



# VOC free soldering flux PacIFic **2009MLF**

INTERFLUX®  
ELECTRONICS N.V.



Technical data PacIFic 2009MLF

Ver: 3.12 11-12-15

Page 1

## VOC free, No-clean and halide free soldering flux for spray applications

### Description:

PacIFic **2009MLF** has been developed to minimize micro solder ball formation. It is an adapted version of the PacIFic 2009M.

Conventional VOC-free fluxes may give more solder balling than alcohol based fluxes on micro ball sensitive solder masks. PacIFic **2009MLF** **minimises micro solder balling** on these solder masks.

PacIFic **2009MLF** is absolutely halogen free. The flux allows a change over from alcohol based fluxes to water based fluxes with absolutely no disadvantages.

PacIFic **2009MLF** is perfectly suitable for lead-free soldering and is typically applied by spray-fluxing.

### Why VOC-free?

- ▶ No more risk of fire caused by flux inflammation
- ▶ No more Volatile Organic Compounds emission caused by flux evaporation
- ▶ No more irritating alcohol smell in your production caused by flux evaporation
- ▶ No more use of flux thinner
- ▶ No checking of flux quality needed
- ▶ Improvement in solder ability and cleanliness
- ▶ Lower flux transport, storage and insurance costs
- ▶ A reduction of about 30% in flux consumption



Products pictured may differ from the product delivered

### Physical and chemical properties:

Density at 20°C	: 1.00 g/ml ± 0.01
Colour	: clear
Odour	: sweet
Solid content	: 3.6% ± 0.2
Halide content	: none
Flash point (T.O.C)	: n.a.
Total Acid Number	: 25 mg KOH/g ± 2
IPC/ EN	: OR/ L0



### More information:

Avoiding solder balls	2
Preheating	2
Wave contact	2
Health and safety	3
Packaging	3

### Key advantages:

- Minimises solder balling
- Absolutely halide free
- 100% water based
- Resists high temperatures
- Practically odourless
- Improved through hole filling



## Avoiding micro solder balls

### More flux will give less solder balls.

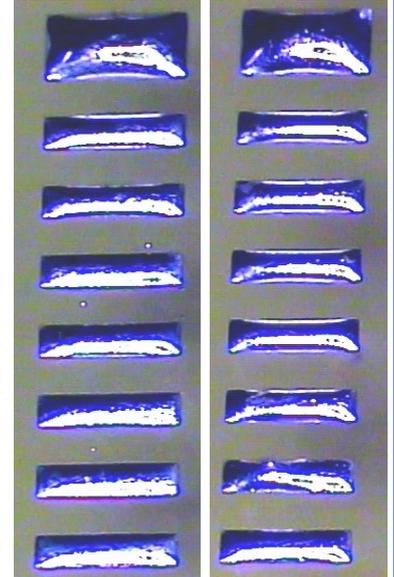
More flux gives also more residues, so an optimal spray volume has to be determined. Because the main cause of solder balling is the solder mask, this optimal spray volume can vary a bit from solder mask to solder mask.

Check the spray pattern by passing a card

board through the machine. The card board must equally be wetted by the flux. If not, adapt your lateral spray speed or spray volume until you get an even wetting of the flux.

To check good top side wetting of the flux, apply some flux to the through hole components on top of the board with a fine brush and compare

the through hole wetting results with your original results. If there is a difference, your spray fluxer settings will have to be adapted. You can either bring the fluxer closer to the board, give more flux, spray slower or give more air pressure. If none of the above works, contact INTERFLUX® Electronics.



Left: micro solder balls with conventional VOC-free flux  
Right: 2009MLF

solids (dry matter)	Min.	Max.
µg/ cm <sup>2</sup>	60	140
µg/ in <sup>2</sup>	400	900

Typical amount of flux solids applied when spray fluxing

## Preheating

All water should be evaporated from the boards before hitting the wave.

The recommended preheat temperature measured on the top-side of the boards is 85°C-160°C.

Avoid hot air preheating settings above 150°C

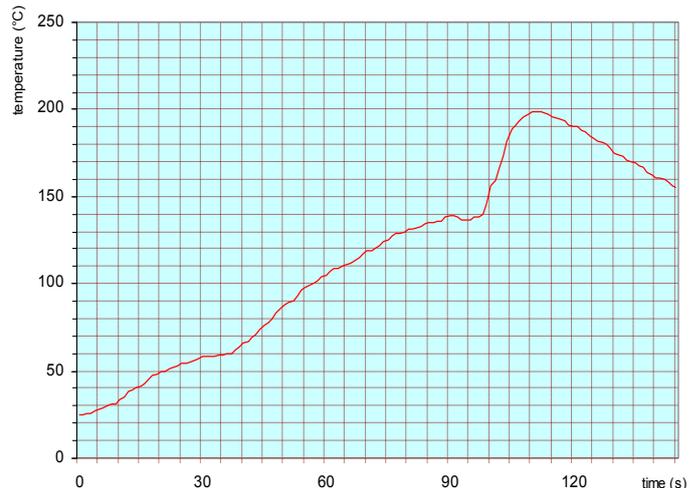
Preheat slope:  
typical: 1,5°C/s  
min: 1,0°C/s  
max: 2,5°C/s

## Wave contact

Typical wave contact or dwell time value is 3-4s when using a single solder wave. For double wave soldering systems the values will be 1-2s for the first wave and 2-4s for the second wave. Lower total dwell time limit is 2s.

Solder wetting can be optimal at lower contact times however longer contact times are recommended to provide total flux wash off from the boards. The maximum upper limit will be determined by the level of shorts and physical

*“All water should be evaporated before hitting the wave”*



limitations of the board and components.



## Test results

conform EN 61190-1-1(2002) and IPC J-STD-004A

Property	Result	Method
<b>Chemical</b>		
Flux designator	<b>OR L0</b>	J-STD-004A
Qualitative copper mirror	<b>pass</b>	J-STD-004A IPC-TM-650 2.3.32
Qualitative halide		
Silver chromate (Cl, Br)	<b>pass</b>	J-STD-004A IPC-TM-650 2.3.33
Quantitative halide	<b>0,00%</b>	J-STD-004A IPC-TM-650 2.3.35
<b>Environmental</b>		
SIR test	<b>pass</b>	J-STD-004A IPC-TM-650 2.6.3.3
Qualitative corrosion, flux	<b>pass</b>	J-STD-004A IPC-TM-650 2.6.15

## Health and Safety

Please consult the safety datasheet of the product.

## Packaging:

PacIFic 2009MLF is available in the following packages:

- 10 litres polyethylene drums
- 25 litres polyethylene drums
- 200 litres polyethylene drums

Trade name : PacIFic 2009MLF VOC-Free No-Clean Soldering Flux

D i s c i m e r

Because Interflux® Electronics N.V. cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability or the accuracy of this information or the suitability of our products in any given situation. Users of our products should make their own test to determine the suitability of each such product for their particular purposes. The product discussed is sold without such warranty, either express or implied.

Copyright:

**INTERFLUX®** ELECTRONICS

Please consult the latest version of this document on:

[www.interflux.com](http://www.interflux.com)

This document in another language?:

[www.interflux.com](http://www.interflux.com)