



DOCUMENT TITLE:
[HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN]
[ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted
Substances

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TABLE OF CONTENTS

PURPOSE: 3

SCOPE: 3

TERMS AND DEFINITIONS 3

APPLICABLE DOCUMENTS 5

EQUIPMENT AND MATERIALS 5

GENERAL REQUIREMENTS..... 6

ACCEPTANCE 10

DISPOSITION OF MATERIAL 10

DATA RECORDING 10

MAINTENANCE 10

APPENDICES..... 10

REVISION HISTORY 27

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 2

1. **TITLE:** [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN]
[ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances
2. **PURPOSE:**
 - 2.1. The purpose of this document is to define the policy and procedures of Maxim Integrated with respect to banned and restricted substances [to provide an end product compliant to applicable environmental product regulations and requirements.](#)
3. **SCOPE:**
 - 3.1. This policy applies to all business activities, including design/assembly/test/wafer fabrication processes, purchasing, receiving, storage, and shipping activities.
 - 3.2. [Materials, chemicals, substances, components or parts that are used to manufacture and remain as part of the completed integrated circuit component, including packing material.](#)
4. **TERMS AND DEFINITIONS:**
 - 4.1. The following terms and definitions are used throughout this policy:
 - 4.1.1. AAS - Atomic Absorption Spectroscopy
 - 4.1.2. Banned Substances - Substances that must not be contained in end products. Substances that may not be used in processing of products (when stated as such in this document)
 - 4.1.2.1. Substances are subject to:
 - 4.1.2.1.1. Currently enacted legislation (as referenced in [Table 1](#)), which prohibits or restricts its use or sale, requires reporting or subjects it to other regulatory requirements; or
 - 4.1.2.1.2. Customer prohibitions or restrictions (as a result of the referenced documents in [Table 1](#)).
 - 4.1.3. [CAS Number – CAS \(Chemical Abstract Service\) Registry Number is a unique numeric identifier designating only one substance that is internationally recognized and easily validated.](#)
 - 4.1.4. Direct Material
 - 4.1.4.1. Any material utilized in final product/end product.
 - 4.1.4.2. Any material used to process a final product/end product.
 - 4.1.5. GC/MS (Gas chromatography with Mass spectrometry) - Gas Chromatography–Mass Spectrometry (GC-MS) is an analytical technique involving the use of both Gas Chromatography (GC) and Mass Spectrometry (MS), the former to separate a complex mixture into its components and the latter to deduce the atomic weights of those components. It is particularly useful in identifying organic compounds. (LRGC/MS = Low Resolution GC/MS, HRGC/MS = High Resolution GC/MS).
 - 4.1.6. Homogeneous Material - Material comprised entirely of uniformly dispersed constituents throughout. For example, a plated leadframe consists of two homogeneous materials, the leadframe and plating material. A Maxim product consists of multiple homogeneous materials.
 - 4.1.7. IC (Ion Chromatography) - Ion Chromatography (IC) is the separation and quantification of anions and cations using Liquid Chromatography (LC). LC is an analytical technique based on the separation of the components of a mixture in solution by selective absorption. There are basically three modes of separation: liquid/liquid, liquid/solid, and molecular size. Once the components have been separated they are measured by a conductivity detector.
 - 4.1.8. ICP (Inductively Coupled Plasma) Analysis - ICP is a method of atomic emission spectrometry for analysis of heavy metals in a given sample. When plasma energy, generated by Argon

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 3

gas, is given to an analysis sample, the atoms are excited. When the excited atoms return to low energy position, emission rays (spectrum rays) are released and the emission rays that correspond to the photon wavelength are measured. The element type is determined by the position of the photon rays, and the content of each element is determined by the ray's intensity. There can be errors in results depending on the type of acid used and the pre-treatment method. It is therefore necessary to check the recommended pre-treatment method for the substance classification of the sample.

- 4.1.9. Inductively Coupled Plasma-Optical Emission Spectrometry - ICP-AES and ICP-OES are the same analytical instrument. "ICP" normally refers to ICP-AES and ICP-OES.
- 4.1.10. ICP-MS - Inductively Coupled Plasma Mass Spectrometry
- 4.1.11. Intentionally Added - Deliberate use of a substance in the formulation of a material or product where its continued presence is desired to provide a specific characteristic, appearance or quality. If banned or restricted substances are contained in materials or products purchased by suppliers or subcontractors, such substances must be disclosed if the supplier or subcontractor has knowledge of the presence of such substances.
- 4.1.12. Not Intentionally Added (NIA) – [A substance in the formulation of a material or product that is not intentionally or deliberately added but is present either as an impurity or is an inherent constituent of the material or product](#)
- 4.1.13. [SDS \(formerly MSDS\), Safety Data Sheet](#) - Provides workers and emergency personnel with the proper procedures for handling or working with a particular substance. [SDS's](#) include information such as chemical constituents, physical data (melting point, boiling point, flash point etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures.
- 4.1.14. Packing Materials - Materials used to contain and protect a product during distribution to Maxim's customer. Examples include, trays, tubes, bags, tapes and reels. The term "packing materials" means packing materials used to contain and protect Maxim products and does not apply to packing materials used by suppliers to ship materials, chemicals, equipment, and other items used by Maxim or its subcontractors.
- 4.1.15. Product / End Product - A product is a tangible item, including subparts such as silicon, plastic, metal, and ink that is sold or provided as a sample to the customer.
- 4.1.16. [Declarable or Reportable Substances](#) - Substances of which content in homogeneous materials must be reported. These substances are typically subject to reporting to customers for waste and recycling management and may be subject to a phase out date (when listed) due to pending legislation or risk assessments.
- 4.1.17. [SCAR – Supplier Corrective Action Request](#)
- 4.1.18. SDOC – Supplier's declaration of conformance.
- 4.1.19. Spot Test - Spot test is a simple method for the presence of hexavalent chromium without a machine. It is a qualitative analysis method in which a coloring reaction between hexavalent chromium and coloring reagent is used in the test.
- 4.1.20. Subpart - A subpart is a named unit within the product. Subparts of an integrated circuit include leadframes, plastics, plating compounds (i.e. lead finishes), bonding wire, molding compounds, silicon chips, etc.
- 4.1.21. Substance - A substance is a chemical element and its compounds that occur in the natural state or as produced by industry. Elements and compounds are assigned specific CAS (Chemical Abstract Service) numbers (i.e. copper, lead, tin, silver, etc.).
- 4.1.22. UV-VIS (UV/VIS) Spectrometry - UV-VIS spectrometry is a tool that measures the wavelength-dependant absorption of light in the visible or ultraviolet region. It is usually applied to identify molecules and inorganic ions or complexes in solution. The UV-VIS spectra have broad bands that are of limited use for sample identification but are very useful for the quantitative measurements. Measuring the transmittance at some wavelengths, and applying the Beer-Lambert law equations, the concentration of the solvent in the solution can be determined.

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 4

- 4.1.23. Zero Concentration - The concentration of a substance is zero if it is below the detection limit of an internationally recognized analytical method. The concentration of a substance for which analytical data are not required is considered to be zero if the substance is not intentionally added.
- 4.1.24. RoHS – Restriction of Hazardous Substances, European Directive 2011/62/EU
- 4.1.25. REACH – Registration, Evaluation, Authorization and Restriction of Chemicals, Regulation (EC) No. 1907/2006
- 4.1.26. Low Halogen (Halogen Free) - Maxim utilizes Joint JEDEC/ECA Standard Definition of “Low Halogen” for Electronic Products, JS709B:
 - 4.1.26.1. “Each material within an electronic product, (excluding printed board laminates) shall contain <1000ppm (0.1%) by weight of bromine if the bromine source is from BFRs and <1000 ppm (0.1%) by weight of chlorine if the chlorine source is from CFRs, PVC, PVC congeners, PVC block polymers, PVC copolymers, or polymer alloys containing PVC. Higher concentrations of bromine and chlorine are allowed in plastics contained within electronic products (other than printed board laminates contained within those devices) as long as their sources are not flame retardants, PVC, PVC congeners, PVC block polymers, PVC copolymers, or polymer alloys containing PVC.”
 - 4.1.26.2. “All printed board laminates contained within electronic and electrical products, including those within a passive or solid-state device shall meet the “halogen-free” requirements for Br and Cl as defined in the most current version of one of the following specifications: IEC 61249-2, IPC-4101, JPCA-ES-01.”
 - 4.1.26.3. Antimony Trioxide (CAS 1309-64-4) must also not exceed the 1000ppm threshold in Low Halogen (Halogen Free) materials.

5. APPLICABLE DOCUMENTS:

- 5.1. TABLE 4 is a listing of representative regulatory references and is not an all-inclusive list. References are provided as an example of existing regulations for specific substances, and not all possible references for substances are necessarily shown in Tables 1, 2 and 3, (Appendix 1).
 - 5.1.1. The contents of the legislation or standards shown below may be amended periodically. Therefore, it is necessary to confirm the latest versions of relevant laws, regulations and standards. This listing is subject to change in the event that new legislation or standards regarding banned or restricted environmental substances are implemented.
- 5.2. Documentation about the content of hazardous substances can be found at: <https://www.maximintegrated.com/en/support/emmi.html>
- 5.3. IEC 62474 Database - Material Declaration for Products of and for the Electrotechnical Industry
- 5.4. IPC-1752 Data Exchange Standards
- 5.5. 10-0005 “Corrective Action Procedure”
- 5.6. 10-0007 “Record Retention Specification”
- 5.7. Joint JEDEC/ECA Standard Definition of “Low Halogen” for Electronic Products, JS709B

6. EQUIPMENT AND MATERIALS:

- 6.1. TABLES 1, 2, and 3 in Appendix 1 summarize the listing of Banned, Restricted and substances of concern by group. Threshold limits apply to each homogenous material used in the product, unless otherwise stated. Any substance meeting the criteria in Tables 1, 2, 3, must be disclosed and reported as noted in these Tables.
- 6.2. Note that Table 3, REACH SVHC Table is current as of the date of this specification. Since the REACH SVHC listing is updated at least two times per year, please check the official ECHA listing for the current SVHC Candidate List at:

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 5

- 6.2.1. <https://echa.europa.eu/web/guest/candidate-list-table>
- 6.3. This specification defines the minimum environmental requirements that must be met by Suppliers to provide materials and components that will be used and remain in Maxim Integrated's products. It is not meant to be a comprehensive listing of regulations or requirements and Suppliers are expected to comply with all applicable Directives, Laws and Regulations that may not be captured in the Reference Listing (Table 4.)
- 6.4. The IPC 1752 template is the generally accepted format for full material composition submittals. Other formats with similar IPC1752 structure will be accepted if full material disclosure is noted by complete homogenous material breakdown by substance, CAS number and weight.

7. GENERAL REQUIREMENTS:

- 7.1. BANNED substances (Table 1) shall not be intentionally added to the direct materials and packing materials of Maxim's products unless an applicable exemption applies and is cited.
 - 7.1.1. Concentrations of BANNED substances shall not exceed the concentrations listed in Table 1 be it intentionally added or an impurity.
- 7.2. Declarable Substances (Table 2) and/or SVHC Reportable substances (Table 3) shall be reported to Maxim, as noted, either through full material declaration, or substance-specific declaration.
- 7.3. Suppliers shall report any material noncompliance immediately to the Quality Environmental Product Compliance team. (emmi@maximintegrated.com)
- 7.4. RoHS Compliance
 - 7.4.1. For RoHS compliant materials, Suppliers are required to provide a Full Material Declaration (Refer to Section 7.7.1).
 - 7.4.2. For RoHS compliant materials, Suppliers are required to provide Test Reports to validate compliance (Refer to Section 7.7.2)..
- 7.5. REACH Compliance:
 - 7.5.1. Suppliers are required to be fully REACH compliant and must report any REACH SVHC (Substances of Very High Concern) substances contained within direct materials, components or packing material provided to Maxim.
 - 7.5.2. Supplier shall monitor the official REACH SVHC (Substances of Very High Concern) Candidate List to identify prospective and any new additions to the Candidate List. Current SVHC substances, are listed in Table 3 in Appendix 1, as a reference. The official list should be consulted as the SVHC list is updated typically twice per year. <http://echa.europa.eu/candidate-list-table>
 - 7.5.3. Supplier must be able to provide a Declaration of Conformance to the current REACH SVHC Candidate List upon request.
- 7.6. Low Halogen (Halogen Free)
 - 7.6.1. All polymeric materials and substrates provided for integrated circuit packages must meet the Maxim Low Halogen requirements as defined in Section 4.1.26. Substances restricted include: Bromine, Chlorine, PVC and Antimony Trioxide and test requirements (Section 7.7.2.2).
 - 7.6.2. PVC (polyvinyl chloride) is not used in standard integrated circuit packages manufactured by Maxim. Exempted uses include shipping tubes, RFID tags, and module product accessories.
- 7.7. Demonstrating Compliance
 - 7.7.1. Full Material Disclosure
 - 7.7.1.1. Suppliers are required to provide Full Material Disclosure using an IPC1752 template or similar accepted format, as described in section 7.4, above, within 5 days of the request.

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 6

- 7.7.1.2. Chemical composition of direct materials/components must be disclosed at the homogenous level and includes substances intentionally added and known impurities, using CAS numbers and weights of the substances.
- 7.7.1.3. Any exemptions utilized, must be declared.
- 7.7.1.4. Miscellaneous and proprietary substances or substances without an assigned CAS number, shall not exceed a cumulative 10% of the total substances reported within a homogeneous material. Banned and Restricted substances shall NOT be included in the maximum 10% miscellaneous or proprietary entry. If the 10% threshold is exceeded, a statement of compliance, and or test report for the material must be provided.
- 7.7.1.5. Suppliers are required to maintain compliance documentation and or test reports of direct material for 10 years from the end of manufacturing and must be readily available upon Maxim request.

7.7.2. Material Testing: Material Testing and Reports are required to validate compliance

- 7.7.2.1. Analytical test reports are required on all direct materials, as a minimum, for the following substances for RoHS compliance:

Substance	Material
Lead and its compounds (Pb)	All materials
Cadmium and its compounds (Cd)	
Mercury and its compounds (Hg)	
Hexavalent Chromium compounds (CrVI)	
Polybrominated biphenyls (PBB)	
Polybrominated diphenylethers	
Phthalates (DEHP, BBP, DBP, DIBP)	

- 7.7.2.2. Analytical test reports are required for Low Halogen (Halogen Free)

Substance	Materials
Bromine (Br)	Polymeric and plastic materials to include, but not limited to: mold compounds, die and lid attach and substracts
Chlorine (Cl)	
Antimony and its compounds (Sb)	

- 7.7.2.3. Test Lab Requirements - Laboratories used for testing must be ISO 17025 certified. A current (not expired) copy of this certificate must be supplied to the Maxim Environmental Materials Manager.

7.7.2.4. Testing Method Requirements

- 7.7.2.4.1. Test methods used shall be those that are internationally recognized in the industry (such as IEC 62321 series). Suggested methods and specifications are as follows:
- 7.7.2.4.2. Bromine and Chlorine - BS EN 14582
 - 7.7.2.4.2.1. Preprocessing: O2 bomb
 - 7.7.2.4.2.2. Analytical instruments: IC or ICP. Titration methods can give false readings.
- 7.7.2.4.3. CrVI - Procedures vary based on material type. EPA 3060A, EPA 7196A, IEC 6231, ISO 3613.
 - 7.7.2.4.3.1. Preprocessing: DIN 53314 or IEC 62321. Alkaline digestions/Colormetric Method Spot-test procedure/boiling water extraction procedure.

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 7

- 7.7.2.4.3.2. For metals, spot testing/hot water extraction is preferred.
- 7.7.2.4.3.3. Analytical instruments: UV-VIS, CV-AAS, ICP-OES, ICP-MS, HPLC
- 7.7.2.4.4. Cadmium - Procedures vary based on material type. EPA 3052, EPA 3050B, EN1122, ASTM E 351.
 - 7.7.2.4.4.1. Preprocessing: Wet decomposition method (BSEN 1122; 2001), acid decomposition (EPA 3050B Rev 2:1996, Dry ashing, Microwave decomposition method (EPA 3052:1996 or EN 13346:2000). Precipitates must be completely dissolved.
 - 7.7.2.4.4.2. Analytical instruments: ICP-AES (ICP-OES), ICP-MS, AAS
- 7.7.2.4.5. Mercury - Procedures vary based on material type. EPA 3053, ISO 3856-7, EN12497, IEC 62321.
 - 7.7.2.4.5.1. Preprocessing: EPA 3052
 - 7.7.2.4.5.2. Analytical instruments: ICP-AES (ICP-OES), AAS
- 7.7.2.4.6. Lead - Procedures vary based on material type. EPA 3052, EPA 3050B, ASTM E 350, IEC 62321.
 - 7.7.2.4.6.1. Preprocessing: Incineration under the existence of sulfuric acid, Dry ashing, Microwave decomposition method (EPA 3052:1996 or EN 13346:2000) , Acid decomposition method (EPA 3050B Rev 2:1996), Wet decomposition method under the existence of nitric acid and hydrogen-peroxide water. Precipitates must be completely dissolved.
 - 7.7.2.4.6.2. Analytical instruments: ICP-AES(ICP-OES), ICP-MS, AAS
- 7.7.2.4.7. PBB/PBDE -
 - 7.7.2.4.7.1. Preprocessing: Soxhlet extraction is carried out with organic solvents.
 - 7.7.2.4.7.2. Analytical instruments: GC-MS, HPLC or LC-MS
- 7.7.2.4.8. **Phthalates**
 - 7.7.2.4.8.1. **Preprocessing/ Test Method: ASTM0D3421-75, EN14372, US EPA 3540C, US EPA8270D**
 - 7.7.2.4.8.2. **Analytical instruments: GC-MS**
- 7.7.2.5. Each test report shall include the following information as a minimum
 - 7.7.2.5.1. Supplier name (supplier of the sample for testing)
 - 7.7.2.5.2. Sample description (name, color, vendor, vendor material type/formula, etc.).
 - 7.7.2.5.3. Photo(s) of the sample being tested.
 - 7.7.2.5.4. Date(s) of testing and report date.

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 8

- 7.7.2.5.5. Substance being tested for and test method used for testing of it.
- 7.7.2.5.6. Measurement flow chart (simple schematic or step listing).
- 7.7.2.5.7. Sample preparation method(s) prior to testing
- 7.7.2.5.8. Detection limit of the method and measuring equipment.
- 7.7.2.5.9. Measurement results (ppm/weight) of substance.
- 7.7.2.5.10. Lab Information
 - 7.7.2.5.10.1. Lab Name
 - 7.7.2.5.10.2. Lab Address
 - 7.7.2.5.10.3. Lab Report Number
 - 7.7.2.5.10.4. Person(s) performing or responsible for the testing
 - 7.7.2.5.10.5. Signature, written name and title of the responsible person for the test report and it's results.

7.7.2.6. Testing Frequency

- 7.7.2.6.1. Testing shall be performed on an annual basis after the original submittal.
- 7.7.2.6.2. Suppliers are required to provide updated test reports annually, prior to the expiration of the current Test document

7.8. Certificate of Compliance (COC)

- 7.8.1. For all deliveries of raw materials and subcontracted/foundry wafer fabrication (including uCSP/WLP), assembled and/or tested products a Certificate of Compliance (COC) signed by the supplier's QA is required.
- 7.8.2. The COC must explicitly state that the material in the shipment complies with this Maxim specification (10-0131, most current revision) rather than a generic statement of only being ROHS compliant.
- 7.8.3. Maxim reserves the right to challenge the validity of any COC at any time. If the COC is challenged by Maxim, the supplier must be able to provide an analytical test report per paragraph 7.7.2 which is less than 1 year old within 5 calendar days of the request. Failure to support this requirement in a timely fashion can result in a reduction or cessation of new orders.
- 7.8.4. Each box or bag in a delivery of products, any containers of direct materials or packing materials covered in the scope of this document must be labeled by stamp or sticker as "ROHS COMPLIANT". Such markings must remain affixed to the material during storage at any Maxim facility.

7.9. Conflict Minerals

- 7.9.1. All suppliers must comply with the US regulation (section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act) regarding non-use of conflict minerals from the Democratic Republic of Congo (DRC) region.
- 7.9.2. Conflict minerals are columbite tantalite (coltan), cassiterite, gold, wolfram, or their derivatives tantalum, tin, gold and tungsten.
- 7.9.3. Conflict minerals which either directly or indirectly finance or benefit armed groups in the DRC regions are banned from use in materials supplied to Maxim Integrated or its supply chain.
- 7.9.4. All direct suppliers of Maxim Integrated are required upon request to provide yearly an updated RMI (Responsible Minerals Initiative) Conflict Minerals Reporting Template (latest revision) listing smelter and mine information.

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 9

7.9.4.1. Smelters which are not [conformant](http://www.conflictreesourcing.org/conflict-free-smelter-program/) to the RMI Conflict-Free Smelter program (<http://www.conflictreesourcing.org/conflict-free-smelter-program/>) or equivalent must be removed from the supply chain or a schedule provided for when they will be in compliance.

7.9.5. All suppliers are required to have a Conflict Minerals Policy compliant to the regulation to use only conflict-free minerals from the DRC region

8. ACCEPTANCE:

- 8.1. All Maxim products, direct materials and packing materials within scope that meet the requirements of this specification and in addition meet all other applicable quality and technical requirements will be acceptable and suitable for production use, with the appropriate exemption identified as applicable.
- 8.2. Suppliers shall not make any changes to processes or products in response to this specification without written approval from Maxim Integrated.

9. DISPOSITION OF MATERIAL:

- 9.1. Material that has been approved by the Quality Environmental Product Compliance team will be assigned an SAP Material number with appropriate environmental designations for procurement and use.
- 9.2. Any Maxim products, direct materials and packing materials included within the scope of this document that do not meet or are questionable as to meeting the threshold limits and requirements of [Table 1, 2 or 3](#), shall be placed on QA HOLD until lab test results or suitable documentation from the supplier is provided proving compliance to this specification.
- 9.3. If product has been affected, the Environmental Materials Manager and Quality Department will be notified. Containment and immediate investigation per Corrective Action Procedure 10-0005 will begin. Customer notifications will be made through the Customer Quality Manager.
 - 9.3.1. For supplier nonconformities, an SCAR is required to identify root cause and implement corrective and preventive actions per 10-0005

10. DATA RECORDING:

- 10.1. C of C documents are to be archived with the PO Receiver or lot traveler as appropriate by the IQC department.
- 10.2. Record Retention requirements are specified in 10-0007, Record Retention Specification
- 10.3. Suppliers must maintain material composition, test reports and supporting data for COC Declarations for a minimum of 10 years.

11. MAINTENANCE: N/A

12. APPENDICES:

- 12.1. Table 1 - [Banned or Controlled Substance List](#)
- 12.2. Table 2 - [Declarable Substance List](#)
- 12.3. Table 3 - [REACH SVHC Substance List](#)
- 12.4. Table 4 - [Regulatory and Standards Reference List](#)

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 10

Appendix 12.1 Table 1 Banned or Controlled Substance List

Banned or Controlled Substance Name	CAS	Status	Requirement and Reporting per homogenous layer (unless otherwise stated)	Regulation Reference Code
Acids generated from chromium trioxide and their oligomers	-	BANNED	Prohibited	2
Acrylamide	79-06-1	BANNED	NIA – Prohibited at or above 1000 ppm	3, 31
alpha-hexabromocyclododecane	134237-50-6	BANNED	NIA – Prohibited at or above 1000 ppm	2
4-Aminobiphenyl xenylamine	92-67-1	BANNED	NIA – Prohibited at or above 1000 ppm	3, 6
Ammonium dichromate	7789-09-5	BANNED	Prohibited - Report any amount contained	2
Ammonium nitrate (AN)	6484-52-2	BANNED	Prohibited - Report any amount contained	3
Arsenic compounds	7440-38-2	BANNED	Prohibited in wood products and paint. Threshold impurity of 100 ppm. For other applications see Table 2.	3, 51
Asbestos	-	BANNED	Prohibited - Report any amount contained	3, 6, 51
Azocolourants and Azodyes	-	BANNED	1000ppm for colorants in textile and leather articles, eg. wrist straps	3, 8, 51
Benzene	71-43-2	BANNED	NIA – Prohibited at or above 1000 ppm	3, 6, 30
Benzidine and its salts, all members	92-87-5	BANNED	NIA – Prohibited at or above 1000 ppm	1, 3, 6, 25, 31
Benzyl butyl phthalate (BBP)	85-68-7	BANNED	NIA – Prohibited at or above 1000 ppm	2, 3, 34
beta-hexabromocyclododecane	134237-51-7	BANNED	NIA – Prohibited at or above 1000 ppm	2
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	BANNED	NIA – Prohibited at or above 1000 ppm	2, 3, 34
Bis(2-methoxyethyl) ether	111-96-6	BANNED	NIA – Prohibited at or above 1000 ppm	2
Bis(chloromethyl) ether (BCME)	542-88-1	BANNED	NIA – Prohibited at or above 1000 ppm	6, 25
Benzenamine, Nphenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST)	68921-45-9	BANNED	Prohibited - Report any amount contained	32, 48
Boric Acid		BANNE	NIA – Prohibited at or above 1000 ppm – wood veneers, flame retardant in wood	1, 51
Cadmium and compounds (7440-43-9)	-	BANNED	Prohibited at or above 75 ppm	3, 4, 6, 49, 43, 51
Chlorinated or brominated Dibenzo-p-dioxins or Dibenzofurans, all members	-	BANNED	NIA - Prohibited at or above 10 ppb	6, 15
Chloroethylene (Vinyl chloride)	75-01-4	BANNED	Prohibited at or above 5 ppm	3, 6, 31
Chloroform	67-66-3	BANNED	Prohibited - Report any amount contained	3
Chromic acid	13530-68-2, 7738-94-5	BANNED	Prohibited at or above 1000 ppm	2
Chromium trioxide	1333-82-0	BANNED	Prohibited - Report any amount contained	2
Chromium VI compounds	18540-29-9	BANNED	NIA - Direct materials threshold impurity 1000 ppm. Packing materials threshold impurity 100 ppm cumulative with Hg, CrVI and Pb. Report any intentional amount contained.	3, 4, 5, 7, 6, 31, 37, 51

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 11

Banned or Controlled Substance Name	CAS	Status	Requirement and Reporting per homogenous layer (unless otherwise stated)	Regulation Reference Code
Creosote oils, coal tar, tar oils, and anthracene substances and distillates	90640-84-9	BANNED	NIA - Prohibited at or above 5 ppm	3
Cyclohexane	110-82-7	BANNED	NIA – Prohibited at or above 1000 ppm	3
2-(2-butoxyethoxy)ethanol (DEGBE)	112-34-5	BANNED	NIA – Prohibited at or above 1000 ppm	3
2-(2-methoxyethoxy)ethanol (DEGME)	111-77-3	BANNED	NIA – Prohibited at or above 1000 ppm	3
Di-μ-oxo-di-n-butylstanniohydroxyborane/ Dibutyltin hydrogen borate C ₈ H ₁₉ BO ₃ Sn (DBB)	75113-37-0	BANNED	NIA – Prohibited at or above 1000 ppm	3
Diamino-diphenylmethane (4,4'-Diaminodiphenylmethane)	101-77-9	BANNED	Prohibited - Report any amount contained	2, 3, 6, 31
Diarsenic pentaoxide	1303-28-2	BANNED	Prohibited - Report any amount contained	2, 51
Diarsenic trioxide	1327-53-3	BANNED	Prohibited - Report any amount contained	2, 51
Dibutyl phthalate (DBP)	84-74-2	BANNED	Prohibited - Report any amount contained	2, 3, 34
Dibutyltin (DBT) compounds	-	BANNED	NIA – Prohibited at or above 1000 ppm	3, 6, 7, 51
1,4-Dichlorobenzene (p-dichlorobenzene)	106-46-7	BANNED	NIA – Prohibited at or above 1000 ppm	3
1,1-Dichloroethene	75-35-4	BANNED	NIA – Prohibited at or above 1000 ppm	3
1,2-dichloroethane (EDC)	107-06-2	BANNED	Prohibited - Report any amount contained	2
Dichloromethane	75-09-2	BANNED	NIA – Prohibited at or above 1000 ppm	3
Dichromic acid	13530-68-2, 7738-94-5	BANNED	Prohibited - Report any amount contained	2
Dichromium tris(chromate)	24613-89-6	BANNED	Prohibited - Report any amount contained	2
Diisobutyl phthalate (DIBP)	84-69-5	BANNED	Prohibited - Report any amount contained	2, 34
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	BANNED	NIA – Prohibited at or above 1000 ppm	3
Diisononyl phthalate (DINP)	28553-12-0, 8515-48-0	BANNED	NIA – Prohibited at or above 1000 ppm	3
Dimethylfumarate (DMF)	624-49-7	BANNED	NIA – Prohibited at or above 1000 ppm	3,51
Di-n-octyl phthalate (DNOP)	117-84-0	BANNED	NIA – Prohibited at or above 1000 ppm	3
Diocetyl tin (DOT) compounds	-	BANNED	NIA – Prohibited at or above 1000 ppm	3, 6, 7
2,4-dinitrotoluene (2,4-DNT)	121-14-2	BANNED	Prohibited - Report any amount contained	2
Diphenylether, octabromo derivative C ₁₂ H ₂ Br ₈ O	-	BANNED	NIA – Prohibited at or above 1000 ppm	3
Dodecachloropentacyclo 1, 3, 4-Metheno-1H-cyclobuta(cd)pentalene, Mirex	2385-85-5	BANNED	Prohibited - Report any amount contained	6, 25
Formaldehyde, oligomeric reaction products with aniline	25214-70-4	BANNED	For all wood products (including packing and shipping materials) - NIA. All other materials - Report any amount contained	2, 31, 6, 44, 51
1,2,5,6,9,10-hexabromocyclodecane	3194-55-6	BANNED	Prohibited - Report any amount contained	2
Hexabromocyclododecane (HBCDD / HBCD) and all major diastereoisomers	25637-99-4 3194-55-6 134237-50-6 134237-51-7	BANNED	Prohibited - Report any amount contained	2, 35 46, 51

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 12

Banned or Controlled Substance Name	CAS	Status	Requirement and Reporting per homogenous layer (unless otherwise stated)	Regulation Reference Code
	134237-52-8			
Hexachloro-1,3-butadiene (HCBd)	87-68-3	BANNED	Prohibited - Report any amount contained	6, 25
Hexachloroethane	67-72-1	BANNED	NIA – Prohibited at or above 1000 ppm	3
Hydrobromofluorocarbons (HBFC's), all members	-	BANNED	NIA – Prohibited at or above 1000 ppm	6, 11, 12, 13
Lead and its compounds	7439-92-1	CONTROLLED	Report any amount contained. Direct materials threshold impurity 100 ppm. Packing materials threshold impurity of 100 ppm cumulative with Hg, Cd, CrVI. Exception: Per Maxim requirement for products that are designated as containing Lead such as Tin-Lead plating and other Leaded product lines or applications. Exempted applications per RoHS Directive.	3, 4, 5, 6, 16, 31, 36, 37, 44, 49, 51
Lead chromate	7758-97-6	BANNED	Prohibited - Report any amount contained	2
Lead chromate molybdate sulfate red	12656-85-8	BANNED	Prohibited - Report any amount contained	2
Lead sulfochromate yellow	1344-37-2	BANNED	Prohibited - Report any amount contained	2
Mercury and its compounds	7439-97-6	BANNED	NIA - Report any amount contained. Direct materials threshold impurity 1000 ppm. Packing materials threshold impurity of 100 ppm cumulative with Pb, Cd, CrVI.	3, 4, 5, 7, 6, 16, 31, 36, 37, 44, 49, 50, 51
Methylenediphenyl diisocyanate (MDI) including isomers	26447-40-5	BANNED	NIA – Prohibited at or above 1000 ppm	3
2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	BANNED	Prohibited - Report any amount contained	2
Monomethyl - tetrachlorodiphenyl methane Trade name: Ugilec 141	76253-60-6	BANNED	Prohibited - Report any amount contained	3
Monomethyldibromodiphenylmethane	99688-47-8	BANNED	Prohibited - Report any amount contained	3, 6
Monomethyldichlorodiphenylmethane	81161-70-8	BANNED	Prohibited - Report any amount contained	3, 6
Monomethyltetrachlorodiphenylmethane	76253-60-6	BANNED	Prohibited - Report any amount contained	3, 6
5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)	81-15-2	BANNED	Prohibited - Report any amount contained	2
2-Naphthylamine and its salts, all members	-	BANNED	NIA - Prohibited at or above 100 ppm	6, 31
4-Nitrobiphenyl and its salts, all members	92-93-3	BANNED	NIA - Prohibited at or above 100 ppm	3, 6, 31
Nonylphenol C6H4(OH)C9H19	25154-52-3	BANNED	NIA – Prohibited at or above 1000 ppm	3, 6, 31
Oligomers of chromic acid and dichromic acid	-	BANNED	Prohibited - Report any amount contained	2
Organostannic compounds	-	BANNED	Prohibited - Report any amount contained	3, 7
Ozone depleting halogenated Hydrocarbons and Carbons, all members, (CFCs, HCFCs, HBFCs, carbon tetrachloride, etc.)	-	BANNED	Prohibited - shall not be used	6, 13,14, 38

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 13

Banned or Controlled Substance Name	CAS	Status	Requirement and Reporting per homogenous layer (unless otherwise stated)	Regulation Reference Code
Pentachlorobenzene	608-93-5	BANNED	Prohibited - Report any amount contained	6, 25
Pentachloroethane	76-01-7	BANNED	NIA – Prohibited at or above 1000 ppm	3
Pentachlorophenol (PCP) and its salts, all members	87-86-5	BANNED	NIA – Prohibited at or above 1000 ppm Prohibited in the treatment of wood.	3, 6, 31
Perfluorooctanoic acids (PFOA)	335-67-1, 3825-26-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 376-27-2, 3108-24-5	BANNED	NIA – Prohibited at or above 1000 ppm	16
Pentazinc chromate octahydroxide	49663-84-5	BANNED	Prohibited - Report any amount contained	2
Perfluorooctane sulfonates C8F17SO2X (X = OH, Metal salt, halide, amide, and other derivatives including polymers) (PFOS), all members	-	BANNED	NIA – Prohibited at or above 1000 ppm Prohibited as a Substance or as a constituent of Preparations. Prohibited in products or parts. Exceptions-shall not apply to the following applications: photoresists or anti reflective coatings for photolithography processes, and photographic coatings applied to films, papers or printing plates. Refer to the EU Directive and the Canada Regulations referenced for more details on these requirements and exemptions.	3, 6, 10, 32, 35, 39, 46, 47
Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)- (UV 320)	3846-71-7	BANNED	NIA – Prohibited at or above 1000 ppm	1, 6, 39
Polybrominated biphenyls (PBB), all members	-	BANNED	NIA – Prohibited at or above 1000 ppm	3, 6
Polychlorinated biphenyls (PCB), all members	-	BANNED	NIA - Prohibited at or above 50 ppm	3, 6
Polychlorinated naphthalenes, all members	-	BANNED	NIA - Prohibited at or above ppm	6, 25
Polybrominated diphenyl ether (PBDE's) including Decabromobiphenyl Ether (DecaBDE), all members		BANNED	NIA – Prohibited at or above 1000 ppm	3, 6
Polychlorinated terphenyls (PCT), all members	-	BANNED	NIA - Prohibited at or above ppm	6, 15
Polycyclic-aromatic hydrocarbons (PAH) (c) Benzo[a]anthracene (BaA)	56-55-3	BANNED	NIA - Prohibited at or above 10 ppm	3
Polycyclic-aromatic hydrocarbons (PAH) (a) Benzo[a]pyrene (BaP)	50-32-8	BANNED	NIA - Prohibited at or above 10 ppm	3
Polycyclic-aromatic hydrocarbons (PAH) (b) Benzo[e]pyrene (BeP)	192-97-2	BANNED	NIA - Prohibited at or above 10 ppm	3
Polycyclic-aromatic hydrocarbons (PAH) (d) Chrysen (CHR)	218-01-9	BANNED	NIA - Prohibited at or above 10 ppm	3
Polycyclic-aromatic hydrocarbons (PAH) (e) Benzo[b]fluoranthene (BbFA)	205-99-2	BANNED	NIA - Prohibited at or above 10 ppm	3
Polycyclic-aromatic hydrocarbons (PAH) (f)	205-82-3	BANNED	NIA - Prohibited at or above 10	3

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 14

Banned or Controlled Substance Name	CAS	Status	Requirement and Reporting per homogenous layer (unless otherwise stated)	Regulation Reference Code
Benzo[j]fluoranthene (BjFA)			ppm	
Polycyclic-aromatic hydrocarbons (PAH) (g) Benzo[k]fluoranthene (BkFA)	207-08-9	BANNED	NIA - Prohibited at or above 10 ppm	3
Polycyclic-aromatic hydrocarbons (PAH) (h) Dibenzo[a,h]anthracene (DBAhA)	53-70-3	BANNED	NIA - Prohibited at or above 10 ppm	3
Potassium chromate	7789-00-6	BANNED	Prohibited - Report any amount contained	2
Potassium dichromate	7778-50-9	BANNED	Prohibited - Report any amount contained	2
Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	BANNED	Prohibited - Report any amount contained	2
Red Phosphorous (Phosphorous allotrope, d=2.2-2.34g/cm ³)	7723-14-0	BANNED	Prohibited - Report any amount contained in Plastics (such as epoxy resins, polyamides, polypropylene) that contact a conductor, or are in close proximity to a conductor. Printed circuit boards, printed circuit assemblies, electrical and electronic components, die attach materials, underfill epoxies and substrates Exceptions: elemental phosphorus as a part of Phos-bronze alloys.	0
Shortchain Chlorinated Paraffins (C ₁₀₋₁₃) (Chlorinated Alkanes)	85535-84-8, 108171-26-2, 71011-12-6, others	BANNED	NIA – Prohibited at or above 1000 ppm	1, 6, 7, 25, 35, 45
Sodium chromate	7775-11-3	BANNED	Prohibited - Report any amount contained	2
Sodium dichromate	10588-01-9, 7789-12-0	BANNED	Prohibited - Report any amount contained	2
Strontium chromate	7789-06-2	BANNED	Prohibited - Report any amount contained	2
Tetrachlorobenzene, all members	-	BANNED	Prohibited - Report any amount contained	6, 25
1,1,1,2-Tetrachloroethane	630-20-6	BANNED	NIA – Prohibited at or above 1000 ppm	3
1,1,2,2-Tetrachloroethane	79-34-5	BANNED	NIA – Prohibited at or above 1000 ppm	3
1,1,2-Trichloroethane	79-00-5	BANNED	NIA – Prohibited at or above 1000 ppm	3
Toluene	108-88-3	BANNED	NIA – Prohibited at or above 1000 ppm	3
Trichlorobenzene	120-82-1	BANNED	NIA – Prohibited at or above 1000 ppm	3, 25
Trichloroethylene	79-01-6	BANNED	Prohibited - Report any amount contained	2
Triorganotin compounds, all members	-	BANNED	NIA – Prohibited at or above 1000 ppm	1, 3, 6, 31, 39
Tris (2,3 dibromopropyl) phosphate	126-72-7	BANNED	Prohibited - Report any amount contained	3, 6, 22
Tris-(1-aziridiny) phosphine oxide	545-55-1	BANNED	NIA – Prohibited at or above 1000 ppm	3, 6, 28
Tris(2-chloroethyl) phosphate	115-96-8	BANNED	Prohibited - Report any amount contained	2

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 15

Appendix 12.2 Table 2 Declarable Substance List

Declarable Substance Name	CAS	Status	Requirement and Reporting per homogenous layer (unless otherwise stated) **for non-banned applications**	Regulation Reference Code
Acetaldehyde	75-07-0	Reportable	Threshold impurity of 1000 ppm	6
Acetamide, N-Methyl-	79-16-3	Reportable	Threshold impurity of 1000 ppm	6
Acetonitrile	75-05-8	Reportable	Threshold impurity of 1000 ppm	6
Acrylonitrile	107-13-1	Reportable	Threshold impurity of 1000 ppm	6, 31
Amines, which can form carcinogenic, Nitrosamines	-	Reportable	Threshold impurity of 1000 ppm	30, 6
Ammonium Perchlorate	7790-98-9	Reportable	Threshold impurity of 1000 ppm	21, 31, 6
Aniline and its salts	-	Reportable	Threshold impurity of 1000 ppm	31, 6
9,10-Anthracenedione, 1-[(5,7-dichloro-1,9-dihydro-2-methyl-9-oxopyrazolo[5,1-b]quinazolin-3-yl)azo]- (Pigment Red 251)	74336-60-0	Reportable	NIA – Prohibited at or above 1000 ppm	31, 6, 32
Antimony and Antimony compounds	-	Reportable	Threshold impurity of 1000 ppm Used in solder alloys and CRT glass	7
Antimony trioxide	1309-64-4	Reportable	Threshold impurity of 1000 ppm Used as flame retardant in plastic housing and mold compounds, catalyst for some rubber and PET compounds	6, 7, 31, 36
Aromatic amines	-	Reportable	Threshold impurity of 1000 ppm	31, 30, 31, 6
Arsenic compounds, other than in wood or paint which are banned	7440-38-2	Reportable	Threshold impurity of 100 ppm (unless present in metals & alloys, then the declaration limit is 500 ppm). Used as dopant, can be found as Gallium arsenide.	3, 6,
Barium (Ba) compounds (organic or water soluble)	-	Reportable	Threshold impurity of 10000 ppm	31, 31, 6
Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene	68921-45-9	Reportable	NIA – Prohibited at or above 1000 ppm	6, 32
1,4-Benzenediamine, N,N' -mixed phenyl and tolyl derivs	68953-84-4	Reportable	NIA – Prohibited at or above 1000 ppm	6, 32
2-Benzothiazolesulphenamide, N, N-dicyclohexyl-	4979-32-2	Reportable	NIA – Prohibited at or above 1000 ppm	6, 39
Beryllium (Be) and its compounds, all members	-	Reportable	Threshold impurity of 1000 ppm Used in connectors, springs, electrical contacts, impurity in Gold bond wire.	7, 31, 6
Biocidal coatings / biocidal additives	-	Reportable	Report any amount contained	20, 6
Bisphenol A (BPA)	80-05-7	Reportable/ Controlled	Threshold impurity of 1000 ppm in nonrestricted applications. BPA must not be used in products that come into contact with food and must not be used in thermal paper.	1, 36
Brominated (BFR) Flame Retardants (other than PBBs or PBDEs which are banned)	-	Reportable	NIA – Prohibited at or above 1000 ppm Bromine in plastic material	7
Bromine (Br)	7726-95-6	Reportable	Threshold impurity of 1000 ppm	7
Butadiene compounds	-	Reportable	Threshold impurity of 1000 ppm	3, 31, 6
Chlorinated hydrocarbons	-	Reportable	Threshold impurity of 1000 ppm	3, 31, 6
Chlorinated (CFR) Flame Retardants	-	Reportable	NIA - Threshold impurity 1000 ppm Chlorine in plastic material	0
Chlorine (Cl) and chlorinated compounds	-	Reportable	Threshold impurity of 1000 ppm	7
Chloroaniline	27134-26-5	Reportable	NIA - Threshold impurity of 0 ppm	31, 6
Cobalt (Co) and its compounds, all members	-	Reportable	Threshold impurity of 1000 ppm	31
Copper (Cu) and its compounds	-	Reportable	Report any amount contained	6
Cyanide/ Cyanogen Compounds (CCC)	-	Reportable	Report any amount contained	36

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 16

Declarable Substance Name	CAS	Status	Requirement and Reporting per homogenous layer (unless otherwise stated) **for non-banned applications**	Regulation Reference Code
Cyclohexasiloxane, dodecamethyl-	540-97-6	Reportable	NIA – Prohibited at or above 1000 ppm	32
2-Cyclohexen-1-one, 3,5,5-trimethyl-	78-59-1	Reportable	Report any amount contained	32
Cyclopentasiloxane, decamethyl-	541-02-6	Reportable	Report any amount contained	32
Cyclotetrasiloxane, heptamethylphenyl-	10448-09-6	Reportable	Report any amount contained	32
Cyclotetrasiloxane, octamethyl-	556-67-2	Reportable	Report any amount contained	32
Decanedioic acid, bis(1,2,2,6,6-pentamethyl-4-piperidinyl) ester	41556-26-7	Reportable	Report any amount contained	18, 6, 32
Dichloropropanol (1,3-Dichloro-2-propanol)	26545-73-3	Reportable	Threshold impurity of 1000 ppm	6
Disodium tetraborate, anhydrous	1303-96-4, 1330-43-4, 12179-04-3	Reportable	Threshold impurity of 1000 ppm	1, 6
Epichlorohydrin (1-Chloro-2,3-epoxy-propane)	106-89-8	Reportable	Threshold impurity of 1000 ppm	31, 6
Ethanol, 2-(2-methoxyethoxy)-	111-77-3	Reportable	Report any amount contained	6, 32
Pyrrolidones	-	Reportable	Threshold impurity of 1000 ppm	6
Fluorotelomers	-	Reportable	Threshold impurity of 1000 ppm	93, 6
Gold (Au) and its compounds	-	Reportable	Report any amount contained	41
Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	Reportable	Report any amount contained Uses include rubber seals	6, 32
Hydrazine	302-01-2	Reportable	Threshold impurity of 1000 ppm	31, 1, 6
Lead and Lead compounds	-	Reportable/ Controlled – see Table 1	Report any amount contained See also Table 1	1, 44, 4, 5
Long chain chlorinated paraffins (LCCP) (C ₁₈₋₂₈)	-	Reportable	Threshold impurity of 1000 ppm	6
Medium chain chlorinated paraffins (MCCP) (C ₁₄₋₁₇)	85535-85-9, others	Reportable	Threshold impurity of 1000 ppm	6
Methanol	67-56-1	Reportable	Threshold impurity of 1000 ppm	27, 6
Methylacrylamidomethoxy-acetate	-	Reportable	Threshold impurity of 1000 ppm	31
1-Methyl- 2-Pyrrolidinone	872-50-4	Reportable	Threshold impurity of 1000 ppm	1, 6
Mineral Fibers (Natural or Synthetic)	-	Reportable	Threshold impurity of 1000 ppm	6
Nanomaterials: natural, incidental, or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50 percent or more of the particles in the number size distribution, one or more external dimensions are in the size range 1 nm–100 nm. In addition, fullerenes, graphene flakes, and singlewall carbon nanotubes with one or more external dimensions below 1 nm should be considered as nanomaterials.	-	Reportable	Report any amount contained	42, 43
Naphthalene	-	Reportable	Report any amount contained	31, 7
2-Naphthalenecarboxamide, N-(5-chloro-2,4-dimethoxyphenyl)-4-[[5-[(diethylamino)sulfonyl]-2-methoxyphenyl]azo]-3-hydroxy-(Pigment Red 5)	-	Reportable	Report any amount contained	32
2-Naphthalenecarboxamide,4-[[5-[[[4-(aminocarbonyl)phenyl]amino]carbonyl]-2-methoxyphenyl]azo]-N-(5-chloro-2,4-dimethoxyphenyl)-3-hydroxy-(Pigment Red 187)	-	Reportable	Report any amount contained	32
2-Naphthalenol, 1-[(2,4-dinitrophenyl)azo]- (Pigment Orange 5)	-	Reportable	NIA – Prohibited at or above 1000 ppm	6, 32
2-Naphthalenol, 1-[(2-chloro-4-nitrophenyl)azo]- (Pigment Red 4)	-	Reportable	NIA – Prohibited at or above 1000 ppm	6, 32
2-Naphthalenol, 1-[(4-methyl-2-nitrophenyl)azo]- (Pigment Red 3)	2425-85-6	Reportable	NIA – Prohibited at or above 1000 ppm	6, 32
Nickel (Ni) and its compounds, all members	-	Reportable	Report any amount contained	6, 3, 51
Nitrocellulose	9004-70-0	Reportable	Threshold impurity of 1000 ppm	31, 6

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 17

Declarable Substance Name	CAS	Status	Requirement and Reporting per homogenous layer (unless otherwise stated) **for non-banned applications**	Regulation Reference Code
7-Oxa-3,20-diazadispiro[5.1.11.2]-heneicosan-21-one, 2,2,4,4-tetramethyl-	64338-16-5	Reportable	Threshold impurity of 1000 ppm	18, 6
Palladium (Pd) and its compounds	-	Reportable	Report any amount contained	0
Perchlorates	-	Reportable	Threshold impurity 1000 ppm	21, 6
Phenol	108-95-2	Reportable	Threshold impurity 1000 ppm	39, 31, 6
Phenylendiamines and its salts	-	Reportable	Threshold impurity of 1000 ppm	3, 39, 31, 6
Phosphoric acid tributylester	-	Reportable	Report any amount contained	32
Phosphoric acid, tris(2-methylphenyl) Ester	78-30-8	Reportable	Threshold impurity of 1000 ppm	6, 32
Phthalates (all members)	-	Reportable	Threshold impurity of 1000 ppm	6, 3
Phosphorous (P) includes Red Phosphorous (Red Phosphorous is BANNED in mold compounds)	7723-14-0	Reportable / Controlled See Table 1	Report any amount contained	0
Polyvinyl Chloride	9002-86-2	Reportable	Threshold impurity of 1000 ppm. Current uses include shipping tube material, sheathing for wires and cables and connectors in module parts.	0
Rare Earth Metals	-	Reportable	Report any amount contained	0
Radioactive Substances	-	Reportable	Report any amount contained	7, 6
Silica, Crystalline	14808-60-7	Reportable	Report any amount contained	6
Siloxanes and Silicones, Me 3,3,3-trifluoropropyl, Me vinyl, hydroxyterminated	68952-02-3	Reportable	Report any amount contained	32
Sodium azide	26628-22-8	Reportable	Threshold impurity of 1000 ppm	6
Styrene (Vinyl benzene)	100-42-5	Reportable	Threshold impurity of 1000 ppm	31, 6
Styrene oxide (Epoxy styrene)	96-09-3	Reportable	Threshold impurity of 1000 ppm	31, 6
Tantalum (Ta) and its compounds	-	Reportable	Report any amount contained	41
Tetrabromobisphenol A (TBBPA)	79-94-7	Reportable	Threshold impurity of Bromine 1000 ppm	6, 16, 40
Thallium (Th) and its compounds	-	Reportable	Threshold impurity of 1000 ppm	31, 3, 6
Tin (Sn)	-	Reportable	For substances other than Organic Tin Group - report any amount contained	41
Toluidine compounds	-	Reportable	NIA - Threshold impurity of 1000ppm	17, 3, 7, 31, 6
Trichlorophenol and its salts	-	Reportable	Threshold impurity of 1000 ppm	31, 6
Trichloropropane (1,2,3 - Trichloropropane)	96-18-4	Reportable	Threshold impurity of 1000 ppm	1, 31, 6
Trimethylphosphate	512-56-1	Reportable	Threshold impurity of 1000 ppm	3, 29, 6
Triphenylphosphate	115-86-6	Reportable	Threshold impurity of 1000 ppm	6
Tris(1,3-dichloro-2-propyl) phosphate	13674-87-8	Reportable	Threshold impurity of 1000 ppm	6, 36
Tungsten (W) and its compounds	-	Reportable	Report any amount contained	41

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 18

Appendix 12.3 Table 3 REACH SVHC Substance List

Item#	SVHC Substance -	CAS #	Status Reportable > 0.1% wt/wt of article unless otherwise noted	Date of inclusion
1	Anthracene	120-12-7		28-Oct-2008
2	4,4'- Diaminodiphenylmethane	101-77-9	Authorization Annex XIV	28-Oct-2008
3	Dibutyl phthalate (DBP)	84-74-2	Authorization Annex XIV, some uses restricted under Annex XVII	28-Oct-2008
4	Cobalt dichloride	7646-79-9		28-Oct-2008
5	Diarsenic pentaoxide	1303-28-2	Authorization Annex XIV	28-Oct-2008
6	Diarsenic trioxide	1327-53-3	Authorization Annex XIV	28-Oct-2008
7	Sodium dichromate	7789-12-0; 10588-01-9	Authorization Annex XIV	28-Oct-2008
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	Authorization Annex XIV	28-Oct-2008
9	Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	Authorization Annex XIV, some uses restricted under Annex XVII	28-Oct-2008
10	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	25637-99-4, 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)	Authorization Annex XIV	28-Oct-2008
11	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8		28-Oct-2008
12	Bis(tributyltin) oxide (BTBO)	56-35-9		28-Oct-2008
13	Lead hydrogen arsenate	7784-40-9	Some uses restricted under Annex XVII	28-Oct-2008
14	Triethyl arsenate	15606-95-8		28-Oct-2008
15	Benzyl butyl phthalate (BBP)	85-68-7	Authorization Annex XIV, some uses restricted under Annex XVII	28-Oct-2008
16	2,4-Dinitrotoluene	121-14-2	Authorization Annex XIV	13-Jan- 2010
17	Anthracene oil	90640-80-5	Some uses restricted under Annex XVII	13-Jan- 2010
18	Anthracene oil, anthracene paste	90640-81-6		13-Jan- 2010
19	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2		13-Jan- 2010
20	Anthracene oil, anthracene paste, distn. lights	91995-17-4		13-Jan- 2010
21	Anthracene oil, anthracene-low	90640-82-7		13-Jan- 2010
22	Diisobutyl phthalate	84-69-5	Authorization Annex XIV	13-Jan- 2010
23	Lead chromate	7758-97-6	Authorization Annex XIV	13-Jan- 2010
24	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	Authorization Annex XIV	13-Jan- 2010
25	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Authorization Annex XIV	13-Jan- 2010
26	Pitch, coal tar, high temp.	65996-93-2		13-Jan- 2010
27	Tris(2-chloroethyl)phosphate	115-96-8	Authorization Annex XIV	13-Jan- 2010
28	Acrylamide	79-06-1		30-Mar-2010

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 19

Item#	SVHC Substance -	CAS #	Status Reportable > 0.1% wt/wt of article unless otherwise noted	Date of inclusion
29	Trichloroethylene	79-01-6	Authorization Annex XIV	18-Jun-2010
30	Boric acid	10043-35-3		18-Jun-2010
31	Disodium tetraborate, anhydrous	1330-43-4		18-Jun-2010
32	Tetraboron disodium heptaoxide, hydrate	12267-73-1		18-Jun-2010
33	Sodium chromate	7775-11-3	Authorization Annex XIV	18-Jun-2010
34	Potassium chromate	7789-00-6	Authorization Annex XIV	18-Jun-2010
35	Ammonium dichromate	7789-09-5	Authorization Annex XIV	18-Jun-2010
36	Potassium dichromate	7778-50-9	Authorization Annex XIV	18-Jun-2010
37	2-Ethoxyethanol	110-80-5		15-Dec-2010
38	2-Methoxyethanol	109-86-4		15-Dec-2010
39	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	Authorization Annex XIV	15-Dec-2010
40	Chromium trioxide	1333-82-0	Authorization Annex XIV	15-Dec-2010
41	Cobalt(II) carbonate	513-79-1		15-Dec-2010
42	Cobalt(II) diacetate	71-48-7		15-Dec-2010
43	Cobalt(II) dinitrate	10141-05-6		15-Dec-2010
44	Cobalt(II) sulphate	10124-43-3		15-Dec-2010
45	1,2,3-Trichloropropane	96-18-4		20-Jun-2011
46	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6		20-Jun-2011
47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4		20-Jun-2011
48	1-Methyl-2-pyrrolidone	872-50-4		20-Jun-2011
49	2-Ethoxyethyl acetate	111-15-9		20-Jun-2011
50	Hydrazine	302-01-2, 7803-57-8		20-Jun-2011
51	Strontium chromate	7789-06-2	Authorization Annex XVI -22-Jan-2019	20-Jun-2011
52	Dichromium tris(chromate)	24613-89-6	Authorization Annex XVI -22-Jan-2019	19-Dec-2011
53	Potassium hydroxyoctaoxodizincatedi-chromate	11103-86-9	Authorization Annex XVI -22-Jan-2019	19-Dec-2011
54	Pentazinc chromate octahydroxide	49663-84-5	Authorization Annex XVI -22-Jan-2019	19-Dec-2011
55	Aluminosilicate Refractory Ceramic Fibres (RCF)	-		19-Dec-2011
56	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF)	-		19-Dec-2011
57	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	Authorization Annex XIV	19-Dec-2011
58	Bis(2-methoxyethyl) phthalate	117-82-8		19-Dec-2011
59	2-Methoxyaniline; o-Anisidine	90-04-0		19-Dec-2011
60	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9		19-Dec-2011
61	1,2-Dichloroethane	107-06-2	Authorization Annex XIV	19-Dec-2011
62	Bis(2-methoxyethyl) ether	111-96-6	Authorization Annex XIV	19-Dec-2011
63	Arsenic acid	7778-39-4	Authorization Annex XIV	19-Dec-2011
64	Calcium arsenate	7778-44-1		19-Dec-2011
65	Trilead diarsenate	3687-31-8		19-Dec-2011
66	N,N-dimethylacetamide (DMAC)	127-19-5		19-Dec-2011

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 20

Item#	SVHC Substance -	CAS #	Status Reportable > 0.1% wt/wt of article unless otherwise noted	Date of inclusion
67	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	Authorization Annex XIV	19-Dec-2011
68	Phenolphthalein	77-09-8		19-Dec-2011
69	Lead azide, Lead diazide	13424-46-9		19-Dec-2011
70	Lead styphnate	15245-44-0		19-Dec-2011
71	Lead dipicrate	6477-64-1		19-Dec-2011
72	[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		18-Jun-2012
73	α,α-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		18-Jun-2012
74	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1		18-Jun-2012
75	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6		18-Jun-2012
				18-Jun-2012
76	Diboron trioxide	1303-86-2		18-Jun-2012
77	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2		18-Jun-2012
78	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		18-Jun-2012
79	Lead(II) bis(methanesulfonate)	17570-76-2		18-Jun-2012
80	Formamide	75-12-7		18-Jun-2012
81	[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		18-Jun-2012
82	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4		18-Jun-2012
83	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9		18-Jun-2012
84	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8		18-Jun-2012
85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5		19-Dec-2012
86	Pentacosafuorotridecanoic acid	72629-94-8		19-Dec-2012
87	Tricosafuorododecanoic acid	307-55-1		19-Dec-2012
88	Henicosafuoroundecanoic acid	2058-94-8		19-Dec-2012
89	Heptacosafuorotetradecanoic acid	376-06-7		19-Dec-2012
90	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3		19-Dec-2012
91	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		19-Dec-2012
92	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		19-Dec-2012
93	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	-		19-Dec-2012

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 21

Item#	SVHC Substance -	CAS #	Status Reportable > 0.1% wt/wt of article unless otherwise noted	Date of inclusion
	combination thereof]			
94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated, [covering well-defined substances and UVCB substances, polymers and homologues]	-		19-Dec-2012
95	Methoxyacetic acid	625-45-6		19-Dec-2012
96	N,N-dimethylformamide	68-12-2		19-Dec-2012
97	Dibutyltin dichloride (DBTC)	683-18-1		19-Dec-2012
98	Lead monoxide (Lead oxide)	1317-36-8		19-Dec-2012
99	Orange lead (Lead tetroxide)	1314-41-6		19-Dec-2012
100	Lead bis(tetrafluoroborate)	13814-96-5		19-Dec-2012
101	Trilead bis(carbonate)dihydroxide	1319-46-6		19-Dec-2012
102	Lead titanium trioxide	12060-00-3		19-Dec-2012
103	Lead titanium zirconium oxide	12626-81-2		19-Dec-2012
104	Silicic acid, lead salt	11120-22-2		19-Dec-2012
105	Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped, [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' 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		19-Dec-2012
106	1-bromopropane (n-propyl bromide)	106-94-5		19-Dec-2012
107	Methyloxirane (Propylene oxide)	75-56-9		19-Dec-2012
108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0		19-Dec-2012
109	Diisopentylphthalate (DIPP)	605-50-5		19-Dec-2012
110	N-pentyl-isopentylphthalate	776297-69-9		19-Dec-2012
111	1,2-diethoxyethane	629-14-1		19-Dec-2012
112	Acetic acid, lead salt, basic	51404-69-4		19-Dec-2012
113	Lead oxide sulfate	12036-76-9		19-Dec-2012
114	[Phthalato(2-)]dioxotrilead	69011-06-9		19-Dec-2012
115	Dioxobis(stearato)trilead	12578-12-0		19-Dec-2012
116	Fatty acids, C16-18, lead salts	91031-62-8		19-Dec-2012
117	Lead cyanamide	20837-86-9		19-Dec-2012
118	Lead dinitrate	10099-74-8		19-Dec-2012
119	Pentalead tetraoxide sulphate	12065-90-6		19-Dec-2012
120	Pyrochlore, antimony lead yellow	8012-00-8		19-Dec-2012
121	Sulfurous acid, lead salt, dibasic	62229-08-7		19-Dec-2012
122	Tetraethyllead	78-00-2		19-Dec-2012
123	Tetralead trioxide sulphate	12202-17-4		19-Dec-2012
124	Trilead dioxide phosphonate	12141-20-7		19-Dec-2012
125	Furan	110-00-9		19-Dec-2012
126	Diethyl sulphate	64-67-5		19-Dec-2012
127	Dimethyl sulphate	77-78-1		19-Dec-2012
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2		19-Dec-2012
129	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7		19-Dec-2012
130	4,4'-methylenedi-o-toluidine	838-88-0		19-Dec-2012
131	4,4'-oxydianiline and its salts	101-80-4		19-Dec-2012
132	4-aminoazobenzene	60-09-3		19-Dec-2012
133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7		19-Dec-2012
134	6-methoxy-m-toluidine (p-cresidine)	120-71-8		19-Dec-2012
135	Biphenyl-4-ylamine	92-67-1		19-Dec-2012
136	o-aminoazotoluene [(4-o-tolylazo-o-toluidine)]	97-56-3		19-Dec-2012
137	o-toluidine	95-53-4		19-Dec-2012
138	N-methylacetamide	79-16-3		19-Dec-2012
139	Cadmium	7440-43-9	Some uses restricted under Annex XVII	20-Jun-2013
140	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1		20-Jun-2013
141	Pentadecafluorooctanoic acid (PFOA)	335-67-1		20-Jun-2013
142	Dipentyl phthalate (DPP)	131-18-0		20-Jun-2013

Maxim Integrated

TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances

DOCUMENT I.D.

10-0131

REVISION

L

PAGE

22

Item#	SVHC Substance -	CAS #	Status Reportable > 0.1% wt/wt of article unless otherwise noted	Date of inclusion
143	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]	-		20-Jun-2013
144	Cadmium oxide	1306-19-0	Some uses restricted under Annex XVII	20-Jun-2013
145	Lead di(acetate)	301-04-2		16-Dec-2013
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0		16-Dec-2013
147	Trixylyl phosphate	25155-23-1		16-Dec-2013
148	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7		16-Dec-2013
149	Dihexyl phthalate	84-75-3		16-Dec-2013
150	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		16-Dec-2013
151	Cadmium sulphide	1306-23-6	Some uses restricted under Annex XVII	16-Dec-2013
152	Cadmium chloride	10108-64-2	Some uses restricted under Annex XVII	16-Jun-2014
153	1,2-Benzenedicarboxylic acid, dihexylester, branched and linear	68515-50-4		16-Jun-2014
154	Sodium peroxometaborate	7632-04-04		16-Jun-2014
155	Sodium perborate; perboric acid, sodium salt	-		16-Jun-2014
156	Cadmium fluoride	7790-79-6	Some uses restricted under Annex XVII	17-Dec-2014
157	Cadmium sulphate	10124-36-4; 31119-53-6	Some uses restricted under Annex XVII	17-Dec-2014
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7		17-Dec-2014
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1		17-Dec-2014
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1		17-Dec-2014
161	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)	-		17-Dec-2014
162	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	68515-51-5 68648-93-1		15-June-2015
163	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]	-		15-June-2015
164	Nitrobenzene	98-95-3		17-Dec-2015
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1		17-Dec-2015
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3		17-Dec-2015
167	1,3-propanesultone	1120-71-4		17-Dec-2015
168	Perfluoronon-1-oi-c-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4		17-Dec-2015
169	Benzo[def]chrysene	50-32-8		20-Jun-2016
170	4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-7		12-Jan-2017
171	4-Heptylphenol, branched and linear substances	-		12-Jan-2017
172	p-(1,1-dimethylpropyl) phenol	80-46-6		12-Jan-2017

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 23

Item#	SVHC Substance -	CAS #	Status Reportable > 0.1% wt/wt of article unless otherwise noted	Date of inclusion
173	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2; 3108-42-7; 3830-45-3		12-Jan-2017
174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	355-46-4		10-Jul-2017
175	Chrysene	218-01-9		18-Jan-2018
176	Benz[a]anthracene	56-55-3		18-Jan-2018
177	Cadmium nitrate	10325-94-7	Some uses restricted under Annex XVII	18-Jan-2018
178	Cadmium hydroxide	21041-95-2	Some uses restricted under Annex XVII	18-Jan-2018
179	Cadmium carbonate	513-78-0	Some uses restricted under Annex XVII	18-Jan-2018
180	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	-		18-Jan-2018
181	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]	-		18-Jan-2018

Appendix 12.4 Table 4 Regulatory and Standards Reference

Country or Organization	Title or Reference	Reference Code
Maxim	Maxim requirement	0
EU	REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC	1
EU	COMMISSION REGULATION (EU) No 143/2011 of 17 February 2011 amending Annex XIV to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (' REACH ')	2
EU	COMMISSION REGULATION (EC) No 552/2009 of 22 June 2009 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards Annex XVII	3
EU	DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL The restriction of the use of certain hazardous substances in electrical and electronic equipment (" RoHS Recast "). This directive replaces the directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.	4
EU	Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles (EU ELV)	5
Global	Global Automotive Declarable Substance List (GADSL)	6
Global	International Electrotechnical Commission IEC 62474 - Material Declaration for Products of and for the Electrotechnical Industry	7
EU	DIRECTIVE 2002/61/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 July 2002 amending for the nineteenth time Council Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations (azocolourants)	8
EU	DIRECTIVE 2003/11/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 February 2003 amending for the 24th time Council Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations (pentabromodiphenyl ether, octabromo- octabromodiphenylether)	9
EU	DIRECTIVE 2006/122/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 December 2006 amending for the 30th time Council Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations.	10
EU	REGULATION (EC) No 2037/2000 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 June 2000 on substances that deplete the ozone layer	11

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 24

UN	The Montreal Protocol on Substances that Deplete the Ozone Layer	12
EU	REGULATION (EC) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer	13
USA	Clean Air Act (1990 revision of article 611)	14
Germany	Chemicals Prohibition Ordinance - ChemVerbotsV	15
Norway	Regulations relating to restrictions on the manufacture, import, export, sale and use of Chemicals and other products hazardous to health and the environment (Product Regulations), November 2006	16
USA	Toxic Substances Control Act, TSCA , Occupational Safety and Health Act (29 CFR 1910.1001-1051)	17
USA, Canada, United Kingdom, Norway	OSPAR List of Chemicals for Priority Action, OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, 2004	18
UN	ROTTERDAM CONVENTION on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	19
EU	COMMISSION REGULATION (EC) No 2032/2003 of 4 November 2003 on the second phase of the 10-year work programme referred to in Article 16(2) of Directive 98/8/EC of the European Parliament and of the Council concerning the placing of biocidal products on the market, and amending Regulation (EC) No 1896/2000	20
USA-California	Assembly Bill 826 The Perchlorate Contamination Prevention Act	21
EU	Council Directive 79/663/EEC of 24 July 1979 supplementing the Annex to Council Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to the restrictions on the marketing and use of certain dangerous substances and preparations	22
EU	Council Directive 91/689/EEC of 12 December 1991 on hazardous waste	23
Japan	Waste Management and Public Cleansing Law	24
Canada	Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41) and amendments	25
Germany	Hazardous Substances Ordinance (Gefahrstoffverordnung - GefStoffV) of 23 December 2004 (BGBl. I p. 3758) as amended by Article 2 of the Ordinance of 23 December 2004 (BGBl. I p. 3855)	26
Sweden	The Chemical Products (Handling, Import, and Export Prohibitions) Ordinance (1998:944)	27
EU	Council Directive 83/264/EEC of 16 May 1983 amending for the fourth time Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations	28
Germany	TRGS 552 N-nitrosamines Technische Regeln für Gefahrstoffe (TRGS) Technical standards for hazardous substances	29
Germany	TRGS 615 Restrictions on the use of anticorrosion agents whose use can lead to the formation of N-nitrosamines	30
EU	1272/2008/EEC Directive on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labeling of preparations made from dangerous substances.	31
Canada	Part 7, Division 3, of the Canadian, Environmental Protection Act, 1999 (CEPA, 1999)	32
EU	European Union (EU) Directive (2009/251/EC) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL published 17th March 2009 on the substance Dimethyl Fumarate (DMF).	33
EU	Directive (EU) 2015/863 to amend Annex II to EU RoHS 2 (Directive 2011/65/EU), phthalates	34
USA - EPA	Certain Polybrominated Diphenylethers; Significant New Use Rule and Test Rule Short Chain Alkanes – Chloro SNUR	35
USA-California	California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)	36
China	China RoHS: Management Methods for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products	37
EU	Council Regulation (EEC) No 594/91 of 4 March 1991 on substances that deplete the ozone layer	38
Japan	Law concerning the examination of regulation of manufacture of chemical substances (Class 1 substances)	39
EU	EU Risk Assessment	40
USA	Dodd-Frank Act Section 1502 Conflict Minerals Rule	41
France	France Decree No. 2012-232, Environmental Code Article L. 523-4— Annual declaration of substances in nanomaterial	42
EU	2011/696/EU Definition of Nanomaterial	43
EU	Directive 94/62/EC of the European Parliament and of the Council on Packaging and Packaging	44

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 25

	waste, December 1994	
Global	IEEE1680, Standard for the Environmental Performance of Electronic Equipment	45
EU	REGULATION (EC) NO 850/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 non persistent organic pollutants and amending Directive 79/117/EEC	46
EU	COMMISSION REGULATION (EU) No 757/2010 of 24 August 2010 amending Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants as regards Annexes I and III	47
Canada	Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012 (BNST) (SOR/2017-247)	48
EU	Directive 2006/66/EU on Batteries and Accumulators and Waste Batteries and Accumulators	49
EU	Directive 94/62/EC on Packaging and Packaging Waste	50
Global	JIG201 Packaging Declarable Substance List	51

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 26

REVISION HISTORY

REV	CHANGES MADE	DATE	INIT.
A	ECN # HQ-05-3536. INITIAL RELEASE.	05/19/05	JD
B	ECN MFN-06-1264 Identify material as 10-0131 compliant by C of C with each delivery to aide IQC. Require marking on each inner box or bag saying " ROHS compliant" to keep ROHS material identified in raw material stores. Simplify the long chemical name listing in current rev to the shorter generic and standardized listing established by iNEMI's/EIA Joint Industry Guide 101 (JIG A & B)	9/11/06	RG
C	ECN#EV-08-0510: CANCELED	8/20/09	DD
D	CANCELED	8/20/09	PP
E	ECN#EV-09-2092: CANCELED.	1/19/10	KR
F	EV-10-0239: Include HF, REACH, GADSL, and reportable metals in Substance List. Add reference table. Add 3rd party test and SDOC requirements	5/17/11	KR
G	ECN#EV-11-2901: REACH has been updated to include additional substances. Benchmarking of competitors' and customers' definition of lead free.	8/22/11	KR
H	CANCELED		
I	ECN#EV-12-1449: Regulations and requirements are updated throughout the year.	07/27/12	KR
J	ECN # PH-13-1375. Added PH-C and THAILAND on the affected facilities as EICC requirement.	08/21/13	JM
K	ECN#EV-14-0284: Need to add Conflict Minerals requirements to corporate spec.	04/28/14	RS
L	ECN#BVN-18-0200: Specification rewrite, reorganized sections for clarity, updated substance tables and procedure to current regulations and current references, removed facilities that have been decommissioned, (SA, DSF, Batangas. X3).	03/07/18	LM

Maxim Integrated	TITLE: [HQ/EV/MFN/DS/PH-C/TH/KOREA/CHINA/SINGAPORE/TAIWAN] [ASSY/PACKAGING/CORPORATE QA] Control of Banned and Restricted Substances		
	DOCUMENT I.D. 10-0131	REVISION L	PAGE 27