

## EN140 Restriction of Hazardous Substances (RoHS)

### RoHS Directive

In order to expand sales into the European market, Daniels Electronics is currently implementing the RoHS directive for some key products. The Restriction of Hazardous Substances (RoHS) directive—also known by its legislation number, Directive 2002/95/EC—is an important piece of European Legislation that must be complied with in order to sell electronic equipment in the European Union (EU).

The RoHS directive took effect in EU member states in July of 2006 and restricts use of the following substances to a specific maximum concentration value :

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LEAD (0.1%) – Solder, brass alloys, and in electronic component lead plating

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MERCURY (0.1%) – found in sensitive switches, thermostats

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CADMIUM (0.01%) – used in some plastics, PVC, as well as some pigments

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HEXAVALENT CHROMIUM (0.1%) – most commonly found in metal finishes

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POLYBROMINATED BIPHENYLS or PBB (0.1%) – flame retardants

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POLYBROMINATED DIPHENYL ETHERS or PBDE (0.1%) – flame retardants

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These maximum concentration values are determined by a percentage of the weight of a “homogenous material”. Homogenous material is defined by the directive as “a material that cannot be mechanically disjointed into different material.” This includes anything that is of a uniform composition like a metallic alloy, plastics, resins and coatings. Every mechanically separate item inside a product must comply separately to the RoHS directive .

### Daniels and RoHS

All products, accessories and other items sold by Daniels in the European market (including product, storage racks, containers, hardware and labels) will comply with the RoHS directive.

Daniels is in the process of moving the manufacturing of all printed circuit boards (PCBs) to lead-free solder and ensuring that components of select products are certified as RoHS compliant. Daniels Electronics PCBs that are RoHS compliant have board numbers beginning with 6- and will also bear the following RoHS logo if room on the board is available.



As future products are released, they will clearly show the RoHS logo to indicate that the entire unit is 100% RoHS compliant.

The primary difference between the solder connections created with lead-free solder and tin-lead solder is the visual appearance of the solder. Lead-free solder is more likely to have a grainy or dull appearance as opposed to tin-lead solder which has a generally smooth appearance.

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