CHEMTRONICS®
Technical Data Sheet

TDS # CLF8

Chemask® Lead-Free Solder Masking Agent

PRODUCT DESCRIPTION

Chemask® Lead-Free Solder Masking Agent is a temporary, fast curing, peelable solder masking agent formulated for use in high temperature lead-free applications. It is a temperature resistant coating that protects component-free areas of the PCB during wave soldering. Chemask® Lead-Free can be introduced into the preheat oven within 4 minutes of application without adverse effects. Use to protect pins, posts, contacts and edge connections during conformal coating processes.

- Stable to 550°F (288°C)
- Can be used in lead-free or Tin/Lead applications
- Compatible with rosin, no clean, and water soluble fluxes
- Unaffected by cleaning solvents
- Leaves no residue – non-contaminating
- Ready for wave solder in 4 minutes
- Dries tack free in 15 minutes
- RoHS compliant

TYPICAL APPLICATIONS

Chemask® Lead-Free Solder Masking Agent protects:

- Component Free Areas for Soldering
- Components and Sockets
- Pin Connectors During Soldering
- Temperature Sensitive Components During Wave Soldering

TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

Base Material	Natural latex rubber
Color	Pink
Solvent Stability (cured mask)	Stable in all hydrocarbon, hydrofluorocarbon, chlorinated, and halogenated solvents
Flux Compatibility	All types
Temperature Stability	550°F
Tack-Free Drying Time (10 mils @ 77°F)	15 min.
Cure Time (10 mils @ 77°F)	30 min.
Viscosity (@ 77°F) (± 10,000 cps)	190,000 cps
Viscosity Adjusted With	Deionized water
Solids Content	~ 80%
Flash Point	Nonflammable
Weight/Gallon	7.2 lbs.
Shelflife	2 years
RoHS/WEEE Status	RoHS WEEE Compliant

COMPATIBILITY

Chemask® Lead-Free Solder Masking Agent is generally compatible with most materials used in printed circuit board fabrication. As with any solder masking agent, compatibility with substrate must be determined on a non-critical area prior to use. Test compatibility on bare copper.

APPLICATION METHOD	
Squeeze Bottle/Syringe	Yes
Spatula	Yes
Screening	No
Automatic Dispensing	Yes
Removal/Clean-up	By Hand

USAGE INSTRUCTIONS

For industrial use only.
Read MSDS carefully prior to use.
Chemask® Lead-Free Solder Masking Agent is engineered for all electronic manufacturing applications. When applying by hand using squeeze bottle, syringe or spatula, insure that all areas of the pretinned hole are evenly covered on the side to be soldered. Automatic dispensing equipment may also be used as appropriate.

REMOVAL: After allowing the mask to become fully cured, peelable solder mask can be removed by hand or by the use of tweezers. Depending on ambient conditions, peelable mask may remain on assemblies for extended periods of time prior to component insertion.

AVAILABILITY

CLF8 8 oz. Squeeze Bottle
CLF1 1 Gal. / 3.7 L liquid

NOTE:

This information is believed to be accurate. It is intended for professional end users having the skills to evaluate and use the data properly. ITW CHEMTRONICS® does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Information: 800-TECH-401

Product Identification

CHEMASK® LEAD-FREE SOLDER MASKING AGENT

Product Code: CLF8, CLF1

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Product Ingredient Information	CAS#	Wt. % Range
Polyisoprene emulsion (latex)	9003-31-0	90.0-98.0
Zinc dibutyl dithiocarbamate	136-23-2	0.1-2.0
Acrylic polymer	mixture	1.0-5.0
Methanol	67-56-1	1.0-3.5
Titanium dioxide	13463-67-7	0.1-1.0
Trimethyl quinoline homopolymer	26780-96-1	0.1-1.0
Ammonium hydroxide	1336-21-6	0.1-1.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Opaque, pink, viscous liquid with mild ammonia odor. This product is nonflammable. Liquid may irritate eyes and skin under repeated or prolonged exposure. Breathing high concentrations of product vapor may produce drowsiness and a headache.

Potential Health Effects:

Eyes: Vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation.

Skin: Contact may cause skin irritation and possible sensitization.

Ingestion: Harmful if swallowed. Irritating to mouth, throat and stomach. Latex may solidify in intestinal tract.

Inhalation: High concentrations of vapors can cause irritation of mouth, nose, throat and mucus membranes.

Pre-Existing Medical Conditions Aggravated by Exposure: Lung, skin, eye.

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel if irritation develops or persists.

Skin: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash clothing separately before reuse.

Ingestion: If swallowed, do not induce vomiting. Get medical attention immediately.

Inhalation: In case of exposure to high concentrations of vapor, remove to fresh air. If breathing is difficult, give oxygen and get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: None to boiling (TCC) LEL/UEL: NA (% by volume in air)

Extinguishing Media: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Large Spills: Shut off leak if possible and safe to do so. Wear self-contained breathing apparatus and appropriate personal protective equipment. Allow latex to dry, scrape up and place in a chemical waste container for proper disposal. Do not flush to sewer. Avoid runoff into storm sewers and ditches which lead to waterways.

Small Spills: Scrape up dried latex, then place in a chemical waste container for proper disposal.

SECTION 7: HANDLING AND STORAGE

Avoid prolonged or repeated contact with eyes, skin, and clothing. Wash hands before eating. Use with adequate ventilation. Avoid breathing product vapor. Do not reuse this container. Store in a cool dry place away from heat, sparks and flame. Keep container closed when not in use. Do not store in direct sunlight.

KEEP OUT OF REACH OF CHILDREN.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

CHEMICAL NAME	ACGIH TLV	OSHA PEL	ACGIH STEL
Polyisoprene emulsion	NA	NA	NA
Methanol	200 ppm	200 ppm	250 ppm
Ammonium hydroxide	25 ppm	50 ppm	35 ppm

Work/Hygienic Practices: Good general ventilation should be sufficient to control airborne levels. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. If vapor concentration exceeds TLV, use NIOSH approved organic vapor cartridge respirator. Wear safety glasses with side shields (or goggles) and rubber or other chemically resistant gloves when handling this material.

NFPA and HMIS Codes:	NFPA	HMIS
Health	1	1
Flammability	0	0
Reactivity	0	0
Personal Protection	-	B

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Opaque, pink liquid
Odor: Mild, ammonical
Vapor Pressure: 760 mm Hg @ 100C
Vapor Density: <1
(Air =1)
Boiling Point: 212° F (100C) initial

Solubility in Water: Dispersible
Specific Gravity: NA
Evaporation Rate: >1.0
(Butyl acetate=1)
Color: Pink
Viscosity: 190,000 cps

SECTION 10: STABILITY AND CHEMICAL PROPERTIES

Stability - Stable.
Conditions to Avoid: Storage above 120°F, exposure to light, loss of polymerization inhibitor, contamination with incompatible materials.
Incompatibility: Do not mix with powdered alkali and alkaline earth metals or strong oxidizing agents.
Products of Decomposition: Thermal decomposition may release carbon monoxide, carbon dioxide and hydrocarbons.
Hazardous Polymerization: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Inhalation:			Ingestion:		
Methanol	LC50/rats	64,000ppm/4hrs	Methanol	LD50	5,628 mg/kg

Cancer Information: No ingredients listed as human carcinogens by NTP or IARC
Reproductive effects: none Teratogenic effects: none Mutagenic effects: none

SECTION 12: ECOLOGICAL INFORMATION

Environmental Impact Information

Avoid runoff into storm sewers and ditches which lead to waterways. Water runoff can cause environmental damage.

REPORTING

US regulations require reporting spills of this material that could reach any surface waters. The toll free number for the US Coast Guard National Response Center is:
1-800-424-8802

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with all federal, state and local regulations. Water runoff can cause environmental damage.

SECTION 14: TRANSPORTATION INFORMATION

Air: Coating Compound - Not Regulated
Ground: Coating Compound - Not Regulated

SECTION 15: REGULATORY INFORMATION

SECTION 313 SUPPLIER NOTIFICATION

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).

Chemical Name	CAS#	Wt. % Range
Methanol	67-56-1	1.0-3.5

This information should be included on all MSDSs copied and distributed for this material.

TOXIC SUBSTANCES CONTROL ACT (TSCA).

All ingredients of this product are listed on the TSCA Inventory.

WHMIS: Class D2B

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16: OTHER INFORMATION

Normal ventilation for standard manufacturing practices is usually adequate. Local exhaust should be used when large amounts are released.

To the best of our knowledge, the information contained herein is accurate. However, all materials may present unknown hazards and should be used with caution. In particular, improper use of our products and their inappropriate combination with other products and substances may produce harmful results which cannot be anticipated. Final determination of the suitability of any material is the sole responsibility of the user. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist.