

# PRODUCT DATA SHEET

# WS-580

## Flip-Chip Flux

### Introduction

**Flip-Chip Flux WS-580** is a NIA halogen-free water washable flip-chip dipping flux, which has an activator system powerful enough to promote wetting on the most demanding substrate metallizations.

### Features

- Halogen-free – no intentionally added (NIA) halogens
- Designed for flip-chip dipping applications
- Excellent solderability on a variety of metallizations
- Reduces flip-chip voids
- Uniform dipping performance over extended periods
- Tackiness suitable for holding large die during assembly
- Bubble-free packaging

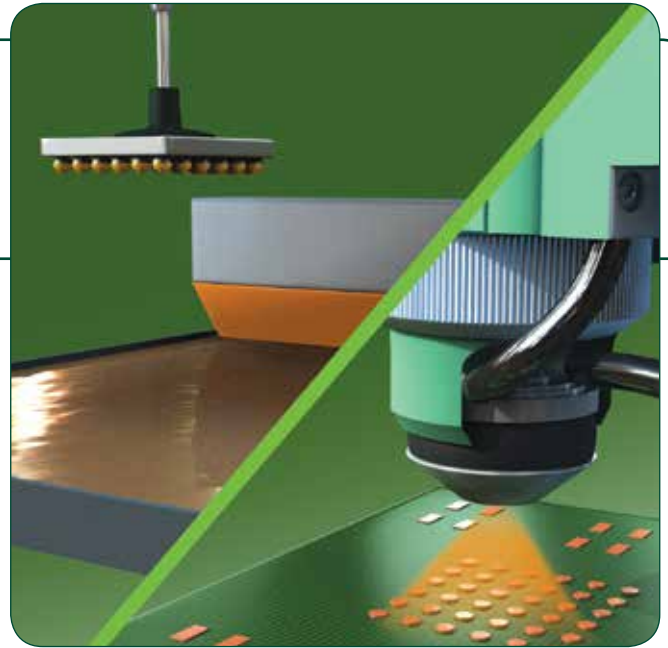
### Properties

Property	Value	Test Method
Flux Classification	MO	J-STD-004 (IPC-TM-650: 2.3.32 and 2.3.33)
Typical Viscosity	18kcps	Brookfield HB DVII+-CP @ 5rpm after 5 min
SIR (Ohms, after cleaning)	Pass (>10 <sup>8</sup> after 7 days @ 85°C & 85% RH)	J-STD-004 (IPC-TM-650: 2.6.3.3 IPC-B-24)
Typical Acid Value	93mg KOH/g	Titration
Shelf Life	0 to 30°C for 6 months	Viscosity Change/ Microscope Examination

*All information is for reference only. Not to be used as incoming product specifications.*

### Application

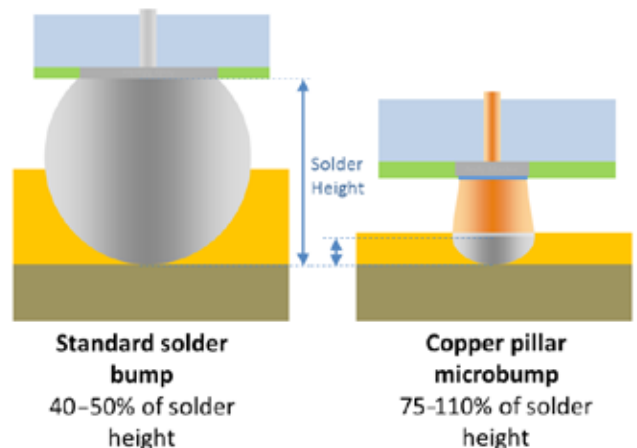
**WS-580** is intended to be used in an air or nitrogen reflow environment of 100ppm oxygen or less. **WS-580** can be used on many surface finishes including immersion Ag, Cu, and Ni. **WS-580** has been developed to allow tin and tin/silver solderbumps, in both standard bump shapes and as microbumps on copper pillars, to solder well to any quality of substrate metallization. **WS-580** also allows poor quality OSP to be soldered, without non-wet-open solder joints.



### Dipping Process

The dipping depth should be adjusted to exact needs. Guidelines are given in the illustration below. The flux reservoir (dip tray) should be cleaned and replenished every shift.

#### Dipping Depth



**From One Engineer To Another®**



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### Cleaning

**WS-580** residue can be cleaned with DI water, or water with an added cleaner. Ideal conditions for spray-cleaning: 25°C (room temperature) to 40°C for >one minute at 60psi or higher.

### Packaging

**WS-580** is available airlessly packaged in 10cc and 30cc syringes, and is also available in jars or cartridges, on customer request.

### Storage

For maximum shelf life, **WS-580** syringes and cartridges should be stored tip down. Storage temperatures should not exceed 30°C. If using cold storage, **WS-580** should be allowed to stand for at least four hours at room temperature before using.

### Technical Support

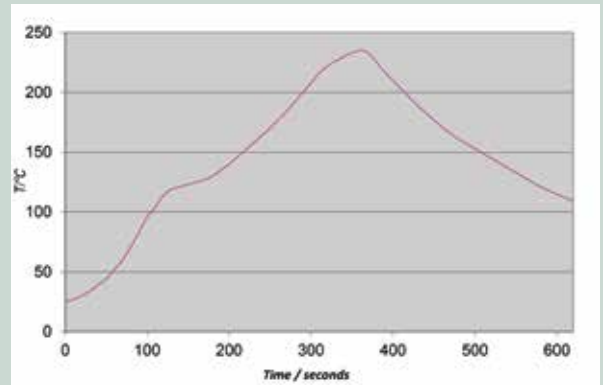
Indium Corporation sets the industry standard in providing rapid response, on-site technical support for our customers worldwide. Indium Corporation's team of Technical Support Engineers can provide expertise in all aspects of materials science and semiconductor packaging process applications.

### Safety Data Sheets

The SDS for this product can be found online at <http://www.indium.com/sds>

### Reflow

#### Recommended Profile:



**Flip-Chip Flux WS-580** is intended to be used in a nitrogen reflow environment of 100ppm oxygen or less. Some applications can utilize this material in an air environment, although best results will be obtained in an inert atmosphere. **Flip-Chip Flux WS-580** can be used on many surface finishes.

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Contact our engineers today: [askus@indium.com](mailto:askus@indium.com)

Learn more: [www.indium.com](http://www.indium.com)



ASIA +65 6268 8678 • CHINA +86 (0) 512 628 34900 • EUROPE +44 (0) 1908 580400 • USA +1 315 853 4900



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