

RESTRICTION OF HAZARDOUS SUBSTANCES (RoHS) DIRECTIVE REVISIONS

The electronics industry has taken a leadership role in promoting sustainable manufacturing by continuously striving to improve manufacturing processes and products so that materials of concern are minimized or eliminated where feasible. The industry has invested an enormous amount of time and resources to comply with existing RoHS Directive restrictions while the full technical, social and cost implications of the RoHS Directive are still being discovered. It is important that the recast of the RoHS Directive improve the scientific basis of RoHS and unify European chemicals regulations by aligning the RoHS Directive with the Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH) Regulation.

THE RoHS DIRECTIVE SHOULD BE SCIENTIFICALLY BASED

Rigorous scientific assessment is essential in ensuring that regulations, such as the RoHS Directive, result in genuine benefits to the environment and human health and safety. Banning chemicals without full evaluation often produces unintended environmental consequences. Compliance with the RoHS Directive, for example, has resulted in increased energy usage due to the higher operating temperatures required for lead-free soldering. The U.S. Environmental Protection Agency (EPA) lead-free solder study¹ predicted increased air pollution, water pollution and global warming due to the increased energy usage associated with higher temperature lead-free soldering. Failure to fully consider scientific, economic and social impacts of mandated materials changes can often undermine the intended benefits of regulations such as RoHS.

THE RoHS DIRECTIVE SHOULD NOT RESTRICT ENTIRE CLASSES OF SUBSTANCES

A revised RoHS Directive should not restrict entire classes of substances. Every substance is unique and should be evaluated on an individual basis prior to instituting any restriction. Restricting entire classes of substances, such as organobromines, would require manufacturers to replace safe, well studied substances, such as Tetrabromobisphenol-A (TBBPA), the primary flame retardant in printed boards. Restricting entire classes of substances is bad science and, at a minimum, risks a waste of societal resources to develop and implement substitutes and, at worst, risks unintended consequences associated with alternative substances. While some brominated flame retardants (BFRs), such as Polybrominated Biphenyls (PBBs), have been identified as toxic and have been withdrawn from the market, other BFRs, such as TBBPA, have been safely used in electronics for decades. Restricting entire classes of substances could force the substitution of safe, effective substances with harmful substances.

SUBSTANCES SHOULD BE ADDED TO RoHS ONLY AFTER A FULL SCIENTIFIC ANALYSIS

Revisions to the RoHS Directive should not include additional substances for restriction without first conducting a rigorous scientific analysis. For example, the proposal from the EU Parliament Environment Committee to restrict nanomaterials is premature and has a limited scientific basis. Certain nanomaterials, such as nanosilver, provide significant energy efficiency and should not be restricted unless a thorough life cycle evaluation determines that their restriction will provide an increased human health and environmental benefit. Decisions about restricting substances should only be

made after a full scientific analysis, allowing all facts to be evaluated and uncertainty to be removed from the process.

A revised RoHS Directive should not include a list of substances for priority assessment in Annex III. Listing substances for priority assessment is prejudicial and would establish a de facto black list. Substances in Annex III would be considered harmful before a thorough scientific assessment is conducted. Substances should either be restricted under the RoHS Directive or not; there should be no ambiguity.

THE RoHS DIRECTIVE SHOULD ALIGN WITH THE REACH REGULATION

The process by which substances are restricted under the RoHS Directive should follow a scientifically based methodology. The EU REACH Regulation is the most comprehensive chemicals regulation in the world. Utilization of the REACH methodology will introduce a scientific process into the RoHS Directive, ensure that the RoHS Directive will benefit human health and the environment and support the unity of the EU regulatory scheme. The criteria suggested in the Council Presidency compromise text to include a new Article 6(a)² would move the RoHS Directive towards alignment with the REACH Regulation. However, Article 6(a) should include specific criteria that a substance must meet in order to be restricted under the RoHS Directive. Implementing ambiguous criteria for substance evaluations under the RoHS Directive could lead to restrictions that are not scientifically based and do not align with the REACH Regulation, causing disharmony among EU regulations.

¹ U.S. Environmental Protection Agency. August 2007. Solder in Electronics: A life Cycle Assessment. Available at <http://epa.gov/dfe/pubs/solder/lca/index.htm>.

² Council of the European Union. Proposal for a Directive of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment – (RoHS) (recast). Interinstitutional File 2008/0240 (COD) DS 1564/10. Brussels, 8 September 2010.

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