



Wondermask® W, WA, WS

Water Soluble Mask
2205, 2206, 2207

Introduction

A temporary, water soluble solder masking agent formulated with non-corrosive materials. Wondermask® W is compatible with all organic and synthetic fluxes, and is quickly removed in batch cleaning and in-line water systems. This masking agent is available in three viscosities: Wondermask® W (formulated for hand applications), Wondermask® WA (for robotic and pneumatic dispensing equipment) and Wondermask® WS (thicker formulation for silk screening and template screening operations).

Features / Benefits

- Water Soluble
- Quick Drying
- Lead-Free Compatible
- Rinses Quickly

Chemical Components

Wondermask® W 2205:

Isopropanol.....	(67-63-0)	5-10%
Glycerin.....	(56-81-5)	<10%
Mineral Oil.....	(64742-46-7)	<1%
Acrylic Polymer Emulsion		8-17%
Attapulgate Clay.....	(8031-18-3)	<10%
Potassium Hydroxide.....	(1310-58-3)	1-2%
Sodium Salt of Polymeric Carboxylic Acid		10-20%
Titanium Dioxide.....	(13463-67-7)	<3%
Deionized Water.....	(7732-18-5)	10-50%

Wondermask® WA 2206:

Isopropanol.....	(67-63-0)	5-10%
Glycerin.....	(56-81-5)	<10%
Deionized Water.....	(7732-18-5)	
Dispersing Agent		30-50%
Acrylic Polymer Emulsion		8-20%
Attapulgate Clay.....	(8031-18-3)	<10%
Mineral Oil.....	(64742-546-7)	<<1%
Potassium Hydroxide.....	(1310-58-3)	1-2%
Titanium Dioxide.....	(13646-36-7)	<1%
Sodium Salt of Polymeric Carboxylic Acid		10-20%

Wondermask® WS 2207:

Isopropanol.....	(67-63-0)	5-10%
Glycerin.....	(56-81-5)	<10%
Deionized Water.....	(7732-18-5)	
Dispersing Agent		25-60%
Acrylic Polymer Emulsion		30-40%
Attapulgate Clay.....	(8031-18-3)	<10%
Mineral Oil.....	(64742-46-7)	
Potassium Hydroxide.....	(1310-58-3)	
Titanium Dioxide.....	(13463-67-7)	
Sodium Salt of Polymeric Carboxylic Acid		

Wondermask® W 2205

Application	Cure Type	Cure Time	Removal	Viscosity	Suggested Thickness	Thinner
Hand Applied	Thermal	1-2 hrs. Ambient 30 min. @80°C	Soluble in Water 49°C or Higher	9,000-10,000 cps	10-15 mils	D. I. Water

Wondermask® WA 2206

Application	Cure Type	Cure Time	Removal	Viscosity	Suggested Thickness	Thinner
Pneumatic/ Robotic	Thermal	1-2 hrs. Ambient 30 min. @80°C	Soluble in Water 49°C or Higher	6,050-6,450 cps	10-15 mils	D. I. Water

Wondermask® WS 2207

Application	Cure Type	Cure Time	Removal	Viscosity	Suggested Thickness	Thinner
Silk/Template Screening	Thermal	1-2 hrs. Ambient 30 min. @80°C	Soluble in Water 49°C or Higher	18,000-20,000 cps	10-15 mils 80-120 mesh	D. I. Water

Environmental Policy

Techspray® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

Packaging and Availability

Wondermask® W, WA, WS may be ordered in the following container sizes:

Wondermask® W	Hand Applications
2205-8SQ	8 Ounce Squeeze Bottle
2205-G	1 Gallon in Plastic
Wondermask® WA	Robotic & Pneumatic Applications
2206-G	1 Gallon in Plastic
Wondermask® WS	Silk and Template Screening Applications
2207-G	1 Gallon in Plastic
2207-5G	5 Gallons in Plastic

MATERIAL SAFETY DATA SHEET

Finished Product

MSDS Ref. No: 2205-2SQ/8SQ

Wondermask W

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Wondermask W**PRODUCT DESCRIPTION:** Wave solder process masking agent**PRODUCT CODE:** 2205/CAN/EUR-2SQ, 8SQ

MANUFACTURER

Techspray, L.P.

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt.%</u>	<u>CAS#</u>	<u>EINECS#</u>
Solvent Refined, Hydrotreated Middle Distillate	<1	64742-46-7	
1,2,3- Propanetriol	1 - 5	56-81-5	200-289-5
2-Propanol	5 - 10	67-63-0	200-661-0
Water	7 - 11	7732-18-5	231-791-2
Potassium Hydroxide	1 - 3	1310-58-3	215-181-3
Sodium salt of polymeric carboxylic acid	45 - 55		
Titanium dioxide	<1	13463-67-7	2366755
DIATOMACEOUS EARTH/ATTAPULGITE CLAY	3 - 6	8031-18-3	
Dye (Non-hazardous)	<1		
Fragrance	<1		

EEC LABEL SYMBOL AND CLASSIFICATION



R36/37/38 - Irritating to eyes, respiratory system and skin.

EEC Irritant - "Xi"

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: May cause skin/eye irritaton. May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS

EYES: Moderately irritating to the eyes.

SKIN: Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

INGESTION: Ingestion may cause nausea and diarrhea.

INHALATION: Headache, nausea, and possible coordination problems.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Symptoms of overexposure include: stinging, tearing, redness and pain.

SKIN: Prolonged or exposure may cause skin irritation.

INGESTION: Ingestion may result in diarrhea and/or nausea.

INHALATION: Vapor inhalation can result in headache, nausea, and coordination problems.

ACUTE TOXICITY: Low hazard for usual industrial or commercial handling.

CHRONIC: Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).

CARCINOGENICITY: Titanium (IV) oxide is listed by IARC as a possible carcinogen.

REPRODUCTIVE TOXICITY

TERATOGENIC EFFECTS: Not considered a developmental toxicant.

CANCER STATEMENT: Possible cancer hazard based on tests with laboratory animals.

4. FIRST AID MEASURES

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: Not Available

FLAMMABLE LIMITS: NA to NA

	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>
Solvent Refined, Hydrotreated Middle Distillate	TWA		5 mg/ m ³ ^[1]			
1,2,3- Propanetriol	TWA	NL ^[2]	10*,5 [^] mg/m ³	10 ppm [3]	NL	NL
	STEL	NL	NL	NL	NL	NL
2-Propanol	TWA	400 ppm	980 mg/m ³	400 ppm	983 mg/m ³	NL
	STEL	500 ppm	1225 mg/m ³	500 ppm	1230 mg/m ³	NL
Potassium Hydroxide	TWA	NL ^[4]	NL	NL	NL	NL
	STEL	NL	C 2	NL	C 2	NL
Titanium dioxide	TWA	5 mg/ m ³	10	10 mg/ m ³ ^[5]	10	NL
	STEL	NL	NL	NL	NL	NL

Dye (Non-hazardous)

OSHA TABLE COMMENTS:

1. Exposure Limit applicable for vapor or mist only
2. * = Total dust, ^ = Respirable fraction
3. NL = Not Listed
4. NL = Not Listed, C = Ceiling
5. Total dust

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

SKIN: The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Viton, Solvex, Butyl, Buna, Neoprene.

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

WORK HYGIENIC PRACTICES: Wash hands before eating and wash before reuse.

OTHER USE PRECAUTIONS: Emergency shower and eyewash facility should be in close proximity.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Alcohol odor

APPEARANCE: Gel-like.

COLOR: Light blue.

pH: Not Applicable

PERCENT VOLATILE: 60

SOLUBILITY IN WATER: >50

DENSITY: 1.15

VISCOSITY: 9000 to 10000Centipoise at 25°C

(VOC): 53 g/L (non-exempt VOC)

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Heat, flames, ignition sources, and incompatibles.

STABILITY: Stable under normal conditions.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of Carbon (CO and CO₂) may form when heated to decomposition.

INCOMPATIBLE MATERIALS: Metals. Acidic conditions. Oxidizing materials.

11. TOXICOLOGICAL INFORMATION

ACUTE

DERMAL LD₅₀: 12800 mg/kg (rabbit)

ORAL LD₅₀: 273 mg/kg (rat)

Toxic, corrosive, dust irritant

EYE EFFECTS: Mixture is a moderate eye irritant.

SKIN EFFECTS: Causes irritation to skin.

CARCINOGENICITY:

IARC: Titanium (IV) oxide

MUTAGENICITY: Collective data indicate non-mutagenic.

REPRODUCTIVE EFFECTS: NOT listed

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: There is limited information available on the environmental fate and effects of this material. The primary environmental concern for release is the impact on aquatic and terrestrial species. Due care should be taken to avoid the accidental release of this material into the environment.

ECOTOXICOLOGICAL INFORMATION: Isopropyl alcohol has a high biochemical oxygen demand and a

potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a low potential to affect the germination of some plants, a high potential to biodegrade (low persistence) with unacclimated microorganisms from activated sludge.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Federal, State, and Local laws governing disposal of materials can differ. Ensure compliance with proper authorities before disposal.

GENERAL COMMENTS: Dispose of in a manner consistent with federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Nonhazardous

UN/NA NUMBER: NA

PACKING GROUP: NA

AIR (ICAO/IATA)

PROPER SHIPPING NAME: Nonhazardous

UN/NA NUMBER: NA

PACKING GROUP: NA

VESSEL (IMO/IMDG)

PROPER SHIPPING NAME: Nonhazardous

UN/NA NUMBER: NA

PACKING GROUP: NA

EUROPEAN TRANSPORTATION:

ADR/RID HAZARD CLASSIFICATION: No classification

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: IMMEDIATE / DELAYED

ACUTE: YES **CHRONIC:** YES

302/304 EMERGENCY PLANNING

EMERGENCY PLAN: Listed in Table 302.4 of 40 CFR Part 302 as a hazardous substance with a reportable quantity of 1000 lbs.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: Potassium hydroxide

CERCLA RQ: 1000 Lbs.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: All components of this product are either listed or exempt from listing in the TSCA inventory.

RCRA STATUS: D001 D002/D003

OSHA HAZARD COMM. RULE: Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

29 CFR 1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: None of the chemicals in this product are considered highly hazardous by OSHA.

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION



R36/37/38 - Irritating to eyes, respiratory system and skin.

EEC Irritant - "Xi"

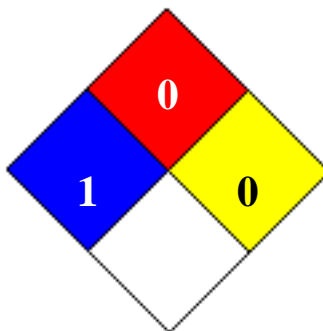
CALIFORNIA PROPOSITION 65: This product does not contain any chemicals known to the State of California to cause cancer.

16. OTHER INFORMATION

APPROVED BY: Pierce A. Pillon **TITLE:** Chemist

REVISION SUMMARY Revision #: 2 This MSDS replaces the June 08, 2004 MSDS. Any changes in information are as follows: In Section 14 ADR/RID Hazard Class

NFPA CODES



DATA SOURCES: Code of Federal Regulations (CFR) The Sigma-Aldrich Library of Regulatory and Safety Data OSHA Hazard Communication Standard (29CFR1910.1200) Various Federal, State and Local Regulations

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