INDIUM CORPORATION®

PRODUCT DATA SHEET

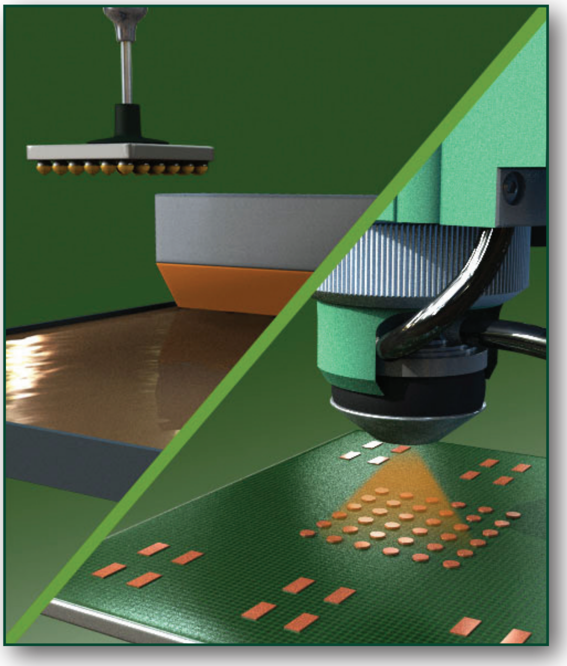
TACFlux® 10-ULR

Features

- Designed for flip-chip dipping applications
- Suitable for Pb-free alloys
- Ultra-low residue
- Halogen-free
- No-clean

Introduction

TACFlux® 10-ULR is a halogen-free, no-clean flip-chip dipping flux which is designed to leave a completely benign, clear residue. The reduction in residue optimizes underfill adhesion and decreases possible outgassing during underfill cure.



Properties

Property	Value	Test Method
Flux Type	RELO	J-STD-004 (IPC-TM-650: 2.3.32 and 2.3.33)
Color	Light Yellow	Visual
Typical Viscosity	1475cps	Brookfield DV-I. 40CPE Spindle @10rpm after 3 mins
Typical Acid Value	39mg KOH/g	Titration
SIR (ohms)	Pass	J-STD-004 (IPC-TM-650: 2.6.3.3 IPC-B-24)
Typical Post Reflow Residual Weight	<5%	TGA Data
Working Life	≥ 8 hr	Customer Experience (Dipping)
Shelf Life	1 year when stored at 0 to 30°C	Viscosity Change/ Microscope Examination

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

Application

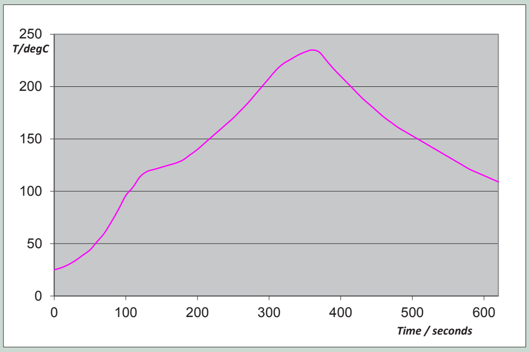
TACFlux® 10-ULR will have strong adhesion to epoxy-based underfill materials, especially epoxy-amine and epoxy-acid based chemistries. **TACFlux® 10-ULR** should also be suitable for use with many epoxy-anhydride systems.

Cleaning

TACFlux® 010-ULR is designed for no-clean applications. If necessary, the flux can be removed by using a commercially available flux cleaner. Please contact an Indium Corporation Technical Service Engineer for recommendations of cleaners to suit your process needs.

Reflow

Recommended Profile:



TACFlux® 10-ULR 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. **TACFlux® 10-ULR** can be used on many surface finishes including immersion Ag, Cu, and AuNi. These surfaces can be soldered with Pb-free alloys, but require nitrogen if reflow temperatures exceed 240°C.

OVER→

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TACFlux® 10-ULR

Packaging

TACFlux® 10-ULR is most commonly available in containers from 100g to 3.2kg (1 gallon). Other packaging can be provided to meet specific requirements.

Storage

TACFlux® 10-ULR containers should be stored at 0 °C to 30 °C for maximum shelf life. **TACFlux® 10-ULR** should be allowed to reach ambient temperature before use if stored cold.

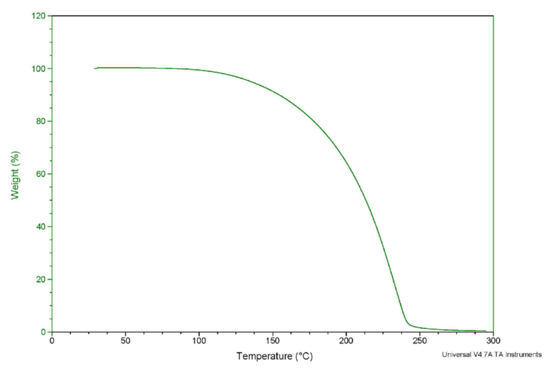
Technical Support

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

Thermogravimetric Analysis (TGA)



TGA was performed at a ramp rate of 10 °C per minute.