

Dec.3, 2007 C-71465E

To : Hana Semiconductor(Ayutthaya) Co.,Ltd.

Certificate

We hereby certify that the hazardous substances listed on the attached sheet aren't used intentionally as ingredient(s) for the following products manufactured by Shin-Etsu Electronics(M) Sdn.Bhd.

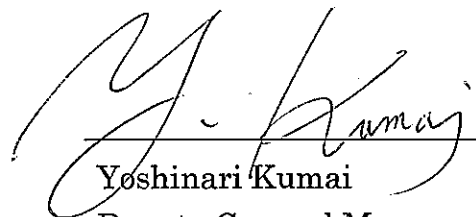
Moreover, their contents as impurities don't exceed their threshold limits.

Product : KMC-3580P-14F, KMC-3580P-8

This investigation is conducted only for the products themselves.

Packing materials are out of scope of the investigation.

Our liability under this Certificate shall not exceed the purchase price of the particular shipment with respect to which the claims are made and shall not include liability for special, incidental, indirect, punitive or consequential damages.



Yoshinari Kumai

Deputy General Manager

Quality Assurance Department

Gunma Complex

Shin-Etsu Chemical Co.,Ltd.

NEW BROMINATED FLAME RETARDANT REQUIREMENTS**New Requirement 1:**

The following BFR will be controlled in all new parts for HANA Semiconductor (Ayutthaya) Co., Ltd.

Substance Name	CAS- Substance Name	CAS- Number	Allowed Homogeneous Amount
DECA-BDE	Decabromodiphenylether	1163-19-5	<0.1%

New Requirement 2:

The following BFR will be controlled in all new parts for HANA Semiconductor (Ayutthaya) Co., Ltd.

Substance Name	CAS- Substance Name	CAS- Number	Allowed Homogeneous Amount	Date by Which Newly Created MDs Parts Must Comply
TBBP-A	Tetrabromobisphenol-A	79-94-7	< 0.1%	April 1, 2008

IMPORTANT NOTE: CAS number 79-94-7 indicates TBBP-A is an **additive flame retardant**. If TBBP-A is not an additive flame retardant (i.e., it is reacted into a polymer) use the CAS number appropriate to that polymer, not CAS 79-94-7.

New Requirement 3:

All BFR's identified in the document "IPC1752 JIG A, Annex F, Table T" will be controlled in our product and incoming material. The maximum concentration value of each BFR at the homogeneous material level is 0.1%. The IPC document is attached.

Joint Industry Guide

The following questionnaire should be completed for your various part types supplied to HANA Semiconductor (Ayutthaya) Co., Ltd. If needed additional columns may be added. Return completed questionnaire by December 4, 2007 to Pratoomporn K. (pratoomp@ayt.hanabk.th.com)



SUPPLIER BFR
QUESTIONS

Annex A (Normative) Level A Materials and Substances

For Level A materials and substances, the threshold levels are set by the law that bans or restricts their use. Therefore, assessment as to whether the threshold level has been met must be based on the relevant legal requirements. If a law establishes a new threshold for ban or restriction purposes, this threshold will be revised accordingly (e.g., the thresholds for lead, mercury, cadmium, hexavalent chromium, and the PBBs and PBDEs will be revised once the legal determinations for the European Community Restriction on certain Hazardous Substances in Electrical and Electronic Equipment Directive are established). For laws that allow the presence of certain materials or substances in amount lower than a certain part per million (ppm) threshold, companies should use the ppm methodology that is established by that law in order to determine whether disclosure is necessary. Reporting below the threshold is allowed, but not required.

Intentionally Added means the deliberate use in the formulation of a product or subpart where its continued presence is desired in the final product or subpart to provide a specific characteristic, appearance, or quality. Metal plating is an example of intentional addition.

Certain Azocolourants and Azodyes is applicable to leather and textile products and subparts that may come into direct and prolonged contact with human skin. Please note that the European Community's ban only applies to certain Azocolourants and Azodyes that by reductive cleavage of azo groups may release one of 22 aromatic amines. Please see Appendix F for more information.

If a material/substance is intentionally added, then it needs to be reported regardless of its content level. If a material/substance is otherwise present, then its threshold level applies.

NOTE In some cases only a subset of the materials/substances are regulated, please refer to Annexes E and F for details.

Material/Substance Category	Threshold level
Asbestos	Intentionally added
Certain Azocolourants and Azodyes	Intentionally added (see Directive 76/769/EEC for applicability)
Cadmium /Cadmium Compounds	75 ppm or Intentionally added
Hexavalent Chromium/Hexavalent Chromium Compounds	1000 ppm or Intentionally added
Lead/Lead Compounds	1000 ppm or Intentionally added 300 ppm (PVC cables only)
Mercury/Mercury Compounds	1000 ppm or Intentionally added
Ozone Depleting Substances (CFCs, HCFCs, HBFCs, carbon tetrachloride, etc.)	Class I: Intentionally added Class II . HCFCs: 1000 ppm
Polybrominated Biphenyls (PBBs)	1000 ppm or Intentionally added
Polybrominated Diphenylethers (PBDEs)	1000 ppm or Intentionally added
Polychlorinated Biphenyls (PCBs)	Intentionally added
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	Intentionally added
Radioactive Substances	Intentionally added
Certain Shortchain Chlorinated Paraffins (See Annex F)	Intentionally added
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	Intentionally added
Tributyl Tin Oxide (TBTO)	Intentionally added

Annex B (Normative) Level B Materials and Substances

For Level B materials and substances, the default threshold concentration level is 1000 ppm based upon the weight of the inorganic element (totaled from all forms present) or the organic substances in a category contained in the product or subpart divided by the total weight of the product or subpart for which the declaration is being developed.

Note: Nickel must be reported when used in applications where nickel compounds are likely to result in prolonged skin exposure (e.g., an outer enclosure for a portable electronic product designed to be carried). Use of nickel or nickel compounds in components and parts designed to be located inside the outer enclosure of a product need not be reported.

NOTE Materials/substances are listed by group. Please refer to Annexes E and F for details.

Material/Substance Category	Threshold level
Antimony/Antimony Compounds	1000 ppm
Arsenic/Arsenic Compounds	1000 ppm
Beryllium/Beryllium Compounds	1000 ppm
Bismuth/ Bismuth Compounds	1000 ppm
Brominated Flame Retardants (other than PBBs or PBDEs)	1000 ppm
Nickel (external applications only)	1000 ppm
Certain Phthalates (see Annex F)	1000 ppm
Selenium/Selenium Compounds	1000 ppm
Polyvinyl Chloride (PVC) (Disclosure is limited to "is present"/"is not present" in amounts that exceed threshold)	1000 ppm

- Instructions
- 1) Add Supplier name, ID, email and Part Type to this worksheet.
 - 2) Fill in "White" areas with your response.
 - 3) Complete as much of the form as possible.
 - 4) Complete one set of questions for each part type. Add more columns if needed
 - 5) Change worksheet name

SUPPLIER NAME Shir-Esu Chemical Co. Ltd.		KMC-3580P-14F			KMC-3580P-8		
SUPPLIER ID	Questions	YES	NO	DATE	YES	NO	DATE
Supplier email Address	Comments						
Does your company currently manufacture the above part type which meets the new requirements? E.g. free of DECA, BDE and TBBP-A as an additive.	Meet DECA requirements today - Yes / No?	X			X		
Parts meeting the new requirements are available now (Yes / No), if not, when?	Meet TBBP-A requirements today - Yes / No?	X			X		
If yes above, have they been tested? What were the results? Were the parts qualified?	Yes / No When?	X			X		
Are there any issues that must be overcome to meet the BFR requirements? Please explain.	Tested - Yes / No?		X			X	Not tested. But BFRs aren't used intentionally and there is no factor of their contamination. Therefore, we judged that our products are applied to new requirements.
What solution(s) are being developed to resolve any issues in becoming BFR-free and what is the timeframe for implementation?	Results - Pass / Fail?	N/A			N/A		
Do you have alternative flame retardant substances available that will meet the new BFR requirements? If not, when will they be available?	Qualified - Yes / No?	N/A			N/A		
When will BFR-free parts be available (Engineering Samples, Mass Production)?	Yes / No Explanation?	N/A			N/A		
Do you anticipate any constraints in availability? If so, please explain.							
Is there any change to the price for parts that meet BFR requirements? If yes? What is the % change?							
Expected 2008 price change compared to similar parts with BFRs?							
Expected 2009 price change compared to similar parts with BFRs?							
Contact info for person at your company that HANA Semiconductor (Aqibahya) Co., Ltd. can follow up with to discuss BFR-free matters (name, email, phone).	Name and Contact info?						