

PRODUCT DATA SHEET

WS-3401-A

Wafer Flux

Introduction

Wafer Flux WS-3401-A is a high viscosity semiconductor-grade flux, specifically optimized as a damming flux for the edge of the wafer and to prevent backside contamination. Working with the natural surface tension of solder, **WS-3401-A** produces uniform hemispherical bumps without solder-robbing or solder-bridging.

Features

- Water-soluble
- Viscosity suitable for 150–300mm wafers as a damming flux
- No residue after multiple reflow/cleaning cycles
- Uniform bump shape
- Halogen-free—no intentionally added (NIA) halogens
- Suitable for SnPb and Pb-free, and high temperature applications
- Non-corrosive to underbump metallization

Properties

	Value	Test Method
Flux Type Classification	ORM0	J-STD-004 (IPC-TM-650: 2.3.32 and 2.3.33)
Typical Viscosity	1.5kcps (peak)	Brookfield HB DVII +-CP
SIR (Ohms, post-reflow)	Pass (>10 ⁸ after 7 days @ 85°C and 85% RH)	J-STD-004 (IPC-TM-650: 2.6.33 IPC-B-24)
Typical Acid Value	81mg KOH/g	Titration
Specific Gravity	1.08g/cc	J-STD-004B
Color	Deep amber to light brown	Visual
Shelf Life	6 months (≤25°C)	Viscosity change/ microscope examination

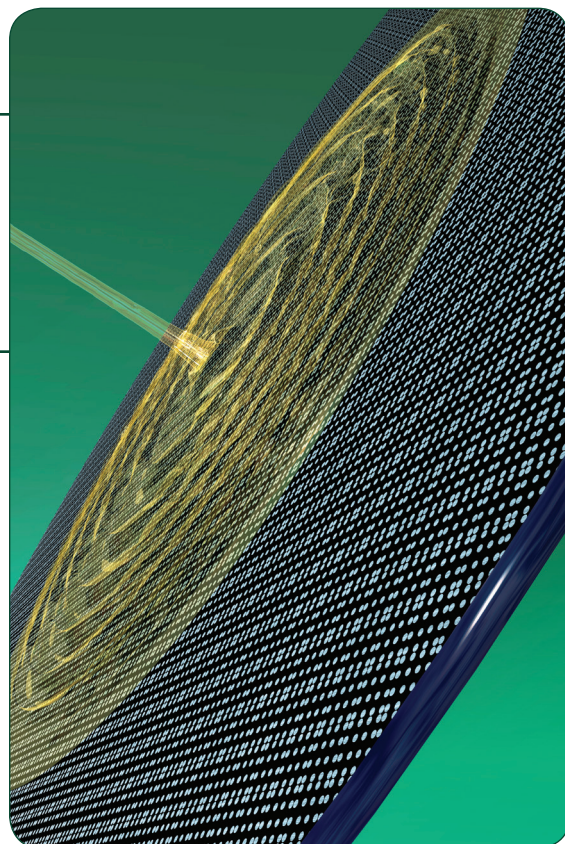
All information is for reference only.

Not to be used as incoming product specifications.

Application

WS-3401-A can be applied by standard spin coating techniques, but may be too viscous for many applications.

For copper-pillar applications, **WS-3401-A** is used (in conjunction with WS-3401) as a damming flux around the edge of the wafer to prevent backside contamination.



Cleaning

WS-3401-A is designed to be cleaned with DI water or water with an added cleaner. Ideal conditions for spray cleaning are 25°C or higher for >1 minute at >60psi.

Packaging

Wafer Flux WS-3401-A is sold by weight (grams) and is available in appropriate containers from 100g to 3.5kg (3,500 grams = approximately 1 gallon). Other packaging can be provided to meet specific requirements.

Storage

WS-3401-A containers should be stored at ≤25°C for maximum shelf life. Storage temperatures should not exceed 25°C for more than 4 days, and should never exceed 30°C. After removing from cold storage, **WS-3401-A** should be allowed to stand for at least 4 hours at room temperature before using.

From One Engineer To Another®



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Technical Support

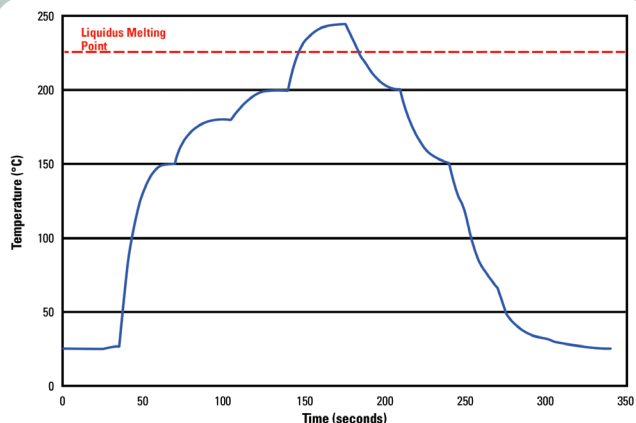
Indium Corporation sets the industry standard in providing rapid response, onsite technical support for our customers worldwide. Indium Corporation's team of Technical Support Engineers can provide expertise in all aspects of Materials Science and Semiconductor Packaging process applications.

Safety Data Sheets

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

Reflow

Recommended Profile:



The above profile is recommended as a starting point for 300mm wafers with SnAg solder microbumps, and should be optimized by the user to meet their individual process needs. Wafers should be reflowed in a nitrogen atmosphere (<10ppm O₂ is recommended, but <20ppm O₂ may be feasible; however, results may not be optimal). Note that bridging or solder thieving may be seen for fine-pitch microbumps (<60 microns) on copper-pillars, and that reducing the peak temperature will reduce the occurrence of this failure mode.

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All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified. Indium Corporation is an ISO 9001:2015 registered company.

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