

CHEMTRONICS®

Technical Data Sheet

CW7400

CircuitWorks® Gold Guard™ Pen

PRODUCT DESCRIPTION

CircuitWorks® Gold Guard™ Pen is engineered to clean, lubricate and protect gold, silver, platinum and other precious metal contacts. CW7400 is a high performance contact cleaner and lubricant dispensed by a convenient marker pen delivery system. The Gold Guard™ lubricant offers protection from oxidation and corrosion while improving contact and conductivity.


- Minimizes friction and metal wear
- Protects against oxidation and corrosion
- Nonabrasive
- Excellent Material Compatibility
- Removes oxides, dust and other contaminants
- Lubricant remains stable up to 200°F and causes no electrical resistance.

TYPICAL APPLICATIONS

CircuitWorks® Gold Guard™ Pen is used in a wide range of applications, including:

- Axial and Coaxial connections
- Cleans, lubricates and protects
- Laboratory instruments
- M/F connections
- Microcomputers
- Noble metal contacts
- PCB edge connectors

TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

Boiling Point	207 °F (207 °C)
Vapor Density (air=1)	>1
Solubility in Water	Negligible
Specific Gravity (water = 1@77°F)	0.80
Evaporation Rate (butyl acetate=1)	1
Appearance	Clear, Colorless Liquid
Odor	Alcohol
Surface Tension (dynes/cm @21.6°C)	21
Flash Point (TCC) Flammable	72°F (22°C)
Shelflife	5 years
RoHS/WEEE Status	

COMPATIBILITY

The Gold Guard™ lubricant is compatible with most materials used in the electronics industry. With any chemical, compatibility with components must be determined on a non-critical area prior to use.

Material	Compatibility
ABS	Good
Buna-N	Good
EPDM	Fair
Graphite	Excellent
HDPE	Excellent
Kynar™	Excellent
LDPE	Excellent
Lexan™	Not Recommended
Neoprene	Good
Nylon™ 66	Excellent
Cross-Linked PE	Excellent
Polypropylene	Excellent
Polystyrene	Fair
PVC	Excellent
Silicone Rubber	Good
Teflon™	Excellent
Viton™	Excellent

ENVIRONMENTAL IMPACT DATA

ENVIRONMENTAL IMPACT DATA			
CFC	0.0%	VOC	99.5%
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 0.0. It is the sum of the ODP of the substances that may contribute to the depletion of stratospheric ozone, based upon the weight of each substance in the product's formulation.

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. CHEMTRONICS® does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.

PERFORMANCE		
	Lifetime in Years At:	
	40°C	60°C
Open Surface	3	0.4
Edge Connector	6	0.9
Pin Socket Connector	30	4.5
Sealed Cable Connector	300	45

USAGE INSTRUCTIONS

For industrial use only.

Read MSDS carefully prior to use.

Hold pen vertically and briefly depress tip to start flow. Rub pen tip on surface to be cleaned and lubricated.

Product is Flammable - Do not use near sources of ignition and energized equipment.

AVAILABILITY

CW7400 8.5 g (0.3 oz.) Pen

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Information: 800-TECH-401

Product Identification**CIRCUITWORKS® GOLD GUARD™ PEN**

Product Code: CW7400

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Product Ingredient Information	CAS No.	Wt. % Range
n-Propyl alcohol	71-23-8	94.0-99.0
Polyphenyl ether	2455-71-2	0.1-1.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Clear, colorless liquid with strong alcohol odor. This product is flammable. Liquid will 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: Liquid, and vapors of this product are irritating and cause pain, tearing, reddening, and swelling accompanied by a stinging sensation.

Skin: Contact may cause skin irritation. Prolonged or repeated exposure may dry the skin and cause redness, burning, drying, and cracking.

Ingestion: Harmful if swallowed. Large amounts may be irritating to mouth, throat, and stomach. May cause vomiting, dizziness, drowsiness, and headache.

Inhalation: Harmful if inhaled. High concentrations of vapors in immediate area can cause irritation to respiratory tract, drowsiness, nausea, dizziness, and unconsciousness. Keep people away from such vapors without self-contained breathing apparatus.

Pre-Existing Medical Conditions Aggravated by Exposure: Skin, eye, lung, liver.

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 irritation develops or persists.

Skin: Wash skin with soap and water. Get medical attention if irritation develops or persists.

Ingestion: Swallowing less than an ounce will not cause significant harm. For larger amounts, if individual is conscious and alert, induce vomiting and get immediate medical attention. If individual is drowsy or unconscious, do not give anything by mouth.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 73°F (23°C) (TCC) **LEL/UEL:** 2.1/13.5 (% 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, OSHA/NIOSH approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spills: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container for proper disposal.

SECTION 7: HANDLING AND STORAGE

Avoid prolonged exposure 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. DO NOT USE FOR BODILY CLEANSING.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

CHEMICAL/NAME	ACGIH TLV	OSHA PEL	ACGIH STEL
n-Propyl alcohol	100 ppm	200 ppm	400 ppm
Polyphenyl ether	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. If vapor concentration exceeds TLV, use NIOSH approved organic vapor cartridge respirator. Wear safety glasses with side shields, goggles or a full face shield. Wear rubber or other chemically resistant gloves when handling this material.

NFPA and HMIS Codes:	NFPA	HMIS
Health	1	1
Flammability	3	3
Reactivity	0	0
Personal Protection	-	B

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Clear liquid

Odor: Mild alcohol odor

pH: NA

Evaporation Rate: > 1

(Butyl acetate = 1)

Percent Volatile: 99 %

Solubility in Water: 99 %

Specific Gravity: 0.80 (water = 1)

Viscosity: 1.97

(Water = 1)

Vapor Pressure: 21 mm Hg @ 77°F

Boiling Point: 207°F (97°C)

SECTION 10: STABILITY AND REACTIVITY INFORMATION

Stability: This product is stable.

Conditions to Avoid: Do not spray near 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 and carbon dioxide.

Hazardous Polymerization: Will not occur.

Conditions to avoid: NA

SECTION 11: TOXICOLOGICAL INFORMATION

<u>Ingredients</u>	<u>LD50</u> <u>(rat) Oral</u>	<u>LD50</u> <u>(rbt) Dermal</u>	<u>LCLo</u> <u>(rat) Inhalation</u>	<u>Eye</u> <u>Rabbit</u>
n-Propyl alcohol	1870 mg/kg	4060 mg/kg	4000 ppm/4 hr.	4 mg Open;SEV

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

<u>Proper</u> <u>Shipping Name</u>	<u>UN Number</u>	<u>Class</u>	<u>Sub. Risk</u>	<u>Pkg. Group</u>	<u>Hazard Label</u>	<u>Pkg. Instr/Auth.</u>	<u>Max. Quantity</u>
<u>Air:</u> Flammable liquids n.o.s. (n-Propanol)	UN1993	3	NA	II	Flammable Liquid	305	5L
<u>Ground:</u> Consumer Commodity ORM-D	NA	NA	--	NA	ORM-D	173.150	

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 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.