ITW Chemtronics® /Americas

Chemask® WF - Water Filterable

The water filterable temporary solder masking agent

-
- Easily removed in water cleaning cycles
- Does not coat filtration equipment
- Noncorrosive; safe for sensitive contacts
- US Patent Number 6,207,265

Applications:
- Ideal for use with closed loop cleaning systems
- Increases productivity by reducing cleaning system maintenance
- Short-term high-temperature protection from molten solder to 515ºF/268ºC

CWF8 8 fl oz / 236 ml liquid squeeze bottle
CWF1 1 gal / 3.7 L liquid

CHEMTRONICS®
Technical Data Sheet

TDS # CWF8

Chemask® WF Solder Masking Agent

PRODUCT DESCRIPTION

Chemask® WF Solder Masking Agent is a high temperature temporary spot mask that protects component-free areas from molten solder during wave soldering. It is water soluble, designed to be removed with open and closed loop aqueous cleaning systems. Chemask® WF is low foaming and has no effect on deionized water (DI) system resin beds. This water soluble formulation is stable to rosin, organic and inorganic fluxes.

- Protects boards from molten solder to 515°F (268°C)
- Waste stream filterable with micron bags
- Prolongs deionized water system life
- Low foaming
- Compatible with most flux types
- Leaves no corrosive residue
- Does not contain Methanol
- Non-contaminating
- Patent No. 6,207,265

TYPICAL APPLICATIONS

During wave soldering, Chemask® WF Solder Masking Agent protects:

- Component Free Areas
- Gold Connectors
- Gold Fingers
- Pin Connectors

TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

Base Material	Synthetic Resin
Color	White
Flux Compatibility	All types
Temperature Stability	515°F (268°C)
Tack-Free Drying Time (10 mils @ 77°F)	30 min.
Cure Time (10 mils @ 77°F)	1 hour
Viscosity (@ 77°F)	20,000 cps to 28,000 cps
Viscosity Adjusted With	Deionized water
Solids Content	~ 40%
Flash Point	None
Weight/Gallon	8.8 lbs.
Shelflife	1 year
RoHS/WEEE Status	RoHS WEEE Compliant

COMPATIBILITY

Chemask® WF 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.

APPLICATION METHOD	
Squeeze Bottle/Syringe	Yes
Spatula	Yes
Screening	Yes
Stencil	Yes
Automatic Dispensing	Yes

USAGE INSTRUCTIONS

For industrial use only.

Mix well before each use.

When applying by hand using squeeze bottle, syringe or spatula, insure that all areas of the pre-tinned hole are evenly covered on the side to be soldered. For screening applications, properly clean and prepare screen, then apply masking agent in the same manner as solder paste. Automatic dispensing equipment may also be used as appropriate. Allow an hour to fully cure a 10 mil thick application. Thicker applications will require additional cure time. Rapid cure can be achieved in a 120 ^{o}F oven.

REMOVAL: After allowing the mask to become fully cured, the mask may be washed away in a open or closed loop aqueous cleaning system with water temperature at a minimum 120^{o}F under agitation. If using a recirculating system, install a minimum 10 micron bag filter before the resin beds.

Detergents may be used to increase cleaning efficiency.

AVAILABILITY

CWF8 8 oz. Liquid Squeeze Bottle
CWF1 1 Gal. Liquid

ENVIRONMENTAL IMPACT DATA

ENVIRONMENTAL IMPACT DATA			
CFC	0.0%	VOC	5.0%
HCFC	0.0%	HFC	0.0%
Cl. Solv.	0.0%	ODP	0.0%

CFC, HCFC, CL. SOLV., VOC, and HFC numbers shown are the content by weight. Ozone depletion potential (ODP) is determined in accordance with the Montreal Protocol and U.S. Clean Air Act of 1990. The ODP of this product is zero.

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® WF

Product Code: CWF1, CWF 5, CWF8, CWF1C, CWF5C, CWF8C

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Product Ingredient Information	CAS#	Wt. % Range
Deionized water	7732-18-5	25.0-50.0
Acrylic polymer	mixture	10.0-30.0
Cellulose	9004-34-6	5.0-20.0
Titanium dioxide	13463-67-7	2.0-6.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Viscous, opaque white liquid. This product is not flammable. Liquid may irritate eyes and skin under repeated or prolonged exposure.
Potential Health Effects:
Eyes: Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation.
Skin: Contact causes skin irritation.
Ingestion: Harmful if swallowed. Irritating to mouth, throat and stomach. May cause vomiting.
Inhalation: High concentrations of vapors can cause irritation of nose, throat and mucous membranes.
Pre-Existing Medical Conditions Aggravated by Exposure: Skin, eye.

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush with large amounts 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, seek 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. Absorb spill with absorbant material, then 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: Absorb spill with absorbant material, 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
Acrylic polymer	NA	NA	NA
Cellulose	10 mg/m3	15 mg/m3	NA
Titanium dioxide	10 mg/m3	15 mg/m3	NA

Work/Hygienic Practices: Good general ventilation should be sufficient to control airborne levels. 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: White opaque liquid
Odor: Odorless
Vapor Pressure: 12 mm Hg @ 20C
Vapor Density: (Air=1) <1
Boiling Point: 200F (92C) initial
Solubility in Water: Dispersible
Specific Gravity: (Water =1) 1.05
Evaporation Rate: >1
(Butyl Alcohol= 1)
pH: 5.7-6.3

SECTION 10: STABILITY AND CHEMICAL PROPERTIES

Stability - Stable.
Conditions to Avoid: Open flames, red hot surfaces or other sources of ignition.
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 aldehydes. Above 392° F, cyanates may be released.
Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Inhalation: NA
Ingestion: NA
Skin: NA

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 no 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).
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.