

Newsletter No. 2 April 2005



Editorial

Welcome to the third NZTE/Electronics South RoHS and WEEE news letter. I would like to welcome all the new members who have subscribed in the past month – 90% of whom are from overseas.

The world of electrical and electronic equipment is changing and it's changing fast. Products used to shaped by functional specifications drawn, if you were lucky from the customer requirements or if you were unlucky from the great idea that the design engineer had. Surely if it is sexy enough then someone will want to buy it? Slap and ergonomic case around round it to make it look like something from the Star Wars set and the marketing guys were happy and hey presto you had a product. Well that world is changing fast and soon will it be gone. The new driver for electrical and electronic products is the environment. First there was the concern about land fill space and what a great idea it would be to reuse parts of our old products in new ones. Great theory but a few practical limitations such as technology movement which is the main reason why old products are discarded. It does however have a place where old products are sent to poorer countries for a second life - but not just to dump them. If it can help a poorer country better educate its students or assist its local industry then that has got to be good. If reuse is not an option then there the next best choice is recycle - disassemble the product into component parts and either reuse them as is or melt down to recover the raw compounds. Again this has got to be good as it prevents depletion of natural resources - although I suspect that landfills will one day become mines for raw materials that are stored there. One thing to keep a

weather eye on is keeping on the right side of the recycling equation - the environmental impact of the recycling process must be less than the environmental impact of mining new raw material plus the environmental impact of disposal of the item. If this is not "true" then there is no point in recycling. Last but not least is the "recovery" option this is basically incineration with the recovery aspect predicated upon the heat energy being used to create electricity to serve some other useful purpose. Chimney filters are needed to prevent all the pollutants released by this process (which may well have been molecularly bonded in a safe compound previously) from being exhausted into the environment. The pollutants, now no longer pollutants but valuable raw materials, can then be recovered from the filters. If this is done correctly then even the recovery option has merit.

One final point of note I would make is historically slag from incinerators and furnaces (including lead furnaces) has been used as underfill for roading. I wonder when road works on older roads will be treated in the same way as removal of asbestos? Or will common sense at some point prevail?

Roland Sommer
 Editor

Major Scoop: Harvey Stone of The GoodBye Chain Group coming to Christchurch for 1 ½ day RoHS and WEEE Seminar

As a consequence of the release of this document we have secured the services of Harvey Stone of The GoodBye Chain Group to come to Christchurch New Zealand on **July 11th and 12th** to co-present a 1.5 day seminar on RoHS and WEEE. Harvey is MD of the Goodbye Chain Group which is one of the premier RoHS and WEEE Consultancies in the USA. Harvey has presented prolifically in the USA and is the primary facilitator for SMTA for RoHS and WEEE workshops. A separate flyer and enrolment form will be

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sent out to all newsletter recipients in the next week and will also be available from the support website www.electronicssouth.com under RoHS and WEEE / Upcoming Events. Please note this seminar will cover the wider aspects of RoHS and WEEE and will NOT include lead free soldering. The flyer will include the subjects that will be covered in the seminar.

EU Grey Area clarification Document released

The big news for the month is that the EU have at last released their grey area clarification document. This has taken the form of table of Frequently Asked Questions. It is very useful, even if it does appear to have some conflicting advice, overall it goes a long way to filling the need for scope clarification. A copy of the document is linked from the RoHS/legislation page of the support website www.electronicssouth.com

TAC Update

The TAC met on 19 April and discussed the following: Deca BDE proposed exemption. This did not get the necessary majority and is now with the European Parliament and Environment Council for consideration. Grey area discussion, no decisions, WEEE treatment, WEEE harmonization of registration of producers, Discussion of CENELEC EN50419 (crossed out wheeled bin) conflicting with the directive, movement of refurbished ICT equipment, the need for reference materials for brominated flame retardants, 19 further requests for exemption to be funded by the EC. And finally of huge environmental significance - discussion (again) on the request for exemption for lead in the glass of chandeliers.

The minutes can be found on the RoHS/legislation section of www.electronicssouth.com

Pb-Free Labeling of circuit boards

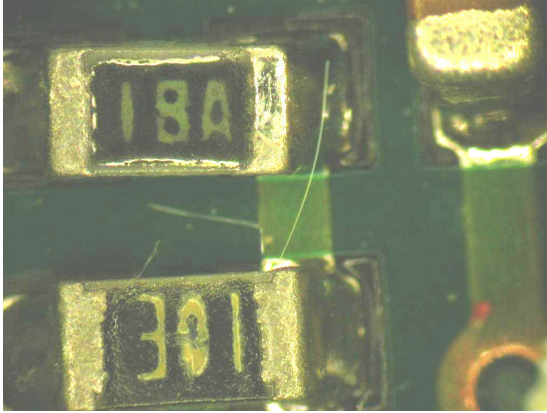
There is no requirement within the directives or any presently transposed legislation to mark circuit boards. IPC have developed a standard – IPC-1066 “Marking, Symbols and Labels for identification of Lead-Free and Other Reportable Materials in Lead-Free Assemblies, Components and Devices” This covers lead both in components and solders, conformal coatings, halogens and maximum assembly temperature. This is available free from IPC or is linked from the Materials and logistics page of the support website www.electronicssouth.com. As mentioned above this standard is not mandated by the Directives but may be requested by customers.

Tin Whiskers:

Tin Whiskers continue to cast a shadow over lead free. The NASA website <http://www.nepp.nasa.gov/whisker/failures/index.htm> contains a table of NASA equipment failures due to Tin Whiskers. The page <http://www.nepp.nasa.gov/whisker/> contains some informative photographs and heaps of resources on tin whiskers. It is well worth a look if you currently have an exemption of for lead in solders and are considering going lead-free anyway. There is a very good reason why an exemption has been granted for high reliability applications. Having said this there soon will be cases where components are not available in any other finish that pure tin so there will be no choice.

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The picture below is from the NASA website and shows tin whiskers that have dropped from the bottom side of a pure tin RF shield and shorted out circuitry



as cables. There is still major work to be done to ensure compliance for Telecommunications and server equipment. The DTI Guidance notes available from the support website RoHS/Legislation pages 18 and 19 gives very clear detail on what is and is not included in this exemption.

Alternatives to Hexavalent chromium on Aluminium and Zinc Plated Steel

The post trial report has been released and details 3 viable alternatives to Cr6 for aluminium. A further trial is underway as we omitted to benchmark the present process. A number of mechanical engineers have expressed a view that they are not overly concerned with which chemical is used except if must have a similar or better corrosion protection and surface conductivity performance to the present process. As a result of this feedback we are including Alodine 1200 in the next set of trials for Aluminium. Of note none of the viable alternatives made any noticeable colour change to the metal. The report is available on the support website www.electronicssouth.com under RoHS/hexavalent chromium.

Telecommunications and Servers exemption – Update and Caution

The exemption for telecommunication and servers has been reworded as below

“Exemption for lead in solders for telecommunications and Item 7 – lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications.”

Notable things are the TAC have combined the servers and Telecommunications exemptions but they have removed the reference to 2010 as being the end date. This either infers that it will be longer or shorter or possibly still 2010.

One caution on this exemption: be very aware that it applies only to lead in solders (and component second level interconnects). It does not apply to any of the other banned substances – Hexavalent Chromium, Cadmium, Mercury or PBB or PBDE or more importantly to lead in other applications such

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