

M.G. and RoHS

What is RoHS?

RoHS is law in the European Union that bans the use of 6 substances in electronic equipment sold in the EU after July 1, 2006; the substances are lead, mercury, cadmium, hexavalent chromium, PBB's, and PBDE's.



Why RoHS?

The RoHS law was developed because it was found that humans have become contaminated with these substances, all of which are toxic, and a primary source of contamination is suspected to be discarded electronic equipment in landfills leaking contaminants into the water system.

Does RoHS affect the products of MG Chemicals?

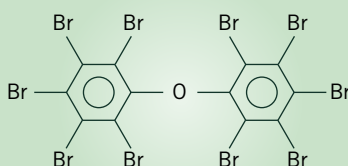
For most of our products, the answer is no. RoHS governs components, things that become part of the finished product. Much of the MG Chemicals product line is zero residue cleaners and related supplies like brushes, swabs, and wipes. These products do not become part of the finished product, and are therefore, not governed by RoHS.

Is the MG Chemicals Flame Retardant Epoxy RoHS compliant?

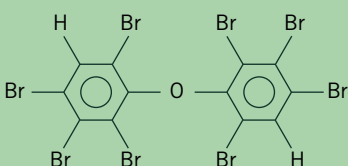


Yes - MG's Flame Retardant Epoxy contains Deca-Brominated Bi-Phenyl Ether. This form is fully brominated, so it cannot pass through human skin tissue, and is therefore exempt from the overall PBB ban. It is the Octa and Penta forms of PBB that are banned.

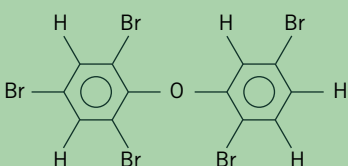
Deca



Octa



Penta



What product lines of MG Chemicals are governed by RoHS?

Products that actually become part of the product, such as protective coatings, lubricants, adhesives, and copper clad boards. However, none of these product types are normally contaminated with the materials restricted by RoHS, with the exception of PBB flame-retardants, which are commonly found in protective coatings.

What products are affected?

- ▶ Large household appliances
- ▶ Small household appliances
- ▶ IT and telecommunications equipment
- ▶ Consumer equipment
- ▶ Lighting equipment—including light bulbs
- ▶ Electronic and electrical tools
- ▶ Toys, leisure and sports equipment
- ▶ Automatic dispensers

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Did you know some electronic devices made with leaded solder will be banned for sale in California after Jan 1, 2007?



source: http://www.dtsc.ca.gov/HazardousWaste/EWaste/upload/Restriction_on_Electronic_Devices_01-05-06.pdf

- ▶ For a more detailed understanding, please visit the following link, http://europa.eu.int/comm/environment/waste/weee_index.htm
- ▶ For a copy of M.G. Chemicals Certificate of Compliance to RoHS and WEEE Directives, click [here](#)

Is RoHS expanding?

Yes – California has mimicked Europe's RoHS legislation, and electronic devices sold in California after Jan 1, 2007 must also comply. Human testing in Canada has shown contamination levels similar to those found in Europe, so look for RoHS legislation to eventually be duplicated there, and likely in other US states as well.



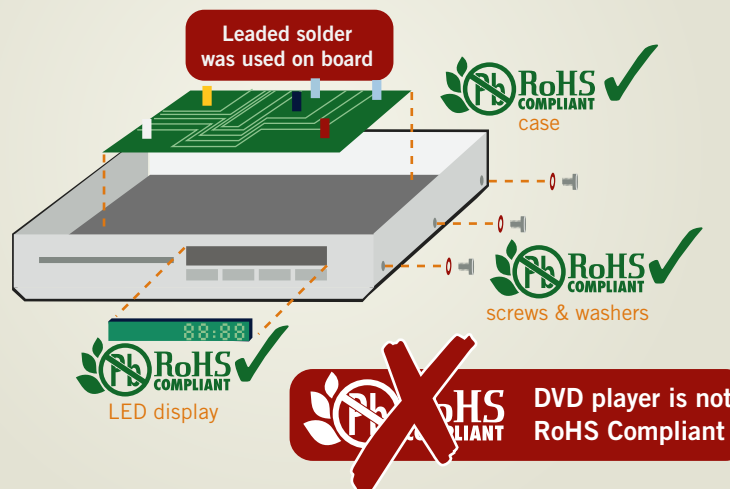
So how does RoHS affect me?

If your products might end up in Europe, you need to ensure they are RoHS compliant by July 1, 2006. If your products are sold in California, you need to ensure they are compliant by January 1, 2007.

The biggest impact will be the required switch from leaded to non-leaded solder. Products made with leaded solder will not be compliant. As RoHS legislation is duplicated in other jurisdictions, it is likely that leaded solder will soon become a thing of the past. Your production methods may have to be modified to work with lead free solder, which melts at a slightly higher temperature.

Additionally, you will need to ensure all of other electronic components, such as IC's, resistors, capacitors, and inductors, are free of lead, mercury, cadmium, and hexavalent chromium. As well, you will need to ensure that the flame retardants in your plastic enclosures and protective coatings do not contain the octa or penta forms of PBB or BPDE. This is generally accomplished by requesting certification from your supplier.

DVD Player Example



A DVD player comprises of a case, screws, washers, components, circuit board with protective coating, etc. Everything that can be identified as a different material must meet the limit. If it turns out that the solder on the board contained lead, the entire unit would fail the requirements of the directive.

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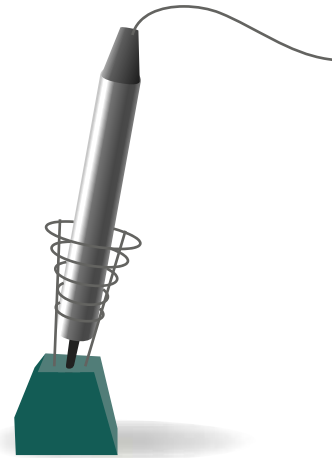
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What do I need to know about lead free solder?

The main thing you need to understand about lead free solder is that it melts at a higher temperature. This has implications for many other components. You may find you need a higher temperature soldering iron to melt lead free solder. You may also find you need copper clad boards with a higher temperature laminant, so they do not melt or delaminate in the soldering process. Desoldering braid that has more strands is more efficient at transferring the heat that may be required to melt lead free solders. Many times your old iron, boards, and braid will work fine; it depends on the particulars of your application.



M.G. Chemicals introduces its Lead Free Series.



Lead Free Solder

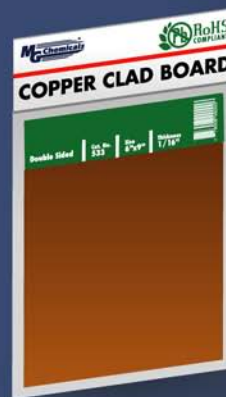
- ▶ Lead-Free Solder designed with Sn/Ag/Cu (Tin/Silver/Copper) alloys
- ▶ Exceeds the impurity requirements of J-Std-006
- ▶ No Clean flux
- ▶ 21 Gauge, 0.032" diameters
- ▶ RoHS Compliant



Super Wick

for Leaded and Lead Free Solder

- ▶ Any place you can put solder in, you can take it out with Super Wick
- ▶ Remove the most expensive circuitry with confidence
- ▶ Static Free bobbins
- ▶ RoHS Compliant



Copper Clad Boards

Plain and positively presensitized

- ▶ We offer 1/16", 1/32" and 1/64" FR4 laminate with 1 ounce copper per square foot.
- ▶ Flame retardant laminate
- ▶ Complies with Mil-S-13949H-GFK
- ▶ UL# E37002A; 4/5/91
- ▶ Works with both lead and lead free solder
- ▶ RoHS Compliant



Liquid Flux

for Leaded and Lead Free Solder

- ▶ Fully activated
- ▶ Instant wetting action that permits soldering even on such metals as brass and nickel, which are extremely difficult to solder with ordinary rosin.
- ▶ Residue is strictly non-corrosive and electrically non-conductive
- ▶ Meets Mil. Spec. #RA 14256
- ▶ ANSI Spec. 004
- ▶ ROMI class, J Standard
- ▶ RoHS Compliant

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