

Product Data Sheet

# Wave Solder Flux

## WF-7742 VOC-Free

### Features

- Excellent Surface Wetting
- Eliminates Cleaning
- Wide Process Window
- Use with Pb-Free and Sn/Pb Assembly Processes

### Introduction

**WF-7742** is a VOC-free flux specifically developed for Pb-free wave soldering of surface-mount, mixed-technology and through-hole electronics assemblies.

**WF-7742** is a water-based, nonflammable formulation dramatically reducing VOC emissions and eliminating special storage requirements. A wide process window provides excellent solderability on difficult to solder assemblies and reduces solder balling.

### Process Recommendations

**WF-7742** should be applied by ultrasonic spray for best results. Topside board temperatures can range up to 149°C (300°F) depending on equipment capability and assembly requirements. Contact with the solder wave can be as long as 5 seconds. Preheat temperature should be adjusted to ensure complete water removal before contact with the solder wave.

A thin uniform flux deposition of 500-1,000 micrograms per square inch of flux solids should be applied as a starting point.

Because **WF-7742** is water-based, it does not require frequent acid value monitoring. If thinning is required, deionized should be used.

**WF-7742** may freeze if exposed to temperatures below 0°C (32°F). If the flux becomes frozen, bring to room temperature until thawed and agitate. The material is not affected by freezing.

### Physical Properties

Test	Result
Color:	Clear
Specific Gravity: @25°C (77°F)	1.014
@15.5°C (60°F)	1.014
Acid Value	36
Solids Content	5.76
Flash Point	None
J-STD-004 Flux Type	ORLO

### IPC Surface Insulation Resistance

Test Pattern	Board	24 Hours	96 Hours	168 Hours
IPC B24	Control	2.95 X 10 <sup>13</sup>	2.08 X 10 <sup>13</sup>	1.56 X 10 <sup>13</sup>
	Pattern up	8.93 X 10 <sup>9</sup>	9.10 X 10 <sup>9</sup>	6.28 X 10 <sup>9</sup>
	Pattern down	1.32 X 10 <sup>9</sup>	2.71 X 10 <sup>9</sup>	3.19 X 10 <sup>9</sup>

All readings expressed in ohms

### IPC ECM/Telcordia EM Resistance Test

Test Pattern	Board	96 Hours	596 Hours
IPC B25A	Control	9.97 X 10 <sup>10</sup>	9.03 X 10 <sup>10</sup>
	Pattern up	3.88 X 10 <sup>10</sup>	1.16 X 10 <sup>11</sup>
	Pattern down	5.23 X 10 <sup>9</sup>	3.62 X 10 <sup>11</sup>

All readings expressed in ohms

### Telcordia GR-78 Surface Insulation Resistance Test

Test Pattern	Board	Initial Reading	Final Reading
IPC B25A	Control	8.69 X 10 <sup>12</sup>	1.40 X 10 <sup>13</sup>
	Pattern up	3.20 X 10 <sup>11</sup>	7.02 X 10 <sup>11</sup>
	Pattern down	6.75 X 10 <sup>11</sup>	4.72 X 10 <sup>11</sup>

All readings expressed in ohms

### Packaging

- 5 gallon containers
- 55 gallon drums

### Technical Support

Indium Corporation's internationally experienced engineers provide in-depth technical assistance to our customers. Thoroughly knowledgeable in all facets of Material Science as it applies to the electronics and semiconductor sectors, Technical Support Engineers provide expert advice in solder properties, alloy compatibility and selection of solder preforms, wire, ribbon and paste. Indium Corporation's Technical Support engineers provide Rapid Response to all technical inquiries.

### Material Safety Data Sheet

The MSDS for this product can be found online at <http://www.indium.com/techlibrary/msds.php>

This product data sheet is provided for general information only. It is not intended, and shall not be construed, to warrant or guarantee the performance of the products

described which are sold subject exclusively to written warranties and limitations thereon included in product packaging and invoices.

Form No. 97862 R3

S O L D E R

INDIUM CORPORATION OF AMERICA®

www.indium.com  
 askus@indium.com  
 PRC +86 (0)512 628 34900  
 SINGAPORE +65 6 268 8678  
 UK +44 (0) 1908 580400  
 USA +1 315 853 4900



ISO 9001  
REGISTERED