

January 31, 2010

Dear Supplier,

As you are aware, several directives and laws have been adopted that restrict the use of certain hazardous substances (RoHS) or require the Registration Evaluation Authorization and Restriction of Chemicals (REACH) in electrical and electronic equipment (EEE). These restrictions apply to both printed circuit boards (PCBs) and printed circuit board assemblies (PCBAs). The first legislation was the European Union's (EU) 2002/95/EC RoHS directive adopted in 2003, and since then California, China and others, most recently Korea have adopted similar legislation. The predominant substance of concern to PCB and PCBA manufacturers is lead, which is a component in the traditional tin-lead solder used to manufacture EEE. In addition, the REACH directive requires the notification of and safe use information for any Substance of Very High Concern (SVHC) that is above 1000 ppm in any article. To-date, 46 SVHCs have been adopted to the EU's Candidate List.

To ensure compliance with the material content (MC) restriction laws for EEE sold in these respective jurisdictions, suppliers must certify that their products do not contain restricted substances above adopted maximum concentration values. While many customers require certification that TTM PCBs or PCBAs do not contain more than 1000 ppm lead, many TTM customers who require tin-lead surface finishes on PCBs and tin-lead solders on PCBAs want verification that their boards and assemblies do contain lead and were not manufactured with lead-free alternatives. In addition, certification that both EEE articles and packaging used to ship EEE do not contain SVHCs above 1000 ppm is required of all suppliers whose products become incorporated into TTM products or product packaging.

Therefore, in order for TTM to certify to its customers that manufactured PCBs or PCBAs and their packaging materials either do contain or do not contain restricted substances covered by the MC laws and directives, TTM will require a signed certification from all suppliers whose products are incorporated into TTM manufactured products or product packaging. Examples of raw materials that require certification include laminates, prepregs, plating bath chemistries, solder masks (including peelable masks) and screening inks for PCBs; and components, connectors, active and passive devices, fasteners and attachment solders (bar, paste and wire) for PCBAs; and cardboard, bubble pack, tape, etc used in packaging. Examples of raw materials that do not require certification include preclean solutions, photoimageable films that are removed in the PCB manufacturing process, developers, etchants, film strippers, cleaning solvents, saponifiers, etc. **If any supplier has any question as to whether its product is incorporated into a TTM PCB or PCBA or their packaging materials, that supplier must either provide a MCD certification to TTM, or obtain written confirmation from TTM that its product are not incorporated into TTM products or packaging.**

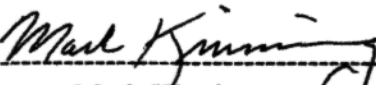
Material content certification of supplier raw materials must be provided to TTM using either the latest version (currently 2.0) of the IPC Material Composition Declaration (MCD) form at a Level D (homogeneous material) declaration available from the IPC at


<http://www.ipc.org/IPC-175x>; or submittal of MCD data to the BOMcheck web site at www.BOMcheck.net, or a supplier declaration form for each part number sold to TTM that includes manufacturing process information (when applicable), RoHS (EU) MCD, REACH SVHC content, Declaration Signature, JIG MCD data, and Other MCD data. Completed MCDs for raw material chemistries may be submitted on one representative batch or lot numbers for each raw material supplied to TTM.

TTM has adopted an environmental management system (EMS) procedure covering supplier banned and restricted substances. A copy of that EMS procedure is also posted on TTM's supplier web site. (See 4.4.6(u) *Supplier Banned and Restricted Substances*, Any substance contained in supplier products that is listed in this procedure and not included in the RoHS, JIG or REACH SVHC lists can be added to the MCD format selected..

In addition to completed MCDs on products sold to TTM, suppliers must provide any available analysis of the product in which the EU RoHS restricted substances (cadmium, hexavalent chromium, lead, mercury, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDEs)) were analyzed. Available analyses for the three phthalates (Butyl benzyl phthalate (BBP), Dibutylphthalate (DBP) and Bis (2-ethylhexyl) phthalate (DEHP)) and another BFR HBCDD – Hexabromocyclododecane (HBCDD) are also requested, if available. While internal supplier analyses are acceptable, third party analyses are preferred. Other supplier documentation that is pursuant to the May 2006 RoHS Enforcement Guidance Document is also requested.

Completed MCD forms, copies of analyses and any other EU RoHS documentation should be submitted to materialdeclaration@ttmtech.com. Fax submittals can be sent to 715/953-4193. Should you have any questions on this documentation request, please contact Matt Carey at 715/720-5045.


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