

# MATERIAL SAFETY DATA SHEET

Finished Product



Date-Issued: 01/20/2003  
MSDS Ref. No: RX1900-4  
Date-Revised: 03/07/2008  
Revision No: 4

## ECG Eco Line Flux Remover

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### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** ECG Eco Line Flux Remover  
**PRODUCT DESCRIPTION:** Flux Remover  
**PRODUCT CODE:** RX1900-4  
**ACTIVE INGREDIENT(S):** 2-Propanol; Ethanol; Carbon dioxide

**MARKETER**  
NTE Electronics, Inc.  
44 Farrand Street  
Bloomfield, NJ 07003

**Phone:** 973-748-5089

### 24 HR. EMERGENCY TELEPHONE NUMBERS

**CHEMTREC (U.S.):** (800) 424-9300  
**CANUTEC:** (613) 996-6666  
**Emergency Phone:** 1-800-631-1250 8:00 am – 5:00 pm EST

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### 2. HAZARDS IDENTIFICATION

#### HAZARD DESIGNATION

R36/38 – Irritating to eyes and skin.  
“F” – Highly flammable.  
R11 – Highly flammable.

R19 – May form explosive peroxides.  
“N” – Dangerous for the environment.  
R52/53 – Harmful to aquatic organisms, may cause long-term effects in the aquatic environment.  
“Xn” – Harmful.  
R20/22 – Harmful by inhalation and if swallowed.

#### EMERGENCY OVERVIEW

**PHYSICAL APPEARANCE:** Transparent, colorless liquid.  
**IMMEDIATE CONCERNS:** Extremely flammable liquid and vapor.

#### POTENTIAL HEALTH EFFECTS

**EYES:** Substance causes substantial eye irritation.  
**SKIN:** Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).  
**SKIN ABSORPTION:** Skin absorption can occur.  
**INGESTION:** Substance may be harmful if swallowed.  
**INHALATION:** High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and possibly death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus.

## SIGNS AND SYMPTOMS OF OVEREXPOSURE

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

**SKIN:** Prolonged exposure causes redness, pain, drying and cracking of the skin.

**INGESTION:** For large amounts; abdominal pain, nausea and vomiting.

**INHALATION:** High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness).

**ACUTE TOXICITY:** Overexposure may cause dizziness and loss of concentration. At higher levels, CNS depression and cardiac arrhythmia may result.

**TARGET ORGAN STATEMENT:** Prolonged or repeated overexposure may cause central nervous system, kidney, liver, and lung damage.

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## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS	EINECS
2-Propanol	45 - 55	67-63-0	200-661-0
Ethanol	8 - 15	64-17-5	200-578-6
Carbon dioxide	1 - 4	124-38-9	
n-Propyl acetate	4 - 8	109-60-4	203-686-1
Acetone	10 - 15	67-64-1	200-662-2
Tetrahydrofuran	15 - 25	109-99-9	203-726-8

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## 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.

**SKIN:** Immediately flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing separately before reuse.

**INGESTION:** If swallowed, gently wipe or rinse the inside of the mouth with water. DO NOT induce vomiting. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Immediately contact a poison control center, emergency room or physician as further treatment may be necessary.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

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## 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** TO (53°F) TAG CC

**FLAMMABLE LIMITS:** 2.0 to 12.0

**GENERAL HAZARD:** Flammable Liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point.

**EXTINGUISHING MEDIA:** Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

**HAZARDOUS COMBUSTION PRODUCTS:** Smoke, fumes and oxides of carbon.

**FIRE FIGHTING PROCEDURES:** Use water spray to keep fire-exposed containers cool and to knock down vapors, which may result from product decomposition.

**FIRE FIGHTING EQUIPEMENT:** As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Toxic oxides of carbon and corrosive vapors of hydrogen chloride.

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## 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILL:** Contain spill with dike to prevent entry into sewers.

**LARGE SPILL:** If this material is released into a work area, evacuate the area immediately.

**GENERAL PROCEDURES:** Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on adsorbent, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including vapors, have been removed thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth, gravel, etc. as necessary and place in closed containers for disposal.

**SPECIAL PROTECTIVE EQUIPMENT:** Only personnel equipped with proper respiratory and skin/eye protection should be permitted in area. See Section 8 for details.

**COMMENTS:** Remove all sources of ignition. Use spark-proof tools.

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## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** wash thoroughly after handling. Use only in a well ventilated area. Store in a cool, dry place.

**HANDLING:** Ground and bond containers when transferring material.

**STORAGE TEMPERATURE:** Contents under pressure. Do not expose to heat or store above (120°) F (49°) C.

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## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

### EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
Chemical Name		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		Supplier OEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
2-Propanol	TWA	400 ppm	980 mg/m <sup>3</sup>	400 ppm	983 mg/m <sup>3</sup>	NL <sup>[1]</sup>	NL <sup>[1]</sup>
	STEL	500 ppm	1225 mg/m <sup>3</sup>	500 ppm	1230 mg/m <sup>3</sup>	NL	NL
Ethanol	TWA	1000 ppm	1900 mg/m <sup>3</sup>	1000 ppm	1880 mg/m <sup>3</sup>	NL	NL
	STEL	NL ppm	NL mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>	NL	NL
n-Propyl acetate	TWA		200 ppm		200 ppm		
	STEL		250 ppm		250 ppm		
Acetone	TWA	750 ppm <sup>[1]</sup>	1800 mg/m <sup>3</sup> <sup>[1]</sup>	750 ppm	1780 mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>
	STEL	1000 ppm	2400 mg/m <sup>3</sup>	1000 ppm	2380 mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>
Tetrahydrofuran	TWA	200 ppm <sup>[1]</sup>	250 mg/m <sup>3</sup> <sup>[1]</sup>	200 ppm	590 mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>
	STEL	590 ppm	735 mg/m <sup>3</sup>	200 ppm	737 mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>

**OSHA TABLE COMMENTS:**  
1. NL = Not Listed

**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:** Wear safety glasses with side shields (or goggles) and a face shield.

**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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Flash Point	Boiling Point (°C)	Solubility in Water	Specific Gravity
2-Propanol	56.6	82.4		0.785
Tetrahydrofuran	-21	65.4 @ 760 mmHg	MISCIBLE	0.890

**ODOR:** Faint ethereal odor

**APPEARANCE:** Clear, Colorless liquid

**PERCENT VOLATILE:** 100 at 20°C (68°F)

**VAPOR DENSITY:** 2.1 (Air = 1)

**BOILING POINT:** to 80°C (176°F)

**FREEZING POINT:** to -88°C (-127°F)

**FLASHPOINT AND METHOD:** to (53°F) TAG CC

**SOLUBILITY IN WATER:** Negligible

**SPECIFIC GRAVITY:** to 0.786 (water = 1)

**(VOC):** to 784 g/L (non exempt VOC)

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## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable

**POLYMERIZATION:** Will not occur.

**CONDITIONS TO AVOID:** Stable. However, may decompose if heated.

**POLYMERIZATION:** Will not occur.

**HAZARDOUS DECOMPOSITION PRODUCTS:** When exposed to high temperatures or flames this product may form hydrochloric and hydrofluoric acids – possibly carbonyl halides.

**INCOMPATIBLE MATERIALS:** Oxidizing agents, alkalies and bases.

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## 11. TOXICOLOGICAL INFORMATION

### ACUTE

Chemical Name	ORAL LD <sub>50</sub> (rat)	DERMAL LD <sub>50</sub> (rabbit)	INHALATION LC <sub>50</sub> (rat)
n-Propyl acetate	9370 mg/kg	> 20 ml/kg	8000 ppm
Acetone	5800 mg/kg	20 g/kg	50100 ppm
Tetrahydrofuran	1650 mg/kg		21000 ppm

**EYES:** Moderately to severely irritating.

**DERMAL LD<sub>50</sub>:** Mildly to moderately irritating.

**ORAL LD<sub>50</sub>:** Slight to very low toxicity.

**INHALATION LC<sub>50</sub>:** Slight to very low toxicity.

**EYE EFFECTS:** Mixture is a moderate eye irritant

**SKIN EFFECTS:** Based on human exposure reports, prolonged and repeated skin contact with Methanol has produced toxic effects including vision effects and death.

### CARCINOGENICITY

Chemical Name	NTP Status	IARC Status	OSHA Status
2-Propanol	NOT LISTED	NOT LISTED	NOT LISTED
Ethanol	NOT LISTED	NOT LISTED	NOT LISTED
n-Propyl acetate	NOT LISTED	NOT LISTED	NOT LISTED
Acetone	NOT LISTED	NOT LISTED	NOT LISTED
Tetrahydrofuran	NOT LISTED	NOT LISTED	NOT LISTED

**TERATOGENIC EFFECTS:** Test results indicate this compound/mixture is not teratogenic.

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## 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.

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## 13. DISPOSAL CONSIDERATIONS

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

**FOR LARGE SPILLS:** Contaminated sawdust, vermiculite, or porous surfaces must be disposed of in a permitted hazardous waste management facility. Recovered liquids may be reprocessed or incinerated or must be treated in a permitted hazardous waste management facility.

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

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## 14. TRANSPORTATION INFORMATION

### DOT (DEPARTMENT OF TRANSPORTATION)

**PROPER SHIPPING NAME:** CONSUMER COMMODITY ORM-D

**UN/NA NUMBER:** N/A

**PACKING GROUP:** N/A

### ROAD AND RAIL (ADR/RID)

**HAZARD CLASS:** 2.1

### AIR (ICAO/IATA)

**SHIPPING NAME:** CONSUMER COMMODITY ID8000

**UN/NA NUMBER:** ID8000

**PRIMARY HAZARD CLASS/DIVISION:** 9

**PACKING GROUP:** N/A

**NOTE:** Domestic shipments only. When shipping International contact NTE Electronics, Inc. shipping department.

### VESSEL (IMO/IMDG)

**SHIPPING NAME:** AEROSOLS IN LIMITED QUANTITIES OF CLASS 2

**UN/NA NUMBER:** 1950

**PRIMARY HAZARD CLASS/DIVISION:** 2.1

**PACKING GROUP:** II

**NOTE:** Page 2102

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## 15. REGULATORY INFORMATION

### UNITED STATES

#### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**311/312 HAZARD CATEGORIES:** IMMEDIATE / DELAYED

**313 REPORTABLE INGREDIENTS:** Methanol

#### EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt. %	CAS
2-Propanol	45 - 55	67 - 63 - 0
Acetone	10 - 15	67 - 64 - 1

**TITLE III NOTES:** Not listed as an Extremely Hazardous Substance.

**302/304 EMERGENCY PLANNING**  
**EMERGENCY PLAN: Methanol (#67-56-1)**

**CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)**

**CERCLA REGULATORY: Acetone (67-64-1)**

Chemical Name	Wt. %	CERCLA RQ
Acetone	10 – 15	5000 lbs.
Tetrahydrofuran	15 – 25	1000 lbs.

**CERCLA RQ: 5000 lbs.**

**TSCA (TOXIC SUBSTANCE CONTROL ACT)**

Chemical Name	CAS
2-Propanol	67 – 63 – 0
Ethanol	64 – 17 – 5
n-Propyl acetate	109 – 60 – 4
Acetone	67 – 64 – 1
Tetrahydrofuran	109 – 99 - 9

**TSCA REGULATORY:** This product is listed on the TSCA Inventory.

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

**RCRA STATUS:** U079

**CANADA**

**WHMIS (WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM):** This MSDS had been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**WHMIS CLASS:** Class A, B5, D2B (Aerosol, Flammable Aerosol, Toxic Materials)

**CANADA INGREDIENT DISCLOSURE LIST:** CAS# 67-63-0 is listed on Canada's Ingredient Disclosure List.

**DOMESTIC SUBSTANCE LIST (INVENTORY):** All components of this product are listed on the Canadian DSL.

**EUROPEAN COMMUNITY**

**EEC LABEL SYMBOL AND CLASSIFICATION**

R36-38 – Irritating to eyes and skin.



“F” – Highly flammable.  
R11 – Highly flammable.

R19 – May form explosive peroxides.



“N” – Dangerous for the environment.  
R52/53 – Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.



“Xn” – Harmful.  
R20/22 – Harmful by inhalation and if swallowed.

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## 16. OTHER INFORMATION

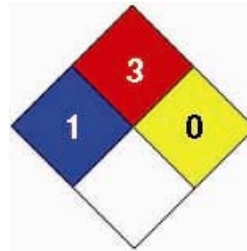
**APPROVED BY:** Pierce A. Pillon      **TITLE:** Chemist

**REVISION SUMMARY:** Revision #: 4 This MSDS replaces the December 20, 2004 MSDS. Any changes in information are as follows: In Section 16 manufacturer Disclaimer

### HMIS RATING

HEALTH:	<b>1</b>
FLAMMABILITY:	<b>3</b>
PHYSICAL HAZARD:	<b>0</b>
PERSONAL PROTECTION:	

### 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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