



DOCUMENT TITLE:
**[HQ/X3/EV/MFN/DS/DSF/SA/PH-B/KOREA/CHINA/SINGAPORE/TAIWAN] Control
of Banned and Restricted Environmental Substances**

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ORIGINATOR: KIAM I ROGERS

MOST RECENT CHANGES

FROM	TO
Include HF, REACH, GADSL, and reportable metals in Substance List. Add reference table. Add 3 rd party test and SDOC requirements.	Update REACH reportable substances and remove the word "impurity" from lead content of "Direct materials threshold impurity 1000 ppm."

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1. **TITLE: [HQ/X3/EV/MFN/DS/DSF/SA/PH-B/KOREA/CHINA/SINGAPORE/TAIWAN] Control of Banned and Restricted Environmental Substances**

2. **PURPOSE:**

2.1. The purpose of this document is to describe the policy and procedures of Maxim Integrated Products, Inc. ("Maxim") with respect to banned and restricted substances.

3. **SCOPE:**

3.1. This policy applies to all business activities, including design/assembly/test/wafer fabrication processes, purchasing, receiving, storage, and shipping activities. These activities need to provide:

3.2. An end product compliant to customer specified requirements, with Maxim's requested waivers and exceptions, and relevant country and/or regional regulations in regards to hazardous substances.

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 5.0), 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 5.0).

4.1.3. **Direct Material**

4.1.3.1. Any material utilized in final product/end product.

4.1.3.2. Any material used to process a final product/end product.

4.1.4. **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).

4.1.5. **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.

4.1.6. **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.

4.1.7. **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 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

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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.

- 4.1.8. **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.
- 4.1.9. **ICP-MS** - Inductively Coupled Plasma Mass Spectrometry
- 4.1.10. **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.
- 4.1.11. **Lead-free products contain less than 1000ppm of lead in each homogeneous material.**
- 4.1.12. **MSDS, Material Safety Datasheet** - Provides workers and emergency personnel with the proper procedures for handling or working with a particular substance. MSDS's include information such as physical data (melting point, boiling point, flash point etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures.
- 4.1.13. **Not Intentionally Added (NIA)** - *Non* 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.
- 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 it's 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. **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. **SDOC** – Supplier's declaration of conformance.
- 4.1.18. **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.
- 4.1.19. **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.
- 4.1.20. **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.).
- 4.1.21. **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.
- 4.1.22. **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*.

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5. APPLICABLE DOCUMENTS:


- 5.1. Referenced Documents : Tab 1 in Appendix 1 lists the referenced regulations, legislation, or standards.
- 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.
- 5.1.2. **NOTE:** References shown in Table 2 are based those shown in Table 1. Not all possible references for substances are necessarily shown in Tables 1 and 2.

6. EQUIPMENT AND MATERIALS:

- 6.1. **TABLE 2 in Appendix 2** summarizes the listing of substances by group of and their implementation status. Threshold limits apply to each homogenous material used in the product. When Zero is shown, this is equivalent to "Not Detectable" by the best analytical method practices.

7. GENERAL REQUIREMENTS:

- 7.1. **BANNED** substances shall not be intentionally added to the direct materials and packing materials of Maxim's products unless an applicable exemption applies and is cited.
- 7.2. The PVC (polyvinyl chloride) in shipping tubes and RFID tags are the only exempted use of PVC.
- 7.3. Concentrations of **BANNED** substances shall not exceed the concentrations listed in Table 2 be it intentionally added or an impurity.
- 7.4. Certificate of Compliance Requirements - For all deliveries of raw materials and subcontracted/foundry wafer fabrication (including uCSP/WLP), assembled and/or tested products a Certificate of Compliance (C of C) signed by the supplier's QA is required.
- 7.4.1. The C of C 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.
- 7.4.2. Maxim reserves the right to challenge the validity of any C of C at any time. If the C of C is challenged by Maxim, the supplier must be able to provide an analytical test report per paragraph 7.6 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.
- 7.5. 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.
- 7.6. Analytical Testing Requirements
- 7.6.1. Analytical test reports are required, as a minimum, for the following substances [in packages classified as lead-free](#):
- 7.6.1.1. Lead
- 7.6.1.2. Cadmium
- 7.6.1.3. Mercury
- 7.6.1.4. Hexavalent Chromium
- 7.6.1.5. PBB/PBDE (including deca-series)
- 7.6.2. Analytical test reports are required, as a minimum, for the following substances [in packages classified as low-halogen](#):
- 7.6.2.1. Chlorine – in mold compounds and substrates
- 7.6.2.2. Bromine – in mold compounds and substrates

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7.6.3. 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 RoHS Compliance Manager.

7.6.4. Testing Method Requirements

7.6.4.1. Test methods used shall be those that are *internationally* recognized in the industry. Suggested methods and specifications are as follows:

7.6.4.1.1. Bromine and Chlorine - BS EN 14582

7.6.4.1.1.1. Preprocessing: O2 bomb

7.6.4.1.1.2. Analytical instruments: IC or ICP. Titration methods can give false readings.

7.6.4.1.2. CrVI - Procedures vary based on material type. EPA 3060A, EPA 7196A, IEC 6231, ISO 3613.

7.6.4.1.2.1. Preprocessing: DIN 53314 or IEC 62321. Alkaline digestions/Colorimetric Method Spot-test procedure/boiling water extraction procedure.

7.6.4.1.2.2. For metals, spot testing/hot water extraction is preferred.

7.6.4.1.2.3. Analytical instruments: UV-VIS, CV-AAS, ICP-OES, ICP-MS, HPLC

7.6.4.1.3. Cadmium - Procedures vary based on material type. EPA 3052, EPA 3050B, EN1122, ASTM E 351.

7.6.4.1.3.1. 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.

7.6.4.1.3.2. Analytical instruments: ICP-AES (ICP-OES), ICP-MS, AAS

7.6.4.1.4. Mercury - Procedures vary based on material type. EPA 3053, ISO 3856-7, EN12497, IEC 62321.

7.6.4.1.4.1. Preprocessing: EPA 3052

7.6.4.1.4.2. Analytical instruments: ICP-AES (ICP-OES), AAS

7.6.4.1.5. Lead - Procedures vary based on material type. EPA 3052, EPA 3050B, ASTM E 350, IEC 62321.

7.6.4.1.5.1. 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.

7.6.4.1.5.2. Analytical instruments: ICP-AES (ICP-OES), ICP-MS, AAS

7.6.4.1.6. PBB/PBDE -

7.6.4.1.6.1. Preprocessing: Soxhlet extraction is carried out with organic solvents.

7.6.4.1.6.2. Analytical instruments: GC-MS, HPLC or LC-MS

7.6.5. Test Report Format Requirements

7.6.5.1. Each test report shall include the following information as a minimum:

7.6.5.1.1. Supplier name (supplier of the sample for testing)

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- 7.6.5.1.2. Sample description (name, color, vendor, vendor material type/formula, etc.).
- 7.6.5.1.3. Photo(s) of the sample being tested.
- 7.6.5.1.4. Date(s) of testing and report date.
- 7.6.5.1.5. Substance being tested for and test method used for testing of it.
- 7.6.5.1.6. Measurement flow chart (simple schematic or step listing).
- 7.6.5.1.7. Sample preparation method(s) prior to testing
- 7.6.5.1.8. Detection limit of the method and measuring equipment.
- 7.6.5.1.9. Measurement results (ppm/weight) of substance.
- 7.6.5.1.10. Lab Information
 - 7.6.5.1.10.1. Lab Name
 - 7.6.5.1.10.2. Lab Address
 - 7.6.5.1.10.3. Lab Report Number
 - 7.6.5.1.10.4. Person(s) performing the testing
 - 7.6.5.1.10.5. Signature, written name and title of the responsible person for the test report and the results.

7.6.6. Testing Frequency

7.6.6.1. Unless otherwise specified, testing shall be performed on an annual basis.

7.7. Supplier Document of Conformancy/Content (SDOC) Requirements

SDOCs shall state the non use (for processing), not intentionally added and/or impurity content of substances where analytical testing is not feasible. SDOCs are accepted in lieu of test reports. An SDOC must also include the information shown below.


- 7.7.1 Homogeneous material – Vendor name and vendor type/formula (Example: Mold Compound, Sumitomo EME-G600).
- 7.7.2 Substance(s) covered by the SDOC for the homogeneous material. Specific listings of substances are required, not just by grouping name. Reference the specific substance listings in Annex tables as shown in this document.
- 7.7.3 Parts per million (ppm) content or Not Intentionally Added statement for each substance listed.
- 7.7.4 Documentation being used to support 7.6 requirements (eg, Vendor's datasheet, vendor's certificate of content/analysis, MSDS, other)
- 7.7.5 Supplier and/or subcontractor issuing the SDOC
- 7.7.6 Date the of SDOC's issue
- 7.7.7 Supplier's and/or subcontractor's responsible person's written name, title and signature.

8. ACCEPTANCE:

8.1. All Maxim products, direct materials and packing materials included in the scope of this specification that meet the threshold limits of Table 2 are acceptable and suitable for production usage and sale to our customers for EU RoHS compliant, with the appropriate exemption identified, and lead-free end products.

9. DISPOSITION OF MATERIAL:

9.1. 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 of Table 2 shall be placed on QA

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HOLD until lab test results or suitable documentation from the supplier is provided proving compliance to this specification.


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 for a minimum of 5 years or as required by overriding applicable local, Federal or international regulations.
- 10.2. Test Reports, MSDSs, SDOCs and related documents are quality records and are to be maintained for a minimum of 5 years or as required by overriding applicable local, Federal or international regulations.

11. MAINTENANCE: N/A


12. APPENDICES:

- 12.1. APPENDIX 1 – Table1 Regulatory and Standards References
- 12.2. APPENDIX 2 - Table 2 Substance List

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12.1 APPENDIX 1 - TABLE 1 : Regulatory and Standards References

Organization	Title	Reference Code
EU	COMMISSION DIRECTIVE 1999/77/EC of 26 July 1999 adapting to technical progress for the sixth time Annex I to 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 (asbestos)	10
EU	Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles (EU ELV)	11
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)	17
EU	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.	19
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- octabromodiphenyl ether)	21
EU	DIRECTIVE 2005/69/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 November 2005 amending for the 27th 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 (polycyclic aromatic hydrocarbons in extender oils and tyres)	35
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.	39
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	46
EU	Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances	47
EU	COUNCIL DIRECTIVE of 27 July 1976 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 (76/769/EEC)	48
EU	Council Directive 83/478/EEC of 19 September 1983 amending for the fifth time (asbestos) 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	50
EU	Council Directive 85/467/EEC of 1 October 1985 amending for the sixth time (PCBs/PCTs) 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	51
EU	Council Directive 85/610/EEC of 20 December 1985 amending for the seventh time (asbestos) 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	52
EU	Commission Directive 91/659/EEC of 3 December 1991 adapting to technical progress Annex I to 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 (asbestos)	58

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Organization	Title	Reference Code
EU	Commission Directive 97/64/EC of 10 November 1997 adapting to technical progress for the fourth time Annex I to 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 (lamp oils) (Text with EEA relevance)	67
EU	European Parliament and Council Directive 94/60/EC of 20 December 1994 amending for the 14th 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	69
Germany	Chemical Substances Prohibition Law (ChemVerbotsV)	72
Japan	Law concerning the examination of regulation of manufacture of chemical substances (Class 1 substances)	79
International Electronics Manufacturing Initiative	Joint Industry Guide 101	84
Norway	PoHS	86
USA	Toxic Substances Control Act	89
USA	Clean Air Act (1990 revision of article 611) reference http://www.epa.gov/Ozone/defns.html	93
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	95
UN	The Montreal Protocol on Substances that Deplete the Ozone Layer	97
UN	ROTTERDAM CONVENTION on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	99
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	102
EU	Council Regulation (EEC) No 594/91 of 4 March 1991 on substances that deplete the ozone layer	104
USA-California	Assembly Bill 826 The Perchlorate Contamination Prevention Act	105
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	106
EU	Council Directive 91/689/EEC of 12 December 1991 on hazardous waste	107
Japan	Waste Management and Public Cleansing Law	109
Canada	Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41)	111

Organization	Title	Reference Code
EU	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)	112
Sweden	The Chemical Products (Handling, Import, and Export Prohibitions) Ordinance (1998:944)	113
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	114
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	115
Germany	TRGS 552 N-nitrosamines Technische Regeln für Gefahrstoffe (TRGS) Technical standards for hazardous substances	116
Germany	TRGS 615 Restrictions on the use of anticorrosion agents whose use can lead to the formation of N-nitrosamines	118
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.	123
Americas, Europe/Africa/Middle East, and Asia/Pacific	Global Automotive Declarable Substance List (GADSL)	124
Canada	Part 7, Division 3, of the Canadian , Environmental Protection Act, 1999 (CEPA, 1999)	125
Norway	Norway Bestillingsnr. 463 (Risk of N-nitroso compound formation in coolant admixtures)	126
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).	127
EU	Council Directive of 13 January 2010 amending for the 1 st time 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)	128

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12.2 APPENDIX 2 - TABLE 2 : Substance List

Group	Regulation Reference Code	Maxim implementation date	Status	Requirement
Acetaldehyde	123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Acetamide	123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Acetonitrile	123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Acrylamide	114, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Acrylonitrile	123, 124	By or before May 31, 2010	Reportable	Report any amount contained
Alkanes C10-13, chloro (Short Chain Chlorinated Paraffins)	114	By or before July 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Aluminosilicate Refractory Ceramic Fibres	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Aluminum (Al)		By or before May 31, 2010	Reportable	Report any amount contained
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	114	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Amines carcinogenic, which are formed from Azo-dyes	17, 48, 118, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 30 ppm
Amines, which can form carcinogenic Nitrosamines	17, 48, 118, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
4-Aminodiphenyl	17, 48, 84, 123, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 100 ppm
Ammonium dichromate	114	By or before July 31, 2010	Reportable	Threshold impurity of 1000 ppm.
Ammonium Perchlorate	105, 124	By or before May 31, 2010	Reportable	Report any amount contained
Aniline	124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Anthracene and its oils	114, 128	By or before March 31, 2010	Reportable	Threshold impurity of 1000 ppm
Anthracene oil, anthracene paste	114	By or before March 31, 2010	Reportable	Threshold impurity of 1000 ppm.
Anthracene oil, anthracene paste, anthracene fraction	114	By or before March 31, 2010	Reportable	Threshold impurity of 1000 ppm.
Anthracene oil, anthracene paste, distn. lights	114	By or before March 31, 2010	Reportable	Threshold impurity of 1000 ppm.
Anthracene oil, anthracene low	114	By or before March 31, 2010	Reportable	Threshold impurity of 1000 ppm.
9,10-Anthracenedione, 1-[(5,7- dichloro-1,9-dihydro-2-methyl-9-oxopyrazolo[5,1-b]quinazolin-3-yl)azo]- (Pigment Red 251)	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
9,10-Anthracenedione, 1,8-dihydroxy-4-nitro-5-(phenylamino)-(Disperse Blue 77)	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Antimony	84	By May 19 2005	Reportable	Threshold impurity of 1000 ppm
Antimonytrioxide	84, 123, 124	By May 19 2005	Reportable	Threshold impurity of 1000 ppm
Aromatic amines	47, 118, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 1000 ppm
Arsenic	48, 123, 124	By May 19 2005	Reportable	Threshold impurity of 1000 ppm
Asbestos	10, 48, 50, 51, 52, 58, 84, 89, 99, 123, 124	By May 19 2005	Banned	NIA - Threshold impurity of 0 ppm
Azocolorants and Axodyes	118	By May 19 1993	Banned	NIA - Threshold impurity of 0 ppm
Barium (Ba)	47, 123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Benzene	48, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 100 ppm



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Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
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1,4-Benzenediamine, N,N' -mixed phenyl and tolyl derivs	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	114	By or before July 31, 2011	Reportable	Threshold impurity of 1000 ppm.
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	114	By or before July 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Benzyl butyl phthalate (BBP)	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm.
Benzidine	47, 48, 111, 123, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 100 ppm
2-Benzothiazolesulphenamide, N, Ndcyclohexyl-	79, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Benzyl butyl phthalate	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Beryllium (Be)	67, 84, 123, 124	By May 19 2005	Reportable	Threshold impurity of 1000 ppm
Biocidal coatings / biocidal additives	102, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Bis(chloromethyl) ether (BCME)	111, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 1000 ppm
Bis (2-ethyl(hexyl)phthalate) (DEHP)	114	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Bismuth (Bi)	84	By May 19 2005	Reportable	Threshold impurity of 1000 ppm.
Bisphenol A	86	By or before May 31, 2010	Banned	NIA - Threshold impurity of 1000 ppm Bromine
Benzyl butyl phthalate (BBP)	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm.
Bis (2-ethylhexyl)phthalate (DEHP)	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm.
Bis(tributyltin)oxide	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Boric Acid	114	By or before July 31, 2010	Reportable	Threshold impurity of 1000 ppm.
Brominated (BFR) or Chlorinated (CFR) Flame Retardants	84	By May 19 2005	Reportable	NIA - Threshold impurity of 1000 ppm Bromine 1000 ppm Chlorine
Bromine (Br)	84	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm in IC mold compounds only.
Butadiene	47, 123, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Cadmium (Cd)	11, 19, 48, 123, 124	By May 19 2005	Banned	NIA; For plastics and rubber threshold impurity of 0 ppm. For other direct materials threshold impurity of 75 ppm. For packing materials threshold of 100 ppm cumulative with Hg, CrVI and Pb.
Carcinogens, Mutagens and Reproductive Toxins	47, 48	By May 19 2005	Banned	NIA
Chlorinated hydrocarbons	123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Chlorinated or Brominated Dioxins or Furans	72, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 10 ppb
Chlorinated Paraffins (CP) – Short & Medium Chain	48, 84, 124	By May 19 2005	Banned	NIA - Threshold impurity of 0 ppm
Chlorine (Cl)		By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm in IC mold compounds only.
Chloroaniline	47, 123, 124	By May 19 2005	Reportable	NIA - Threshold impurity of 0 ppm
Chloroform	47	By May 19 2005	Reportable	
Chloromethyl methyl ether (CMME)	111, 124	By or before May 31, 2010	Banned	NIA- Threshold impurity of 1000 ppm
Chromic acid, Oligomers of chromic acid	114	By or before January 31, 2011	Reportable	Threshold impurity of 1000 ppm.



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Chromium - Hexavalent (CrIV)	11, 19, 47, 84, 123, 124	By May 19 2005	Banned	NIA - Direct materials threshold impurity 1000 ppm. Packing materials threshold impurity 100 ppm cumulative with Hg, CrVI and Pb.
Chromium trioxide	114	By or before January 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Coal tar pitch, high temperature	128	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Cobalt (Co)	47, 123, 123	By May 19 2005	Reportable	Threshold impurity of 1000 ppm
Cobalt dichloride	114	By Dec 31 2008	Reportable	Threshold impurity of 1000 ppm
Cobalt(II) carbonate	114	By or before January 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Cobalt(II) diacetate	114	By or before January 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Cobalt(II) diacetate	114	By or before January 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Cobalt(II) dinitrate	114	By or before January 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Cobalt(II) sulphate	114	By or before January 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Colophony (Rosin)	124	By or before Dec 31, 2009	Reportable	Threshold impurity of 1000 ppm
Copper (Cu)	124	By May 19 2005	Reportable	Report any amount contained
Cyanide/ Cyanogen Compounds (CCC)	46	By May 19 2005	Reportable	Report any amount contained
Cyclododecane, hexabromo (HBCD)	114, 124	By May 19 2005	Banned	NIA - Threshold impurity of Bromine 1000 ppm
Cyclohexasiloxane, dodecamethyl-	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
2-Cyclohexen-1-one, 3,5,5-trimethyl-	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Cyclopentasiloxane, decamethyl-	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Cyclotetrasiloxane, heptamethylphenyl-	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Cyclotetrasiloxane, octamethyl-	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Decabromodiphenyl Ether (decaBDE)	84	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Decanedioic acid, bis(1,2,2,6,6-pentamethyl-4-piperidinyl)ester	95, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
4,4'- Diaminodiphenylmethane	114, 123, 124	By or before May 31, 2010	Banned	Threshold impurity of 1000 ppm
Diarsenic pentaoxide	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Diarsenic trioxide	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Dibutyl phthalate (DBP)	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Dichloropropanol (1,3-Dichloro-2-propanol)	123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Dichromic acid	114	By or before July 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Diisobutyl phthalate (DIIBP)	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Dimethylformamide (N,N-Dimethylformamide, DMF)	107, 124, 127	By or before May 31, 2010	Reportable	Not intentionally added to packaging materials. Threshold impurity of 1000 ppm
2,4-Dinitrotoluene	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Diorganotin compounds	47, 123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Disodium tetraborate, anhydrous	114	By or before July 31, 2010	Reportable	Threshold impurity of 1000 ppm.
Dodecachloropentacyclo 1, 3, 4-Metheno-1H-cyclobuta(cd)pentalene, Mirex	111, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 0 ppm



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Epichlorohydrin (1-Chloro-2,3-epoxy-propane)	47, 123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Ethanol, 2-(2-methoxyethoxy)-	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Ethanol, 2,2',2"-nitritoltris-(Triethanolamine)	124, 126	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
2-Ethoxyethyl acetate	114	By or before July 31, 2011	Reportable	Threshold impurity of 1000 ppm.
2-Ethoxyethanol	114	By or before January 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Ethyl/Methyl Glycol Ethers (EGE)	47, 123, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 0 ppm
Fatty acids, C6-19-branched, Zinc Salts	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Fluorotelomers	93, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Formaldehyde	47, 123, 124	By or before May 31, 2010	Banned	For all wood products (including packing and shipping materials) - NIA. All other materials - Report any amount contained
2-Furancarboxaldehyde	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Gold (Au)		By or before May 31, 2010	Reportable	Report any amount contained
Halogenated Dioxins and Furans (HD&F)	72, 104, 124	By or before May 31, 2010	Banned	NIA
Hexabromocyclododecane (HBCDD) Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Hexachlorobenzene	89, 124	By or before May 31, 2010	Banned Reportable	NIA - Threshold impurity of 20 ppb NIA - Threshold impurity of 10 ppb
Hexachloro-1,3-butadiene (HCBD)	89, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 1000 ppm
Hexachlorocyclohexane, gamma isomer, Lindane	112, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Hexanedioic acid, bis(2-ethylhexyl) ester	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Hexanoic acid, 2-ethyl-	11, 47, 48, 124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Hydrazine	47, 114, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Hydrobromofluorocarbons; HBFC's	72, 97, 104, 124	By May 19 2005	Banned	NIA - Threshold impurity of 0 ppm
Hydrochlorofluorocarbons; HCFC's	46, 93, 97, 124	By May 19 2005	Banned	NIA- Threshold impurity of 0 ppm
Hydrofluorocarbons; HFC's	98, 124	By May 19 2005	Banned	NIA- Threshold impurity of 1000 ppm
Iron (Fe)		By May 19 2005	Reportable	Threshold impurity of 1000 ppm
Lead (Pb)	11, 19, 47, 123, 124	By May 19 2005	Banned	Report any amount contained. Direct materials threshold of 1000 ppm. Packing materials threshold impurity of 100 ppm cumulative with Hg, Cd, CrVI. Exception: Per Maxim requirement for Tin-Lead plating.
Lead chromate	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Lead hydrogen arsenate	114	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Lithium (Li)		By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Magnesium (Mg)		By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm



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Manganese (Mn)		By or before May 31, 2010	Reportable	Report any amount contained
Mercury (Hg)	11, 19, 47, 48, 84, 124	By May 19 2005	Banned	NIA - Report any amount contained. Direct materials threshold impurity 1000 ppm. Packing materials threshold impurity of 100 ppm cumulative with Pb, Cd, CrVI.
Methanol	113, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
2-Methoxyethanol	47, 114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
1-Methyl-2-pyrrolidone	114	By or before July 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Methylacrylamidomethoxy-acetate	47, 123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
2-Pyrrolidinone, 1-methyl	123, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Mineral Fibers (Natural or Synthetic)	124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Monomethyldibromodiphenylmethane	124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Monomethyldichlorodiphenylmethane	124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Monomethyltetrachlorodiphenylmethane	124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Naphthalene	123, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
2-Naphthalenecarboxamide, N-(5-chloro-2,4-dimethoxyphenyl)-4-[[5-[(diethylamino)sulfonyl]-2-methoxyphenyl]azo]-3-hydroxy-(Pigment Red 5)	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
2-Naphthalenecarboxamide, 4-[[5-[[4-(aminocarbonyl)phenyl]amino]carbonyl]-2-methoxyphenyl]azo]-N-(5-chloro-2,4-dimethoxyphenyl)-3-hydroxy-(Pigment Red 187)	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
2-Naphthalenol, 1-[(2,4-dinitrophenyl)azo]- (Pigment Orange 5)	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
2-Naphthalenol, 1-[(2-chloro-4-nitrophenyl)azo]- (Pigment Red 4)	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
2-Naphthalenol, 1-[(4-methyl-2-nitrophenyl)azo]- (Pigment Red 3)	124, 125	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
2-Naphthylamine and its salts	48, 123, 124	By or before May 31, 2010	Banned	NIA- Threshold impurity 100 ppm
Nickel (Ni) external applications (skin contact)	48, 124	By May 19 2005	Reportable	Threshold impurity of 1000 ppm.
Nitrites	123, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
4-Nitrobiphenyl and its salts	47, 48, 123, 124	By or before May 31, 2010	Banned	NIA- Threshold impurity 100 ppm
Nitrocellulose	124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
N-Nitrosamines	116, 124	By or before May 31, 2010	Banned	NIA- Threshold impurity 1000 ppm
Nonylphenol	48, 123, 124	By or before May 31, 2010	Reportable	Threshold impurity 1000 ppm
Nonylphenol ethoxylates	26, 124	By or before May 31, 2010	Reportable	Threshold impurity 1000 ppm
Nonylphenol ethoxylates	26, 124	By or before May 31, 2010	Reportable	Threshold impurity 1000 ppm
Organic Tin Compound (OTC)	84	By May 19 2005	Banned	NIA
7-Oxa-3,20-diazadispiro[5.1.11.2]-heneicosan-21-one, 2,2,4,4-tetramethyl-	95, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Ozone Depleting Substance (ODS)	46, 84, 93, 104, 124	By May 19 2005	Banned	NIA; Shall not be used.
Palladium (Pd)		By or before May 31, 2010	Reportable	Report any amount contained
Pentachlorobenzene	111, 124	By or before May	Banned	NIA - Threshold impurity 1000 ppm



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Pentachlorophenol (PCP)	47, 48, 123, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity 1000 ppm
Perchlorates	105, 124	By or before May 31, 2010	Reportable	Report any amount contained
PerFluoroOctane Sulfonates (PFOS)	39, 48, 124	By or before May 31, 2010	Banned	NIA - Preparations threshold impurity of 5 ppm. Direct materials threshold impurity of 1000 ppm.
Perfluorooctanoic acids (PFOA)	86, 124	By or before May 31, 2010	Reportable	Threshold impurity 1000 ppm
Phenol	47, 79, 123, 124	By or before May 31, 2010	Reportable	Threshold impurity 1000 ppm
Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)-	79, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity 1000 ppm
Phenol, 2,4,6-tris(1,1-dimethylethyl)-	79, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity 1000 ppm
Phenol, 2-(5-chloro-2H-benzotriazol-2-yl)-4,6-bis(1,1'-dimethylethyl)-	79, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity 1000 ppm
Phenylendiamines and its salts	47, 48, 79, 123, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Phosphonium,triphenyl(phenylmethyl)-, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	124, 125	By or before May 31, 2010	Reportable	NIA- Threshold impurity of 1000 ppm
Phosphoric acid tributylester	124, 125	By or before May 31, 2010	Reportable	NIA- Threshold impurity of 1000 ppm
Phosphoric acid, tris(2-methylphenyl) Ester	124, 125	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Phthalates	124	By May 19 2005	Reportable	Threshold impurity of 1000 ppm
Phosphorous (P)		By or before May 31, 2010	Reportable	Report any amount contained
Pitch, coal tar, high temp.	114	By or before July 31, 2011	Reportable	Threshold impurity of 1000 ppm.
Polyamine Curing Agents	124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Poly Vinyl Chloride (PVC)	84	By May 19 2005	Banned	NIA - Threshold impurity of 1000 ppm. EXCEPTION: Use allowed in shipping tubes and RFID tags.
PolyBrominated Biphenyl (PBB)	47, 48, 86, 124	By May 19 2005	Banned	NIA- Threshold impurity of 1000 ppm
PolyChlorinated Biphenyl (PCB)	47, 48, 86, 124	By May 19 2005	Banned	NIA- Threshold impurity of 0 ppm
Polybrominated Diphenyl Ethers (PBDE)	47, 48, 86, 124	By May 19 2005	Banned	NIA- Threshold impurity of 1000 ppm
Polybrominated Terphenyls (PCT)	124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 10 ppm
Pentachlorophenol (PCP)	47, 48, 86	By May 19 2005	Banned	NIA - Threshold impurity of 1000 ppm
PolyChlorinated Naphthalenes (PCN)	48, 79, 124	By May 19 2005	Banned	NIA - Threshold impurity of 0 ppm
Polycyclic aromatic hydrocarbons (PAH: PCAH)	35, 47, 114, 123, 124	By or before May 31, 2010	Reportable	NIA- Threshold impurity of 1000 ppm
Polyvinyl chloride (PVC)	124		Reportable	Threshold impurity of 1000 ppm
Potassium chromate	114	By or before July 31, 2010	Reportable	Threshold impurity of 1000 ppm
Potassium dichromate)	114	By or before July 31, 2010	Reportable	Threshold impurity of 1000 ppm
Propanol, 2-methoxy-	124, 125	By or before May 31, 2010	Reportable	Report any amount contained
Pthalates			Reportable	Threshold impurity of 1000 ppm.
2-Pyrrolidinone, 1-ethenyl-	124, 125	By or before May 31, 2010	Reportable	Report any amount contained
Radioactive Substances	84, 124	By Sep 11 2006	Banned	NIA- Threshold impurity of 0 ppm
Selenium (Se)	84, 109, 124	By May 19 2005	Reportable	Threshold impurity of 1000 ppm
Silica, Crystalline	124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm



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Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, reaction products with ammonia, octamethylcyclotetrasiloxane and Silica	124, 125	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Siloxanes and Silicones, di-Me, hydrogen-terminated	124, 125	By or before May 31, 2010	Reportable	NIA- Threshold impurity of 1000 ppm
Siloxanes and Silicones, Me 3,3,3-trifluoropropyl, Me vinyl, hydroxyterminated	124, 125	By or before May 31, 2010	Reportable	NIA- Threshold impurity of 1000 ppm
Silver (Ag)		By or before May 31, 2010	Reportable	Report any amount contained
Sodium azide	124	By or before May 31, 2010	Reportable	NIA- Threshold impurity of 1000 ppm
Sodium Chromate	114	By or before July 31, 2010	Reportable	Threshold impurity of 1000 ppm
Strontium chromate	114	By or before July 31, 2011	Reportable	Threshold impurity of 1000 ppm
Styrene (Vinyl benzene)	123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Styrene oxide (Epoxy styrene)	47, 123, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Sulfur (S)		By or before May 31, 2010	Reportable	Report any amount contained
Sulfur Hexafluoride	124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 1000 ppm
Tantalum (Ta)		By or before May 31, 2010	Reportable	Report any amount contained
Tellurium (Te)		By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Tetraboron disodium heptaoxide, hydrate	114	By or before July 31, 2010	Reportable	Threshold impurity of 1000 ppm
Tetrabromobisphenol A (TBBPA)	86, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of Bromine 1000 ppm
Tetrachlorobenzene	111, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 1000 ppm
Tetrachloromethane	46, 93, 97, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 1000 ppm
Tetrafluoromethane	124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 1000 ppm
Thallium (Th)	47, 48, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Thioperoxydicarbonic diamide(((H2N)C(S))2S2), tetramethy	109, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000 ppm
Tin (Sn)		By or before May 31, 2010	Reportable	For substances other than Organic Tin Group - report any amount contained
Titanium (Ti)		By or before May 31, 2010	Reportable	Report any amount contained
Toluene	48, 114, 123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Toluidine	17, 48, 84, 123, 124	By or before May 31, 2010	Reportable	NIA - Threshold impurity of 1000ppm
Tributyl tin (TBT) or Triphenyl Tin (TPT)	47, 48, 79, 84	By May 19 2005	Banned	NIA- Threshold impurity of 0 ppm
Tributyl Tin Oxide (TBTO)	47, 48, 79, 84	By May 19 2005	Banned	NIA- Threshold impurity of 0 ppm
1,1,1 Trichloroethane	69, 124	By or before May 31, 2010	Banned	NIA - Threshold impurity of 1000 ppm
Tris(2-chloroethyl)phosphate	47, 123, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Trichloroethylene	114	By or before July 31, 2010	Reportable	Threshold impurity of 1000 ppm
Trichlorophenol and its salts	123, 124	By or before May 31, 2010	Reportable	NIA -Threshold impurity of 1000 ppm
Trichloropropane	114, 124	By or before May	Reportable	NIA -Threshold impurity of 1000 ppm



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(1,2,3 - Trichloropropane)		31, 2010		
Group	Regulation Reference Code	Maxim implementation date	Status	Requirement
Triethyl arsenate	114	By Dec 31 2008	Reportable	Threshold impurity of 1000 ppm
Trimethylphosphate	48, 124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Triorganotin compounds (trialkyl- and triaryl tin compounds)	48, 123, 124	By or before May 31, 2010	Reportable	NIA -Threshold impurity of 1000 ppm
Triphenylphosphate	124	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Tris-(1-aziridinyl) phosphine oxide	115, 124	By or before May 31, 2010	Banned	Threshold impurity of 1000 ppm
tris(2-chloroethyl)phosphate	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Tris(2,3-dibromopropyl)phosphate [TRIS]	48, 106, 124	By or before May 31, 2010	Banned	Threshold impurity of 1000 ppm
Tungsten (W)		By or before May 31, 2010	Reportable	Report any amount contained
Vanadium (V)		By or before May 31, 2010	Reportable	Report any amount contained
Vanadium(V) oxide	124, 125	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Zinc (Zn)		By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm
Zirconia Aluminosilicate, Refractory Ceramic Fibres	114	By or before May 31, 2010	Reportable	Threshold impurity of 1000 ppm



TITLE: [HQ/X3/EV/MFN/DS/DSF/SA/PH-B/KOREA/CHINA/SINGAPORE/TAIWAN] Control of Banned and Restricted Environmental Substances

DOCUMENT I.D.
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REVISION
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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