



IMS, INC.

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IMPORTANT INFORMATION FOR IMS CUSTOMERS ON THE MATTER OF RoHS COMPLIANCE

Dear Valued Customer,

IMS has been fielding numerous questions from our customers regarding the European Union's directive concerning hazardous substances contained within electrical and electronic equipment, commonly known as RoHS. The most commonly asked of these being, "What is involved in becoming compliant?" and/or "Are the products that IMS supplies RoHS compliant, and if not, when will they be compliant?" Designed to answer these and other frequently asked questions, the IMS RoHS Committee compiled the following information in order to provide you with the very latest information on this important and impending change to electronic industry practices. We hope you find it useful.

● What is RoHS?

RoHS (pronounced rō-hāhs) is an acronym for the European Union's directive to **R**estrict the use **o**f certain **H**azardous **S**ubstances in electrical and electronic equipment. The simple purpose of RoHS (EU Directive 2002/95/EC) is to restrict the use of six known hazardous substances within electrical and electronic equipment (EEE), thereby contributing to the protection of human health and the environment. While the purpose is clear, the RoHS directive itself is more complex.

● How can I obtain a copy of the actual documentation of the RoHS directive?

You may view, download or print the text of the RoHS directive by visiting the following URL address:
<http://www.imswire.com/pdfs/rohs/finalrohs.pdf>

The RoHS directive is a complement to another EU directive, known as WEEE, which is an acronym for waste electrical and electronic equipment. A copy of this directive is also available from our website at:
<http://www.imswire.com/pdfs/rohs/weee.pdf>

● When will the directive take effect?

On July 1 2006, all electronic and electrical end products sold to the European market must comply with EU Directive 2002/95/EC. There will be no exceptions made for inventory manufactured prior to the implementation date and which is not RoHS compliant.

● What are the restricted items listed in the directive? Have acceptable levels been established?

The directive applies to the six (6) elements listed in the table below, and although not officially finalized, the expected tolerated levels for these six elements are:

ELEMENT	LEVEL TOLERANCE
CADMIUM	0.01%
LEAD	0.10%
MERCURY	0.10%
HEXAVALENT CHROMIUM	0.10%
POLYBROMINATED BIPHENYLS	0.10%
POLYBROMINATED BIPHENYL ESTERS	0.10%

Article 4.1 of the RoHS Directive specifically states:

"Member States shall ensure that, from 1 July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE). National measures restricting or prohibiting the use of these substances in electrical and electronic equipment which were adopted in line with Community legislation before the adoption of this Directive may be maintained until 1 July 2006."

○ **What products are affected and what is the date for compliance to this directive?**

Electrical and electronic equipment produced and “put on the market” **after July 1, 2006**. However, certain cables rated over 1000AC or 1500DC are exempt from this directive.

○ **Who exactly does RoHS affect?**

Although RoHS is a European Union (EU) Directive, manufacturers outside Europe must also abide by this legislation if the equipment they produce is ultimately imported into any EU member state.

Article 3.(a) - Definitions

"electrical and electronic equipment' or 'EEE' means equipment which is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields falling under the categories set out in Annex IA to Directive 2002/96/EC (WEEE) and designed for use with a voltage rating not exceeding 1000 volts for alternating current and 1500 volts for direct current..."

Article 3.b – Definitions

"producer' means any person who, irrespective of the selling technique used, including by means of distance communication according to Directive 97/7/EC of the European Parliament and of the Council of 20 May 1997 on the protection of consumers in respect of distance contracts:

- (i) manufactures and sells electrical and electronic equipment under his own brand;
- (ii) resells under his own brand equipment produced by other suppliers, a reseller not being regarded as the 'producer' if the brand of the producer appears on the equipment, as provided for in subpoint (i); or
- (iii) imports or exports electrical and electronic equipment on a professional basis into a Member State."

○ **What exactly is the definition of the 'market' for which this directive applies?**

The 'market' refers to the European single market. However, as EU Directives also apply to the European Economic Area (EEA), which includes Iceland, Liechtenstein and Norway, these aforementioned countries would also fall within the scope of this market definition.

○ **What does “putting a product on the market” actually mean?**

The European Commission suggests that a “product is placed on the Community market when it is made available *for the first time*¹. This is considered to take place when a product is *transferred*² from the stage of manufacture with the intention of distribution or use on the Community market.”

¹The phrase 'for the first time' does not imply that RoHS is applicable only to new products. For example, a product originally sold outside of the EU, which subsequently enters the EU market after the July 1, 2006 deadline, (either as purchased or free-issued product) would fall within the scope of the RoHS directive, even though the product may in fact be technically “used.”

²The term 'transferred' is key in interpreting this expression. In essence, the transfer of a product takes place when it passes from the manufacturer (or his representative) to the importer, distributor or end user. There does not need to be a financial transaction for this to occur – product that is donated, or given away, such as the case of a sample or prototype, is still considered to have been placed on the market.

○ **Can in-stock (on hand) parts and equipment containing non-compliant components, having been manufactured prior to July 1, 2006, be stockpiled and sold into the EU after this date?**

The answer to this question depends on whether or not the product is in the various stages of manufacturing, or if it is a finished good. Some examples of products not considered to be on the market would be:

- Products transferred to a manufacturer for further assembly, packaging or labeling
- Products held by customs
- Products to be exported to a third country
- Products for display at trade fairs, exhibitions or demonstrations

In other words, if a device enters the EU, but requires some additional, final assembly or packaging then it has yet been 'put on the market'.

○ What is a homogeneous material?

A material defined as a single substance. PVC (Polyvinylchloride), a commonly used material in wire and cable products as an insulating and jacketing material, is an example of a homogenous material. In the case of PVC, some do and some do not contain lead, and where lead is used, it acts as a heat stabilizer serving two functions:

1. It helps in the processing of the compound by stabilizing the mixture while in its melted state, keeping it from burning.
2. It also helps the insulated product from degrading when exposed to heat.

Note: Lead-free PVC compounds are currently available for some applications, which may be utilized to meet the directive.

Much discussion concerning RoHS centers around the term 'homogenous', yet you will not find the term in the RoHS Directive. Nor does the term appear in the related WEEE Directive or the 'Guide To The Implementation Of Directives Based On The New Approach And The Global Approach' (commonly referred to as the 'Blue Book'). Leading to the next question:

○ Where did the term homogenous come from since it not contained within the RoHS directive?

The expression 'homogenous' first appeared in a European Commission stakeholder document from December, 2003, where it was used in the context of defining the proposed maximum concentration values for RoHS restricted substances:

"A maximum concentration value of 0.1% by weight in homogeneous materials for lead, mercury, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) and of 0.01% weight in homogeneous materials for cadmium shall be tolerated. Homogeneous material means a unit that can not be mechanically disjointed in single materials."

When this document first appeared in December 2003, no one fully understood how to correctly interpret 'homogeneous' or 'mechanically disjointed.' For example, Lead (Pb) was restricted to 0.1%, but 0.1% of what? The latest interpretation of 'homogeneous' from the UK government now suggests the term 'homogeneous' to be understood as 'of uniform composition throughout.' This same UK government interpretation establishes that individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings would fall into the category of homogenous materials, further suggesting "mechanically disjointed" to mean that the materials can be, at least in principle, separated by mechanical actions such as unscrewing, cutting, crushing, grinding and abrasive processes.

○ How do these expressions actually apply to electronic wire and cable?

Lets assume that a certain electrical cable has three (3) tinned copper conductors, PVC insulation over the conductors, a foil shield, and an overall PVC jacket. As a whole, the cable is not homogenous as it can be separated by using one or many of the mechanical methods described above. However, the conductors, even though they may be comprised of an alloy of more than one element, is considered homogeneous, as mechanical disjointing cannot separate these alloys. The same principle applies to the plastic PVC insulation and jacketing material, and to the foil shielding. Therefore, the conductors, the PVC and foil shield must all comply individually with the requirements of the RoHS Directive.

○ Is there a special mark or stamp that must be used to identify compliant products?

No special mark or label is required. By placing products on the European market after July 1, 2006, producers will be declaring that their products are compliant with the RoHS Directive.

● **What is IMS currently doing to ensure RoHS compliance?**

IMS is now in the process of having our suppliers identify their products to us as being either "compliant" or "non-compliant." Only in this way can we identify these products in order to segregate them into the two categories during this transitional phase.

Our initial process requires our Top 25 suppliers to fill complete a RoHS Survey Questionnaire which asks the basic questions, (i.e.) Are the products you manufacture RoHS compliant?; Which ones are not?; When will those that are not expected to be in compliance? As this group of suppliers produces the majority of our breadth of product offerings and our overall volume, we have taken significant action towards addressing the issue of compliance. (IMS will be processing the remaining suppliers and their respective products in the coming weeks and months.)

From this initial survey, we have already received several responses and have now begun accumulating the data and identifying the respective products as being either compliant or non-compliant.

Additionally, as we process each supplier's response, we are entering the information into a company-wide, internal RoHS database of compliant and non-compliant products and suppliers. This database enables all IMS employees to freely share the information and follow the status of currently non-compliant material throughout its transition towards compliance.

July 1, 2006 is rapidly approaching. We are confident, however, that with the cooperation between IMS and our valued suppliers, we will be able to meet the ultimate RoHS date of compliance, July 1, 2006.

If you have any questions, please contact your IMS Sales Account Manager and he/she will be happy to provide additional information.

Thank you,
The IMS RoHS Team