

PRODUCT DATA SHEET

SC 5R

Wafer Flux

Introduction

Wafer Flux SC 5R is a low viscosity semiconductor-grade wafer bumping (bump fusion) flux. It has a wide process window, ranging from 125 to 350°C. Electroplated and reflowed solder paste form bright, spherical bumps when using this flux.

Wafer Flux SC 5R can be applied by spraying and spin coating processes, and can be used on a wide variety of solders, from high-Pb to SnAg, and pure indium.

Features

- Halogen-free (no intentionally-added halogens)
- Viscosity suitable for 150–300mm wafers
- Solvent clean
- Nitrogen reflow atmosphere
- Suitable for high-Pb, SnPb, and Pb-free solder applications

Properties

	Value	Test Method
Flux Type Classification	ROL0	J-STD-004 (IPC-TM-650: 2.3.32 and 2.3.33)
Typical Viscosity	38cSt	Cannon-Fenske viscometer
SIR (Ohms, post cleaning)	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	82mg KOH/g	Titration
Specific Gravity	0.921g/cc	J-STD-004B
Color	Amber	Visual
Shelf Life	12 months	0 to 30°C

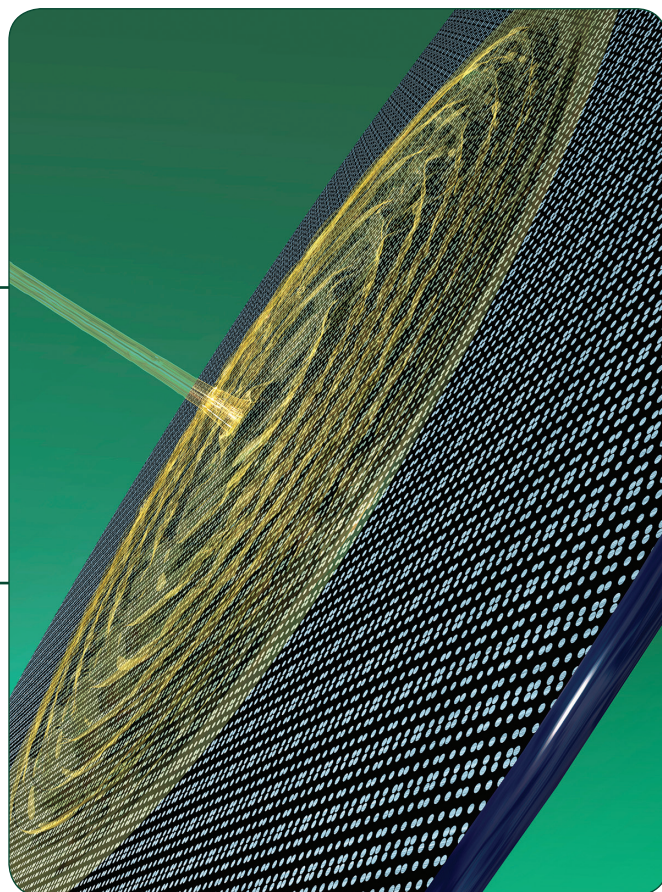
All information is for reference only.

Not to be used as incoming product specifications.

Application

Wafer Flux SC 5R can be applied by standard spray and spin coating techniques.

For spin coating applications, an initial rotation speed should be used to spread this liquid flux uniformly onto the wafer. Next, a velocity rotation ranging from 15 to 800rpm, based on the application, should be used. The wafer size, topology, pitch, and the flux application are all variations that would impact the rotation velocity. This velocity rotation should be used to thin the flux and remove the excess flux from the wafer surface.



For spray applications, the equipment flux storage tank should hold enough flux for one 8-hour shift. Additional flux remaining in the tank may expire (pot life >8 hours at room temperature) if left for a prolonged amount of time. Spray equipment should also be cleaned frequently to ensure the highest level of purity with this or any other flux.

Cleaning

Wafer Flux SC 5R is designed to be removed using commercially available cleaning agents. Please contact an Indium Corporation Technical Support Engineer for recommendations of cleaners to suit your process needs.

Packaging

Wafer Flux SC 5R is available in containers from 100g to 1 gallon. Other packaging can be provided to meet specific requirements.

Storage

Wafer Flux SC 5R containers should be stored at 0 to 30°C for maximum shelf life. Storage temperatures should not exceed 30°C for more than 4 days. After removing from cold storage, **Wafer Flux SC 5R** 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

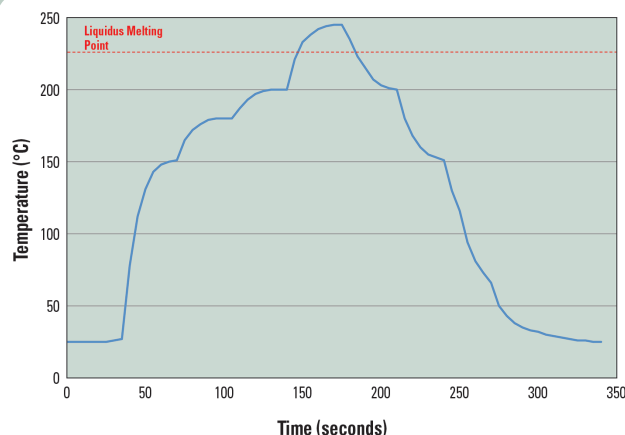
Indium Corporation sets the industry standard in providing rapid response, onsite technical support for our customers worldwide. Indium Corporation's team of Technical Support Engineers can provide expertise in all aspects of Materials Science and Semiconductor Packaging process applications.

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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