethane	79-34-5					
Xylene	Various					
Cresol (Methylphenol)	Various					
Pentachloroethane	76-01-7					
Tetrachloroethane	56-23-5					

1,1,1-trichloroethane	71-55-6					
1,1,2-Trichloroethane	79-00-5					
Trichloromethane	67-66-3					
1,1-Dichloroethylene	75-35-4					

REACH

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	0.05% per product	Analysis is based on	0.1% per product	REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer in PVC and some other plastics, hydraulic fluid, dielectric fluid in capacitors, solvent in light sticks, cosmetics
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	0.05% per product	GC, LC, IC, ICP, with various	(each)	REACH Regulation EC 1907/2006 - Candidate SVHC	used as UV-stabilizers
reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)		0.05% per product	detection techniques and UV.		REACH Regulation EC 1907/2006 - Candidate SVHC	
Cadmium fluoride	7790-79-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used in oxygen-sensitive applications, such as the production of metallic alloys
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used as UV-stabilizers
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used as a stabilizer for PVC processing

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Cadmium sulphate	10124-36-4 31119-53-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used widely for the electroplating of cadmium in electronic circuits. It is also a precursor to cadmium-based pigment such as cadmium sulfide. It is also used for electrolyte in a Weston standard cell as well as a pigment in fluorescent screens.
1,2-Benzenedicarboxylic acid, dihexylester, branched and linear (DIHP)	68515-50-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	DIHP is used as lubricant in steering fluid and as plasticizers
Sodium peroxometaborate	4/4/7632	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used as a bleaching agent in washing detergents and machine dishwashing products
Cadmium chloride	10108-64-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used as a pigment, in photovoltaic panels (solar panels and solar charging cells) and in photocopyin
Sodium perborate,perboric acid, sodium salt	15120-21-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Widely used in laundry detergents and washing powders
Trixylyl phosphate	25155-23-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used in hydraulic fluids, flame retardants, and plasticizers
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used as a dye for e.g. textile and paper
Lead di(acetate)	301-04-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used as a reagent to make other lead compounds and as a fixative for some dyes
Cadmium sulphide	1306-23-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	predominantly used as a pigment. used in manufacturing of photoresistors (light dependent resistors) sensitive to visible and near infrared light In thin-film form

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	0.05% per product				used to: (1) dye cellulose, wool, silk, bast, and hog's hair; (2) print cellulose, wool and silk; (3) dye leather, plastics, vegetable-ivory buttons and wood flour used as a resin filler; (4) stain wool, silk, acetate, nylon, wood and biological materials, and (5) produce aqueous inks. It has reportedly been used in hair dyes.
Dihexyl phthalate (DnHP)	84-75-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer used in the manufacture of polyvinyl chloride (PVC) and other plastics.
Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used primarily as an accelerator for vulcanizing polychloroprene (neoprene) and polyacrylate rubbers
Cadmium oxide	1306-19-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	polarizer, improver of thermal properties, heat stabilizer, catalyst, electro plating, pesticide, dye, corrosion inhibitor in nitrile rubber, plastics, PTFE, phosphors, semiconductors; silver alloys, glass; dyes, electronics, storage battery electrodes, PVC, ceramic glazes

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Pentadecafluorooctanoic acid (PFOA)	335-67-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Water and oil repellent, surfactant, reactive intermediate in Teflon, non-stick coatings, treatments for textiles and paper, pesticides, fire-fighting foams, cleaning products, floor polishes, shampoo and food packaging materials
Dipentyl phthalate (DPP)	131-18-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer in PVC and other plastics
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used in production of PTFE
4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]		0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	precursor for commercial detergents and surfactants, pesticides
Cadmium	7440-43-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	fire protection systems, machinery enamels, baking enamels, photography, lithography, Batteries, Ni-Cd storage batteries; coating and electroplating steel, electronics, optics; soft solder, solder for aluminum, copper, alloying element (copper)

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE)	1163-19-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	flame retardant in plastics (especially HIPS), used in binders, paints, varnishes, floor covering materials, manufacture of printed circuit boards, home electronics coatings (e.g. television cabinets), office electronics, including mobile telephone equipment, within textile applications, upholstery, cables and insulation materials
Lead dinitrate	10099-74-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	previously used in paints (replaced with titanium dioxide), matches, fireworks, heat stabilizer in nylon and polyester, coating for photothermographic paper, and in rodenticides
Lead oxide sulfate	12036-76-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Plastics used for wire and cables Plastics used for exterior construction Plastics use for water pipes Plastics for mini-blinds Protection pipes and profiles for cables Gas pipes Mirror backing
Henicosfluoroundecanoic acid	2058-94-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Industrial chemicals widely used as water, stain and grease repellants for » Food wrap » Carpet » Furniture » Clothing

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
4,4'-oxydianiline and its salts	101-80-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	colourant, intermediate
Fatty acids, C16-18, lead salts	91031-62-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Consumer use of external plastics Consumer use of lead-stabilised plastic materials as an internal structural component of buildings Professional use of plastics PVC Processing Use of lead oxide in stabilisers production
Sulfurous acid, lead salt, dibasic	62229-08-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Consumer use of external plastics Consumer use of lead-stabilised plastic materials as an internal structural component of buildings Professional use of plastics PVC Processing Use of lead oxide in stabilisers production
Silicic acid (H ₂ SiO ₅), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for $\hat{\text{a}}$ ™ toxicity for reproduction $\hat{\text{a}}$ ™ Repr. 1A (CLP) or category 1 (DSD),the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used for coating glass lamp bulbs

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
4-Aminoazobenzene	60-09-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	dye, pigment in lacquers, varnishes, wax products, oil stains & styrene resins
o-aminoazotoluene	97-56-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used in the manufacture of pigments and for coloring oils, fats, and waxes, such as shoe and other wax polishes (Colour Index, 1971). It is also used as a chemical intermediate for the production of the dyes Solvent Red 24 and Acid Red 115
Tricosafuorododecanoic acid	307-55-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Industrial chemicals widely used as water, stain and grease repellants for » Food wrap » Carpet » Furniture » Clothing
Trilead bis(carbonate) dihydroxide	1319-46-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Preparation of PTC Ceramic Materials
Lead cyanamidate	20837-86-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
Biphenyl-4-ylamine	92-67-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used to manufacture azo dyes
4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]		0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	use as floating agent in mining applications; formulation and use of paints; emulsion polymerisation; and potentially as reducing agent in surface treatment), and professional and consumer uses of products such as paints containing NPnEO
Pentalead tetraoxide sulphate	12065-90-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	intermediate in lead-acid battery production

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	140-66-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Formulation of paints - Industrial end-use of paints - Use of ethoxylates in emulsion polymerization - Use as intermediate for the production of ether sulphates
Lead titanium trioxide	12060-00-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Manufacture of computer, electronic and optical products, electrical equipment
Dioxobis(stearato)triethyl lead	12578-12-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Manufacture of plastics products, including compounding and conversion
N-pentyl-isopentylphthalate (PIPP)	776297-69-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	plastics (especially PVC), synthetics, colors, epoxy resin, adhesives, coatings
Acetic acid, lead salt, basic	51404-69-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	intermediate in chemical manufacture
1-bromopropane (n-propyl bromide)	106-94-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	solvent for industrial cleaning (degreasing, metal processing and finishing, electronics, aerospace and aviation), aerosols, textiles, adhesives, inks and coatings
Heptacosaflluorotetradecanoic acid	376-06-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	water-repellent finishes for shoes and apparel
Furan	110-00-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	chemical intermediate
1,2-Diethoxyethane	629-14-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	solvent
N,N-dimethylformamide	68-12-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Solvent, quencher & cleaner, catalyst in Polyacrylic fibers, Orlon, PVC, polyurethane coatings, leather & artificial leather fabrics, high voltage capacitors, industrial paint stripping applications, solvents
Methyloxirane (Propylene oxide)	75-56-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	precursor of polyurethane plastics, polypropylene glycol, propylene glycol

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Pentacosafuorotrid ecanoic acid	72629-94-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	water-repellent finishes for shoes and apparel
6-methoxy-m-toluidine (p-cresidine)	120-71-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	component in azo dyes in textiles, cosmetics, dyes, pigments
Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7 13149-00-3 14166-21-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	hardener component for epoxy resins; intermediate for polyesters, specialty resins, plasticizers, adhesives, fungicides, pesticides
4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	production of toluene diisocyanate (production of polyurethane), intermediate in dye manufacture (hair, fur, leather dye), thermal stability of polyamides, additive to fibres, impact resistant resins, hydraulic fluids, urethane foams, fungicide, explosives
o-Toluidine	95-53-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	leather, textiles, synthetics epoxy resin, adhesives
Silicic acid, lead salt	11120-22-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	production of crystal glass
Tetralead trioxide sulphate	12202-17-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	intermediate in lead-acid battery production
Trilead dioxide phosphonate	12141-20-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	stabilizing agent (PVC) in construction industry, optical and electronic parts, batteries
4,4'-methylenedi-o-toluidine	838-88-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	azo-colourant

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Lead titanium zirconium oxide	12626-81-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	production of semiconductors
Tetraethyllead	78-00-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Fuel additive, anti knocking agent in gasoline
Dimethyl sulphate	77-78-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	methylating agent in organic synthesis (phenols, amines and thiols);
Diisopentylphthalate	605-50-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer
Lead monoxide (lead oxide)	1317-36-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	electronic articles, lead crystal glass
[Phthalato(2-)]dioxotrilead	69011-06-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used in PVC processing; lead oxide production, stabilizer production
Orange lead (lead tetroxide)	1314-41-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	electronic articles, lead crystal glass
Pyrochlore, antimony lead yellow	8012-00-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	pigment for paints and varnish
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Plasticizer in PVC and foam, automotive sealant, urethane, glass and transmission adhesive, roof coating, barrier coating, exterior trim and tarps, cement, caulk and sealer, high-end luggage, wire insulation

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0 19438-60-9 48122-14-1 57110-29-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	precursor in the production of dyes and pigments
Diethyl sulphate	64-67-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	chemical intermediate for coatings, pharmaceuticals, personal care products, detergents and textiles; alkylating agent to prepare ethyl derivatives of phenols, amines, and thiols
N-methylacetamide	79-16-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Process additive
Methoxyacetic acid	625-45-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	intermediate in synthesis of chemicals
Lead bis(tetrafluoroborate)	13814-96-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	electroplate liquid for lead and its alloys

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Dibutyltin dichloride (DBTC)	683-18-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Stabilizer in PVC, catalyser in the production of polyurethanes and silicones; used in food wraps and food packaging, T-shirts, polyurethane gloves, sanitary napkins, medical equipments, cellophane wrap and soft toys; PVC plastics (water pipes, packing materials, textile products); Silicon rubber (sealants, dental products, paper coatings); Polyurethanes (foam plastics, glue/sealants); Glass (coatings); Insulators in electronics and cables; deworming agent for poultry; polyurethanes; In plasticizers, lubricants, heat transfer fluids (dibutyl dichloride); transparent plastic
Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	contact herbicide, desiccant (till 1986)
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	water scavenger, reactive diluent in paints for poly urethane, polyurethane finishings and sealants
Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) (ADCA)	123-77-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	food additive, used to foam plastics, synthetic leather, blowing agent
N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michlers base)	101-61-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Michler's Ketone: additive compound and intermediate of dyes and pigments use as writing inks and other inks, purifiers, coatings paper dying

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Michler's Ketone: additive compound and intermediate of dyes and pigments use as writing inks and other inks, purifiers, coatings paper dyeing
[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Michler's Ketone: additive compound and intermediate of dyes and pigments use as writing inks and other inks, purifiers, coatings paper dyeing
4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Michler's Ketone: additive compound and intermediate of dyes and pigments use as writing inks and other inks, purifiers, coatings paper dyeing
1,2-bis(2-methoxyethoxy)ethane (TEGDME, triglyme)	112-49-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	usage as solvent for chemical synthesis
1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (Ĥ ² -TGIC)	59653-74-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	predominant application as hardener in resins and coatings
Diboron trioxide	1303-86-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	biocide, flame retardant rubber, adhesives
Formamide	75-12-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	coatings, plastics
1,2-dimethoxyethane, ethylene glycol dimethyl ether (EGDME)	110-71-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	usage as solvent for chemical synthesis

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	predominant application as hardener in resins and coatings
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Michler's Ketone: additive compound and intermediate of dyes and pigments use as writing inks and other inks, purifiers, coatings paper dyeing
[4-[[4-anilino-1-naphthyl]][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Michler's Ketone: additive compound and intermediate of dyes and pigments use as writing inks and other inks, purifiers, coatings paper dyeing
Lead(II) bis(methanesulfonate)	17570-76-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	electronic components(printed board)
Arsenic acid	7778-39-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	preservative and pigment in many materials
Lead dipicrate	6477-64-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	initiating explosives in detonator caps or ammunition
Formaldehyde, oligomeric reaction products with aniline	25214-70-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	epoxy resin, adhesives
N,N-dimethylacetamide	127-19-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	application as solvent, leather and textile coatings
Lead diazide, Lead azide	13424-46-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	initiating explosives in detonator caps or ammunition
2,2'-dichloro-4,4'-methylenedianiline	101-14-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	leather, textiles, synthetics epoxy resin, adhesives

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Potassium hydroxyoctaoxidizincatedichromate	11103-86-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	paints
Zirconia Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (Åµm). c) alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content less or equal to 18% by weight		0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	insulation, filler
Lead styphnate	15245-44-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	initiating explosives in detonator caps or ammunition
Phenolphthalein	77-09-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	laboratory reagent

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Calcium arsenate	7778-44-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	smelting of copper, production of arsenic trioxide smelting of glass, production of printed boards
Trilead diarsenate	3687-31-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	manufacture of arsenic compounds
Dichromium tris(chromate)	24613-89-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	corrosion inhibitor in yarn and corrosion paint
Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (Åµm) c) alkaline oxide and alkali earth oxide (Na ₂ O+K ₂ O+CaO+MgO+BaO) content less or equal to 18% by weight		0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	electrical and home appliances, high temperature isolation in industrial facilities, fire prevention

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
1,2-Dichloroethane	107-06-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used as solvent, degreasing agent or as cleaning agent
4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	ether, textiles, synthetics, adhesives, plastics, rubber application for the production of phenolic resins, coatings, colors, and varnish; precursor for Ethoxylates(tensides)
Bis(2-methoxyethyl) phthalate	117-82-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer and solvent in plastics, adhesives, laminates
Pentazinc chromate octahydroxide	49663-84-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	paints
Bis(2-methoxyethyl) ether	111-96-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Adhesives use as solvent in textile production and textile coatings
2-Methoxyaniline, o-Anisidine	90-04-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	leather, textiles, synthetics epoxy resin, adhesives
Cobalt dichloride	7646-79-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	drier, discoloring preventer, corrosion inhibitor, electroplating agent, pharma, process regulator, surface treatment, conductive agent, textile auxiliary, paper additive, lubricant, catalyst, foam stabilizer, bleaching agent, anodizing, paints, temperature indicator
Hydrazine	302-01-2 7803-57-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	blowing agent, corrosion inhibitor used in glass and plastics and dyes
1,2,3-trichloropropane	96-18-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	used as solvent, degreasing agent or as cleaning agent
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Plasticizer in PVC and foam, urethane, glass, exterior trim and tarps, high-end luggage, wire insulation

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Plasticizer in PVC, sealants and printing inks, spotcheck dye
Strontium chromate	6/2/7789	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	paints
1-Methyl-2-pyrrolidone (NMP)	872-50-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Coatings, industrial and consumer cleaners, electronics manufacturing
2-Ethoxyethyl acetate	111-15-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Solvent in formulation of paints, laquers, varnishes, used in rubber and plastics industry, glues, industrial textiles and dyeing
Cobalt(II) dinitrate	10141-05-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	drier, discoloring preventer, corrosion inhibitor, electroplating agent, pharma, process regulator, surface treatment, conductive agent, textile auxiliary, paper additive, lubricant, catalyst, foam stabilizer, bleaching agent, anodizing, paints, temperature indicator
2-Ethoxyethanol	110-80-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	adjuvant, solvent, polishing agent, disinfectant, degreaser, cleaner, pesticide
Cobalt(II) diacetate	71-48-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	drier, discoloring preventer, corrosion inhibitor, electroplating agent, pharma, process regulator, surface treatment, conductive agent, textile auxiliary, paper additive, lubricant, catalyst, foam stabilizer, bleaching agent, anodizing, paints, temperature indicator
2-Methoxyethanol	109-86-4	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	adjuvant, solvent, polishing agent, disinfectant, degreaser, cleaner, pesticide

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Cobalt(II) carbonate	513-79-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	drier, discoloring preventer, corrosion inhibitor, electroplating agent, pharma, process regulator, surface treatment, conductive agent, textile auxiliary, paper additive, lubricant, catalyst, foam stabilizer, bleaching agent, anodizing, paints, temperature indicator
Chromium trioxide	1333-82-0	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	preservative, metal finishing, intermediate, electroplating agent, hardener, oxidant, surface treatment, corrosion inhibitor, reagent, absorbent, anti-adhesive agent, impregnation material, food agent, flux agent
Cobalt(II) sulphate	10124-43-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	drier, discoloring preventer, corrosion inhibitor, electroplating agent, pharma, process regulator, surface treatment, conductive agent, textile auxiliary, paper additive, lubricant, catalyst, foam stabilizer, bleaching agent, anodizing, paints, temperature indicator
Acids generated from chromium trioxide and their oligomers. Names of the acids and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid.	7738-94-5 13530-68-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	glass cleaner, chrome plating intermediate, ceramic glaze, coloured glass, instrument repair (to brighten raw brass)

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Tetraboron disodium heptaoxide, hydrate	12267-73-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	pesticide, intermediate, soldering agent, tanning agent, cleaner, aging agent, curing agent, buffer, alkalizing agent, emulsifying agent, fiberglass insulation agent, enamel, fertilizer, corrosion inhibitor, bleaching agent, detergent, oxidizer, pharma, cosmetic, preservative, adhesive, wicks, surface treatment, preservative in personal care products, metal working fluids, flame retardant, colouring agents
Disodium tetraborate, anhydrous	1303-96-4 1330-43-4 12179-04-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	soldering agent, tanning agent, enamel, corrosion inhibitor, bleaching agent, adhesives, wicks, surface treatment, lubricants, preservative, personal care products, metal working fluids, flame retardant, colouring agent
Boric acid	10043-35-3 11113-50-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	lubricant, preservative, additive, pesticide, metal finishing, coating agent, cooler
Sodium chromate	11/3/7775	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	treatment and coating of metals, cleaner, density and texture improver, reagent, indicator, tanning agent, dressing agent, mordant, coloring agent
Ammonium dichromate	9/5/7789	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	preservative, oxidising and conditioning reagent, colouring agent, paints and plastics, ceramics, cements, papers, rubbers, surface finishing agent, anti-corrosion agent
Potassium chromate	7789-00-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	tanning and dyeing of leather and textiles, wood preservative

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Potassium dichromate	7778-50-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	treatment and coating of metals, cleaner, density and texture improver, reagent, indicator, tanning agent, dressing agent, mordant, coloring agent
Trichloroethylene	79-01-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	additive, degreaser, solvent, cleaner
Acrylamide	79-06-1	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	intermediate, grouting agent, cosmetic additive, coating, paints, textile processing, pesticide, cross-linking agent, adhesive, conditioning agent, flocculant, electrophoresis agent, thickener, dye acceptor, solvent, binder, corrosion inhibitor, filler, impregnation material, reprographic agent, surface-active agent, viscosity adjustor, cleaner, construction material, reagent, complexing agent, precipitant, retention aid, dressing agent, primer, thickening agent, poly-electrolyte, sludge treatment preparation
Diisobutyl phthalate	84-69-5	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer, adhesives, inks, ectoparasiticide, cosmetics
2,4-Dinitrotoluene	121-14-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer, dye, intermediate, gelatinizing & waterproofing agent in explosives, modifier for smokeless powder
Anthracene oil	90640-80-5	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	solvent, constituent, pesticide, intermediate, paints, preservative oil, filler
Lead chromate	7758-97-6	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	pigment, coatings
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	pigment, coatings

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Tris(2-chloroethyl)phosphate	115-96-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	flame retardant, plasticizer
Anthracene oil, anthracene paste, distn. lights	91995-17-4	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	solvent, constituent, pesticide, intermediate, paints, preservative oil, filler
Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	solvent, constituent, pesticide, intermediate, paints, preservative oil, filler
Pitch, coal tar, high temp.	65996-93-2	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	binder, moisture sealant in paints, fillers
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	pigment, coatings
Anthracene oil, anthracene paste	90640-81-6	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	solvent, constituent, pesticide, intermediate, paints, preservative oil, filler
Anthracene oil, anthracene-low	90640-82-7	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	solvent, constituent, pesticide, intermediate, paints, preservative oil, filler
Triethyl arsenate	15606-95-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	preservative, used in cosmetics
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	cleaner, degreaser, solvent, paints, stripper, adhesive, lubricant, cooler, insulation agent, additive, glue, flame retardant, plasticizer, leather coating, sealer, binder, repellent, pesticide
Hexabromocyclodecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclodecane Beta-hexabromocyclodecane Gamma-hexabromocyclodecane	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	flame retardant, often found in polystyrene
Benzyl butyl phthalate (BBP)	85-68-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	adhesive, electronic equipment component, inks, pesticide, solvent, resin

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Sodium dichromate	7789-12-0 0 ⁿ 10588-01-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	treatment and coating of metals, cleaner, density and texture improver, reagent, indicator, tanning agent, dressing agent, mordant, coloring agent
Diarsenic pentaoxide	1303-28-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	wood preservative, manufacture of glass, intermediate for other arsenic compounds
Dibutyl phthalate (DBP)	84-74-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	plasticizer, adhesives, inks, ectoparasiticide, cosmetics
Bis(tributyltin) oxide (TBTO)	56-35-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	pesticide, sanitizer, preservative
Diarsenic trioxide	1327-53-3	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	alloying agent, purification agent, intermediate, mordant, flotation reagent, ceramic enamels, paints, decolorizing agent, preservative, reagent, flame retardant, pesticide
5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)	81-15-2	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	synthetic fragrance
4,4'-Diaminodiphenylmethane (MDA)	101-77-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	foaming agent, resin, hardener in adhesives (epoxy resins), polyurethane
Lead hydrogen arsenate	7784-40-9	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	pigment, coatings
Anthracene	120-12-7	0.05% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	pesticide, molding sand, radiation equipment
4,4'-isopropylidenediphenol (bisphenol A)	80-05-7	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
4-heptylphenol, branched and linear (4-HPbl)	-	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
4-tert-pentylphenol (PTAP)	80-46-6	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
Benzo[def]chrysene	50-32-8	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
Nitrobenzene	98-95-3	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
1,3-propanesultone	1120-71-4	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1, 21049-39-8, 4149-60-4	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5, 68648-93-1	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	
5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]		.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Ethylenediamine	107-15-3	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used as a pH regulator and in water treatment products, adhesives and sealants, coating products, heat transfer fluids and hydraulic fluids.
Dodecamethylcyclohexasiloxane	540-97-6	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used as a pH regulator and in water treatment products, adhesives and sealants, coating products, heat transfer fluids and hydraulic fluids.
Disodium octaborate	12008-41-2	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used as a pH regulator and in water treatment products, biocides, coating products, inks and toners and welding & soldering products
Dicyclohexyl phthalate	84-61-7	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used in polymer materials
Decamethylcyclotetrasiloxane	541-02-6	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used in cosmetics and personal care, polishes and waxes, washing and cleaning products, pharmaceuticals and textile treatment products and dyes
Benzo[ghi]perylene	191-24-2	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used in dyes, plastics, pesticides, explosives and drugs
Benzene-1,2,4-tricarboxylic acid 1,2 anhydride	552-30-7	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used in polymer materials
Terphenyl, hydrogenated	61788-32-7	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used in adhesives and sealants, fillers, coating products putties, plasters, modelling clay, heat transfer fluids and polymers
Octamethylcyclotetrasiloxane	556-67-2	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used in lab chemicals, semiconductors and non-metal-surface treatment products.
Ethylenediamine	107-15-3	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used as a pH regulator and in water treatment products, adhesives and sealants, coating products, heat transfer fluids and hydraulic fluids.

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear]		.1% per product				Used as a lubricant additive in lubricants and greases.
1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropenta cyclo[12.2.1.16,9.0 2,13.05,10] octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]		.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used as a non-plasticising flame retardant, used in adhesives and sealants and in binding agents.
Cadmium carbonate	513-78-0	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used as a pH regulator and in water treatment products, laboratory chemicals, cosmetics and personal care products.
Cadmium hydroxide	21041-95-2	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used for the manufacture of electrical, electronic and optical equipment and in laboratory chemicals.
Cadmium nitrate	10325-94-7	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used for the manufacture of glass, porcelain and ceramic products and in laboratory chemicals
Benz[a]anthracene	56-55-3	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Normally not produced intentionally but rather occurs as a constituent or impurity in other substances.
Chrysene	218-01-9	.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Normally not produced intentionally but rather occurs as a constituent or impurity in other substances.
Perfluorohexane-1-sulphonic acid and its salts PFHxS		.1% per product			REACH Regulation EC 1907/2006 - Candidate SVHC	Used in plasticisers, lubricants, surfactants, wetting agents, corrosion inhibitors and firefighting foams

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Benzo[k]fluoranthene	207-08-9					<p>Unlikely to be found in mechanical or electrical products. Benzo[k]fluoranthene, Fluoranthene, Phenanthrene and Pyrene are Polycyclic Aromatic Hydrocarbons (PAH) which may be present as impurities in extender oils which may be used as plasticizers in rubber and plastics and in potting materials. Benzo[k]fluoranthene, Fluoranthene, Phenanthrene and Pyrene may also be present as impurities in black colourants (e.g. Carbon Black) which may be used in rubber and plastics.</p>
Fluoranthene	206-44-0 93951-69-0					
Phenanthrene	85-01-8					
Pyrene	129-00-0 1718-52-1					

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6					Unlikely to be found in mechanical or electrical products. 2,2-bis(4'-hydroxyphenyl)-4-methylpentane is also known as BisP-MIBK and may be used as an alternative to Bisphenol A (BPA). As such, BisP-MIBK may be found in thermal paper applications up to 3% by weight of the paper. BisP-MIBK may also be used as an ingredient in the manufacture of specialist polycarbonate plastic and specialist epoxy resins, however the residual level of BisP-MIBK in the manufacture of these specialist materials is below 0.01%.

Packaging Materials

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Heavy metals content in packaging material	7440-43-9	5 mg/kg each	Pb, Cd, Hg: acid digestion, ICP	100 mg/kg (sum)		
(Cadmium, Lead, Mercury, Chromium VI)		20 mg/kg sum	analysis; Cr (VI): alkaline digestion, UV-Vis analysis			
Dimethyl fumarate	624-49-7	0.1 mg/kg	Solvent extraction, GC-MS analysis	0.1 mg/kg		

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Formaldehyde	82115-62-6	20mg/kg	ISO 14184-2	150mg/kg		
PVC Identification	9002-86-2	10% for FTIR	Belistein Method and FTIR	Not detected		
Silica gel	-	-	-	Prohibited to use		

Heavy Metals

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Lead	7439-92-1	2mg/kg	IEC 62321	1000 mg/kg	EU RoHS Directive 2011/65/EU And REACH Regulation EC 1907/2006 - Candidate SVHC	Rubber hardener, pigment, paint, lubricant, plastic stabilizer, freemachining alloy, freecutting steels, optical materials, X-ray shielding in CRT glass, solder, curing agent, materials, vulcanizing agent, ferroelectrics, plating, metal alloy, solder
Cadmium	7440-43-9	2 mg/kg	IEC 62321	100 mg/kg	EU RoHS Directive 2011/65/EU And REACH Regulation EC 1907/2006 - Candidate SVHC	Pigment, anti-corrosion surface treatment, optical glass, stabilizer, plating, fluorescent, electrode, solder, electric contact, contact point, zinc plating,
Mercury	7439-97-6	2 mg/kg	IEC 62321	1000 mg/kg	EU RoHS Directive 2011/65/EU	Fluorescent bulb, contact point material, pigment, anti-corrosion, switches, antibacterial treatment
Hexavalent Chromium	18540-29-9	1mg/kg	IEC 62321	1000 mg/kg	EU RoHS Directive 2011/65/EU	Pigment, paint, ink, catalyst, plating, anticorrosion surface treatment, dye,

Flame Retardants

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Polybrominated diphenyl ethers (PBDE)	32534-81-9	5 mg/kg	IEC 62321	1000 mg/kg	EU RoHS Directive 2011/65/EU	Electronic components, PWB's, Wire and cable, plastic enclosures
PentaBDE	32536-52-0					
OctaBDE	1163-19-5					
DecaBDE						
Polybrominated biphenyls (PBB)	59536-65-1	5 mg/kg	IEC 62321	1000 mg/kg	EU RoHS Directive 2011/65/EU	Electronic components, PWB's, Wire and cable, plastic enclosures

Batteries

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Mercury (excludes button cells)	7439-97-6	0.1 mg/kg	Aqua regia acid digestion, analysis by ICP / VGA-AAS	5 mg/kg	EU Battery Directive 2006/66/EC	Batteries and accumulators
Mercury (button cells)	7439-97-6	1mg/cell	Aqua regia acid digestion, analysis by ICP / VGA-AAS	25 mg/cell	EU Battery Directive 2006/66/EC	Batteries and accumulators
Mercury-Containing and	7439-97-6	1mg/kg	Analysis (EPA Guidance,		U.S. Public Law 104-142.	Batteries larger than button cell shall contain no intentionally added Mercury. No
Rechargeable Battery			Best Practice) Title II		13 May 1996. Stat. 110.1333.	Intentionally added Hg is demonstrated in this protocol if testing shows less than 1 ppm (best practice). Batteries of button cell size are allowed small amounts of added mercury, but shall test to less than 25 mg Hg /cell.
Lead	7439-92-1	5 mg/kg	Aqua regia acid digestion, analysis by ICP / VGA-AAS	40 mg/kg	EU Battery Directive 2006/66/EC	Batteries and accumulators

Chemical Name	CAS Number	Reporting Detection	Limit Test Method	United Stationers Limit	Legislation Source	Examples of Use
Cadmium	7440-43-9	0.5 mg/kg	Aqua regia acid digestion, analysis by ICP / VGA-AAS	20 mg/kg	EU Battery Directive 2006/66/EC	Batteries and accumulators
Nickle Cadmium rechargeable/portable/ batteries		2 mg/kg	Aqua regia acid digestion, analysis by		EU Battery Directive 2006/66/EC	Batteries and accumulators