

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Company Address:
8125 Cobb Center Drive
Kennesaw, GA 30152

Product Information: 800-TECH-401
Customer Service: 800-645-5244

Emergency: (Chemtec) 800-424-9300
Revision Date: October 1, 2000

Product Identification

CIRCUITWORKS® RUBBER KEYPAD REPAIR KIT - Part A (Adhesive)

Product Code: CW2605, CW2610 (Part A)

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Wt. % Range
Silver	7440-22-4	60.0-80.0
Carbon	1333-86-4	3.0-10.0
Silicon Dioxide	112945-52-5	1.0-5.0
Synthetic Rubber	mixture	5.0-25.0
2-(2-Ethoxyethoxy) ethyl Acetate	112-15-2	5.0-25.0
2-Butoxyethyl Acetate	112-07-2	5.0-25.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Gray/dark silver paste with fruity ester-like odor. This product is flammable. Liquid and vapors will irritate eyes and skin. Breathing high concentrations of product may cause nausea and dizziness.

Potential Health Effects:

Eyes: Vapors and liquid of this product may cause irritation of the eyes.

Skin: Contact may cause irritation. Absorption through the skin may result in the absorption of potentially harmful amounts of material. Effect may be similar to ingestion.

Inhalation: Harmful if inhaled. May cause irritation to the respiratory tract and to other mucous membranes. May cause headache, nausea and dizziness. May cause damage to lungs, kidneys and central nervous system.

Ingestion: Harmful if swallowed. Same as inhalation. May cause red blood cell hemolysis and possible kidney and liver damage. Generalized argyria may result from silver ingestion. **DO NOT INGEST.**

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

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 by a Physician if discomfort persists.

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

Ingestion: If swallowed, give two or more glasses of water immediately. **DO NOT** induce vomiting. Get medical attention.

Inhalation: In case of exposure to high concentrations of vapor or mist, remove to fresh air. If breathing is difficult, give oxygen and call a Physician. If breathing has stopped, apply artificial respiration and call a Physician.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 158°F (TCC)

LEL/UEL: 0.5-19.4 (% by volume in air)

Extinguishing Media: Use alcohol foam, water foam, carbon dioxide, dry chemical, or water spray. Water may not be effective in fighting the fire but can be used to cool overheated areas. Care must be taken to not spread the fire.

Fire Fighting Instructions: Remove all ignition sources. Use water spray to cool overheated containers. Take care not the spread fire with water. As in any fire, wear self-contained breathing apparatus (pressure demand, OSHA/NIOSH approved or equivalent) and full protective gear. Solvent vapors are an explosion hazard. Keep material away from all sources of ignition, extreme heat, sparks or open flame. Material can be easily ignited and burns with intense heat.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Large Spills: Remove all sources of ignition (sparks, open flames, etc.). Wear self-contained breathing apparatus and appropriate personal protective equipment. Ventilate area and contain and absorb spill with inert material. Collect spill by scooping up liquids and absorbent material and place in a chemical waste container for proper disposal. Do not flush to sewer. Prevent material from entering storm sewers, ditches that lead to waterways and ground.

Small Spills: Absorb spill with absorbent material, then place in a chemical waste container for proper disposal.

SECTION 7: HANDLING AND STORAGE

Avoid prolonged or repeated contact with skin, eyes or 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 or flames. Keep container tightly 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
Silver	0.1 mg/m3	0.01mg/m3	NA
2-(2-Ethoxyethoxy) ethyl Acetate	NA	NA	NA
Carbon	3.5 mg/m3	3.5 mg/m3	NA
Silicon Dioxide	NA	NA	NA
Synthetic Rubber	NA	NA	NA
2-Butoxyethyl Acetate	5 ppm	NA	NA

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. Wear safety glasses with side shields or goggles and rubber or other chemically resistant gloves when handling this material.

<u>NFPA and HMIS Codes:</u>	NFPA	HMIS
Health	2	2
Flammability	2	2
Reactivity	1	1
Personal Protection	-	B

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<u>Physical State:</u> Gray/Dark Silver Paste	<u>Solubility in Water:</u> > 10%
<u>Odor:</u> Fruity Ester-like odor	<u>Specific Gravity:</u> 2.5-2.7
<u>pH:</u> NA	<u>Evaporation Rate:</u> <1 (Butyl acetate=1)
<u>Vapor Pressure:</u> 1.0 mmHg @ 20°C	<u>Boiling Range:</u> 378-423°F
<u>Vapor Density:</u> >1 (Air=1)	
<u>Percent Volatile:</u> 20.0-30.0%	

SECTION 10: STABILITY AND REACTIVITY

Stability: This product is stable. Conditions to Avoid: Avoid heat, sparks, open flame and strong oxidizing conditions.
Incompatibility: Do not mix strong oxidizers, acids, bases, caustics, amines and alkali contamination.
Products of Decomposition: Decomposition may release carbon monoxide, carbon dioxide, oxides of nitrogen, monomers and smoke. Depending on conditions, some highly reactive peroxides may be formed.
Hazardous Polymerization: Will not occur. Material is not known to polymerize.
Conditions to avoid: NA

SECTION 11: TOXICOLOGICAL INFORMATION

Ingredients	LD50		LC50 (ppm)
	(rat) Oral	(rbt) Dermal	(rat) Inhalation
Silver	>10000 mg/kg (mouse)	NA	NA
2-(2-Ethoxyethoxy) ethyl Acetate	4400 mg/kg	15100 µL/kg	NA
Carbon	NA	NA	NA
Silicon Dioxide	3160 mg/kg	NA	NA
Synthetic Rubber	NA	NA	NA
2-Butoxyethyl Acetate	2400 mg/kg	NA	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 and Ground: Adhesive, sealant
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 B3: 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.

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

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8125 Cobb Center Drive
Kennesaw, GA 30152

Product Information: 800-TECH-401
Customer Service: 800-645-5244

Emergency: (Chemtrec) 800-424-9300
Revision Date: October 1, 2000

Product Identification

CIRCUITWORKS® RUBBER KEYPAD REPAIR KIT - Part B (Curing Agent)

Product Code: CW2605, CW2610, (Part B)

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Wt. % Range
2-(2-Ethoxyethoxy) ethyl acetate	112-15-2	50.0-85.0
Methanol	67-56-1	1.0-3.0
Alkoxysilane Ester	mixture	1.0-3.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Amber liquid with a pungent odor. This product is flammable. Liquid and vapors will irritate eyes and skin. Breathing high concentrations of product may cause headache, nausea, dizziness.

Potential Health Effects:

Eyes: Vapors of this product may irritate the eyes. Liquid is irritating and potentially damaging. Can cause chemical burns of the cornea.

Skin: Contact may cause severe irritation. Repeated contact can cause absorption of potentially harmful amounts of material.

Ingestion: Harmful or fatal if swallowed. Causes vomiting, nausea, diarrhea, and irritation of the mouth, throat, and stomach and mental sluggishness. Can cause liver and kidney and heart muscle damage, blindness, even death. **DO NOT INGEST.**

Inhalation: Harmful if inhaled. May cause irritation to the respiratory tract. May lead to headache, nausea, dizziness, vomiting, incoordination, central nervous system depression and unconsciousness.

Pre-Existing Medical Conditions Aggravated by Exposure: Liver, kidney, heart, lung, eye, skin.

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 by a Physician.

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

Ingestion: If swallowed, give two or more glasses of water immediately and induce vomiting. Get medical attention.

Inhalation: In case of exposure to high concentrations of vapor or mist, remove to fresh air. If breathing is difficult, give oxygen and call a Physician. If breathing has stopped, apply artificial respiration and call a Physician.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 54°F [TOC - 2-(2-Ethoxyethoxy)ethyl acetate] **LEL/UEL:** 1.0/36.5 (% by volume in air)

Extinguishing Media: Use alcohol foam, water foam, carbon dioxide, dry chemical, or water spray. Water may not be effective in fighting the fire but can be used to cool overheated areas. Care must be taken to not spread the fire.

Fire Fighting Instructions: Remove all ignition sources. Use water spray to cool overheated containers. Take care not the spread fire with water. As in any fire, wear self-contained breathing apparatus (pressure demand, OSHA/NIOSH approved or equivalent) and full protective gear. Solvent vapors are an explosion hazard. Keep material away from all sources of ignition, extreme heat, sparks or open flame. Material can be easily ignited and burns with intense heat.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Large Spills: Remove all sources of ignition (sparks, open flames, etc.). Wear self-contained breathing apparatus and appropriate personal protective equipment. Ventilate area and contain and absorb spill with inert material. Collect spill by scooping up liquids and absorbent material and place in a chemical waste container for proper disposal. Do not flush to sewer. Prevent material from entering storm sewers, ditches that lead to waterways and ground.

Small Spills: Absorb spill with absorbent material, then place in a chemical waste container for proper disposal.

SECTION 7: HANDLING AND STORAGE

Avoid prolonged or repeated contact with skin, eyes or 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 or flames. Keep container tightly 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
2-(2-Ethoxyethoxy) ethyl Acetate	NA	NA	NA
Methanol	200 ppm	200 ppm	250 ppm
Alkoxy Silane Ester	NA	NA	NA

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. 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	3	3
Flammability	3	3
Reactivity	1	1
Personal Protection	-	B

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Amber liquid
Odor: Ester
pH: NA
Vapor Pressure: >96 mmHg @ 20°C
Vapor Density: >1
(Air = 1)

Solubility in Water: Reacts
Specific Gravity: 1.0
Evaporation Rate: <1
(Butyl acetate=1)
Boiling Range: 148-423°F
Percent Volatile: 75.0-95.0%

SECTION 10: STABILITY AND REACTIVITY

Stability: This product is stable. Conditions to Avoid: Avoid heat, sparks, open flame, halogens, and water.
Incompatibility: Do not mix strong oxidizers, acids, bases, caustics, amines, alkali, and water.
Products of Decomposition: Decomposition may release carbon monoxide, carbon dioxide, and silicon dioxide.
Hazardous Polymerization: Will not occur under normal conditions.
Conditions to avoid: Water, moisture and temperatures over 266°F.

SECTION 11: TOXICOLOGICAL INFORMATION

Ingredients	LD50		LC50
	(rat) Oral	(rbt) Dermal	(rat) Inhalation
2-(2-Ethoxyethoxy) ethyl Acetate	4400 mg/kg	15100 µL/kg	NA
Methyl Alcohol	5628 mg/kg	20 mg/24H MOD	64000 ppm/4H
Alkoxy Silane Ester	NA	NA	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 and Ground: Adhesive, Sealant
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).

Product	CAS No.	Wt. % Range
Methanol	67-56-1	1.0-3.0

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 B2: 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.