



September 26, 2011

Mr. Alex Ryan-Bond
Environmental Associate
Ozone Transport Commission
444 N. Capitol Street, NW
Suite 638
Washington, DC 20001

Re: OTC Model Rule for Solvent Degreasing 2011

Dear Mr. Ryan-Bond,

On behalf of ZESTRON America, I would like to thank the OTC for providing the electronics industry with an opportunity to review the Model Rule for Vapor Degreasing and provide input regarding VOC limits as it applies to precision cleaning of PCB boards during manufacturing. Furthermore, we thank the OTC for considering industry comments and revising the VOC emission limits to 150g/l for cleaners used to clean PCB's. Although a challenging target, this is one the industry can support.

I would like to bring the attention of this committee several essential adjunct processes of the PCB manufacturing process that utilize cleaning agents. These processes include the cleaning of raw solder paste and adhesives from hard surfaces, such as stencils and misprinted boards during the printing process as well as cleaning of baked on fluxes (polymerized fluxes) from reflow and wave solder oven components, such as conveyor fingers and condensation traps.

These parts and components may be cleaned following the PCB manufacturing process, or during the production process. Either way, effective cleaning of these parts is critical to PCB manufacturing.

As the revised draft rule is currently written, the VOC emission limit for these processes is 25g/l. In many cases, depending on a host of variables such as flux and paste type, PCB board design, solder type (leaded or lead-free) and subsequent oven (reflow and/or wave) temperature profile, effective industry cleaning agents currently available will not meet the 25g/l limit and therefore cannot be used. Thus, we request that the OTC consider raising the VOC limit for these PCB manufacturing adjunct processes to the level established for PCB cleaning or 150g/l.

Currently, many of these processes utilize either IPA or other engineered solvents for cleaning with VOC content ranging from approximately 700g/l to 900 g/l. However, engineered aqueous solutions are available that can effectively clean these parts and meet the 150g/l limit.

Headquarters:
ZESTRON America
11285 Assett Loop
Manassas, VA 20109
USA

Tel.: (703) 393-9880
(888) 999-9116
Fax: (703) 393-8618

infoUSA@zestron.com

Global locations:

ZESTRON South Asia
Kulim, Malaysia
infoASIA@zestron.com

ZESTRON Europe
Ingolstadt, Germany
info@zestron.com

ZESTRON North Asia
Shanghai/Shenzhen, China
infoCHINA@zestron.com

www.zestron.com





If requested, we can provide the OTC with specific descriptions for these adjunct processes. Meanwhile, we recommend that the OTC considers revising the rule, Section 3.0 Standards a3 as follows:

'Cleaners used to clean post-solder printed circuit boards (PCB's) as well as adjunct processes critical to electronics manufacturing and assembly, including the cleaning of raw solder paste and adhesives from hard surfaces, such as stencils and misprinted boards during the printing process, and baked on fluxes (polymerized fluxes) from reflow and wave solder oven components, such as conveyor fingers and condensation traps, may use a cleaning solution containing no more than 150 grams of VOC per liter of solution and must follow the provision of this rule..'

We appreciate the opportunity to offer additional comments to the OTC regarding this model rule and thank you in advance for your consideration of this request.

Kind Regards,

A handwritten signature in cursive script that reads "Sal Sparacino". The signature is written in dark ink on a light-colored background.

Sal Sparacino, P.E.
Technical Marketing Manager
ZESTRON America

Cc: Mr. Gene Pettingill: DNREC