



MATERIAL SAFETY DATA SHEET

(FOR INTERNATIONAL [NON-USA] CUSTOMERS)

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION						
Trade Name (As Labeled):	SolderQuik BGA Preform					
Manufacturer:	Winslow Automation, Inc.					
Products Covered by this SDS:	Solder Alloy Grades 63/37, 10/90 (Tin/Lead ratios) 96.5/3.0/0.5 (Tin/Silver/Copper ratios)					
Address:	905 Montague Expressway Milpitas, CA 95035 USA					
Telephone:	Country Access Code + 1 - 408-262-9004					
Telephone (Emergency):	Country Access Code + 1 - 352-323-3500					
Chemical Name:	Not Applicable					
Chemical Formula:	Not Applicable, Mixture					
Product Description:	This product is designed to join a BGA package to corresponding solder lands on a printed wiring board (PWB). The preform consists of water soluble paper, a thin poly-ox film and a varied grid array of solder balls.					
Date Prepared: (Revised)	October 22, 2008					
SECTION 2 – HAZARDOUS AND NON-HAZARDOUS INGREDIENTS						
Note: Product under normal conditions does not represent an inhalation, ingestion or contact health hazard. *The weight percent of the below listed metals depend on the number of solder balls in the preform and the type of solder ball alloy used.						
Hazardous Ingredients	Wt. %	CAS Registry #	OSHA PEL mg/m3	TLV-TWA mg/m3	TLV-STEL mg/m3	Risk Phrases
Lead (Pb)	0-90	7439-92-1	0.05	0.05	0.15	R20/21/22/33
Tin (Sn)	10-96.5	7440-31-5	2	2	2	
Silver (Ag)	0-4	7440-22-4	0.01	0.1	N.E.	R33
Copper (Cu)	0-1	7440-50-8	0.1 (fume)	.02 (fume)	N.E.	
Non- Hazardous Ingredients						
POLYOX Water Soluble Resin, Dissolvable Paper	Balance	N/A	N/A	N/A	N/A	
Risk Phrases: R20/21/22 – Harmful by inhalation, in contact with skin and if swallowed R33 – Danger of cumulative effects						
SECTION 3 – PHYSICAL PROPERTIES						
Boiling Point: (A 760 mm Hg)	N/A					
Evaporation Rate: (Butyl Acetate = 1)	N/A					
Solubility in Water:	Insoluble					
Specific Gravity: (H ₂ O - 1)	N/A					
Volatile Organic Compounds: (VOC)	N/A					
Percent Volatile: (by Volume)	N/A					
Vapor Density: (Air = 1)	N/A					
Vapor Pressure: (mm Hg)	N/A					



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Appearance and Odor:	Paper wafer with light gray solder balls in grid array format.	
pH: (10 % Solution)	N/A	
Melting Point, C°:	183-287	
SECTION 4 – FIRE AND EXPLOSION HAZARD DATA		
Flash Point (T.O.C):	N/A	
Flammable Limits (in air):	N/A	
Extinguishing Media:	CO ₂ and H ₂ O	
Special Fire Fighting Procedures:	Fire fighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.	
Special Fire and Explosion Hazards:	None Known	
Auto-Ignition Temperature:	Not Applicable	
SECTION 5 - REACTIVITY DATA		
Stability:	Stable	
Conditions to Avoid:	Humidity and water will degrade the product.	
Incompatibility	Strong acids, strong oxidizers.	
Thermal Degradation and Combustion Byproducts:	Thermal degradation is not significant at temperature achieved during proper use, as directed by product use guide. Thermal degradation products may include, but are not limited to, carbon monoxide, carbon dioxide, oligomers of ethylene glycol and glycerol. At temperatures greater than 1000 ⁰ F (537 ⁰ C) oxides of lead and tin may be released. These combustion byproducts are toxic and should not be inhaled.	
SECTION 6 - HEALTH HAZARDS / ROUTE(S) OF ENTRY		
Note: Product under normal conditions does not represent an inhalation, ingestion or contact health hazard. However, soldering may release fumes and/or dust which may present health hazards if TLV is exceeded.		
Primary Routes of Entry:	Skin, Inhalation	
Effects of Acute (severe short term) exposure:	Inhalation:	Thermal degradation and combustion byproducts may be toxic and should not be inhaled.
	Skin Contact:	This product is not expected to be a skin irritant.
	Eye Contact:	Contact with molten material may cause thermal burns.
	Ingestion:	In the unlikely event that exposure should occur, ingestion of excessive quantities of metals may cause anemia, sleep disturbances, weakness, irritation of the digestive tract, constipation, nausea, and abdominal pain.



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SECTION 6 - HEALTH HAZARDS / ROUTE(S) OF ENTRY cont.	
Effects of Chronic (prolonged) exposure:	<p><u>LEAD</u>: Inorganic lead may be a component of the solder in this product, and is listed by IARC as a suspect carcinogen. Lead is known to cause birth defects. Prolonged or repeated overexposure to lead may cause damage to the male and female reproductive system. Persons with pre-existing reproductive disorders may be more susceptible to the effects from lead exposure.</p> <p><u>TIN</u>: Has been shown to increase incidence of sarcoma in animal tests.</p> <p><u>SILVER</u>: Chronic skin contact or ingestion of silver dusts; salts or fume can result in condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.</p>
Medical Conditions Generally Aggravated by Exposure:	Solder balls may contain lead. No significant emission of lead is expected during normal conditions of use. Overexposure to lead can result in serious health effects.
Carcinogenicity:	This product may contain lead, which is known to the State of California to cause cancer, birth defects or other reproductive harm.
Signs and Symptoms of Exposure:	Headache, nausea, dizziness and drowsiness.
Note: Winslow Automation, Inc. does not recommend, manufacture, market or endorse any of its products for human consumption.	
SECTION 7 - EMERGENCY FIRST AID	
Eye Contact:	If eye irritation occurs, flush affected eye(s) immediately with clean water for 15 minutes. Seek medical attention.
Skin Contact:	First aid is not normally required. After handling product, it is a good work practice to wash your hands. If molten material contacts skin, cool area immediately with water. DO NOT attempt to remove material from the skin. Treat as a burn and seek medical attention.
Inhalation:	If respiratory symptoms or other symptoms of exposure develop, move victim to fresh air. If symptoms persist, seek medical attention.
Ingestion:	Not a normal route of exposure. However, if swallowed and symptoms develop, seek medical attention.
SECTION 8 – SPILL AND LEAK PROCEDURES	
Steps to be Taken if Material is Spilled or Released.	Wear appropriate personal protection when responding. Collect materials in a suitable container for proper disposal.



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Waste Disposal Method:	Components of this product are considered a toxic hazardous waste in accordance with U.S. EPA regulations. Scrap metal alloy usually has value. Contact a commercial re-claimer for recycling. Otherwise, dispose of in accordance with all Federal, State and Local environmental regulations. In Europe follow the Special Waste Regulations.
	EPA Hazardous Waste No: D008
	Hazard Class: 9, Miscellaneous
SECTION 9 - SPECIAL PROTECTION INFORMATION	
Respiratory Protection:	Not normally needed. Seek professional advice prior to respirator selection and use.
Engineering Control:	Local exhaust ventilation is recommended to control any air contaminants. Control concentration of all components so that TLVs are not exceeded.
Protective Clothing/Equipment:	Use eyewear to prevent contact, as appropriate to the given operation. If there is a danger of molten material contacting the skin or eyes, use eye/face protection and heat-resistant gloves. A NIOSH approved EU compliant CE marked air-purifying respirator with a fume/dust chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated.
Hygienic Work Practices:	Do not eat, drink or smoke in the immediate work area. Wash hands before eating, drinking or smoking.
SECTION 10 – ADDITIONAL INFORMATION	
TSCA Status:	The ingredients of this product are on the TSCA inventory.
Department of Transportation:	Hazardous Waste Solid, n.o.s, NA3077, Class 9, Miscellaneous Hazardous Waste
SARA Status:	This Chemical is subject to the reporting requirements of Section 313, -40 CFR 372.65.
California Proposition 65	This product contains levels of LEAD known to the State of California to cause cancer, birth defects or other reproductive harm.

This information is supplied in accordance with OSHA Hazard Communication Standard (29CFR1910.1200).

The information in this Material Safety Data Sheet meets the requirements of EU under Chemicals (Hazard Information and Packing for Supply) Regulations 1994 (CHIP 2) Regulation 6.

This product has been classified in accordance with the hazard criteria of the Commission Directive 91/155/EEC and EH40.

Users of Winslow Automation’s products should make their own evaluation to determine the suitability of each such product for specific application and to establish safe handling and installation procedures.