ECG Eco Line Flux Remover

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

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
Phone: 973-748-5089

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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

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

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.

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 EQUIPMENT: 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.
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:**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)</th>
<th>EXPOSURE LIMITS</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Supplier OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ppm</td>
<td>mg/m³</td>
<td>ppm</td>
<td>mg/m³</td>
</tr>
<tr>
<td>2-Propanol</td>
<td>TWA</td>
<td>400 ppm</td>
<td>980 mg/m³</td>
<td>400 ppm</td>
<td>983 mg/m³</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>500 ppm</td>
<td>1225 mg/m³</td>
<td>500 ppm</td>
<td>1230 mg/m³</td>
</tr>
<tr>
<td>Ethanol</td>
<td>TWA</td>
<td>1000 ppm</td>
<td>1900 mg/m³</td>
<td>1000 ppm</td>
<td>1880 mg/m³</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>NL ppm</td>
<td>NL mg/m³</td>
<td>NL ppm</td>
<td>NL mg/m³</td>
</tr>
<tr>
<td>n-Propyl acetate</td>
<td>TWA</td>
<td>200 ppm</td>
<td></td>
<td>200 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>250 ppm</td>
<td></td>
<td>250 ppm</td>
<td></td>
</tr>
<tr>
<td>Acetone</td>
<td>TWA</td>
<td>750 ppm</td>
<td>1800 mg/m³</td>
<td>750 ppm</td>
<td>1780 mg/m³</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>1000 ppm</td>
<td>2400 mg/m³</td>
<td>1000 ppm</td>
<td>2380 mg/m³</td>
</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>TWA</td>
<td>200 ppm</td>
<td>250 mg/m³</td>
<td>200 ppm</td>
<td>590 mg/m³</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>590 ppm</td>
<td>735 mg/m³</td>
<td>200 ppm</td>
<td>737 mg/m³</td>
</tr>
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</table>

**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.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Flash Point</th>
<th>Boiling Point (°C)</th>
<th>Solubility in Water</th>
<th>Specific Gravity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>56.6</td>
<td>82.4</td>
<td></td>
<td>0.785</td>
</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>-21</td>
<td>65.4 @ 760 mmHg</td>
<td>MISCIBLE</td>
<td>0.890</td>
</tr>
</tbody>
</table>

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)

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.

11. TOXICOLOGICAL INFORMATION

ACUTE

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ORAL LD&lt;sub&gt;50&lt;/sub&gt; (rat)</th>
<th>DERMAL LD&lt;sub&gt;50&lt;/sub&gt; (rabbit)</th>
<th>INHALATION LC&lt;sub&gt;50&lt;/sub&gt; (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Propyl acetate</td>
<td>9370 mg/kg</td>
<td>&gt; 20 ml/kg</td>
<td>8000 ppm</td>
</tr>
<tr>
<td>Acetone</td>
<td>5800 mg/kg</td>
<td>20 g/kg</td>
<td>50100 ppm</td>
</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>1650 mg/kg</td>
<td></td>
<td>21000 ppm</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>NTP Status</th>
<th>IARC Status</th>
<th>OSHA Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
</tr>
<tr>
<td>Ethanol</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
</tr>
<tr>
<td>n-Propyl acetate</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
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<tr>
<td>Acetone</td>
<td>NOT LISTED</td>
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</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
<td>NOT LISTED</td>
</tr>
</tbody>
</table>

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

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.

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

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Wt. %</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>45 – 55</td>
<td>67 – 63 - 0</td>
</tr>
<tr>
<td>Acetone</td>
<td>10 - 15</td>
<td>67 – 64 - 1</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Wt. %</th>
<th>CERCLA RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>10 – 15</td>
<td>5000 lbs.</td>
</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>15 – 25</td>
<td>1000 lbs.</td>
</tr>
</tbody>
</table>

CERCLA RQ: 5000 lbs.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>67 – 63 – 0</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64 – 17 – 5</td>
</tr>
<tr>
<td>n-Propyl acetate</td>
<td>109 – 60 – 4</td>
</tr>
<tr>
<td>Acetone</td>
<td>67 – 64 – 1</td>
</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>109 – 99 - 9</td>
</tr>
</tbody>
</table>

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.
16. OTHER INFORMATION

APPROVED BY: Pierce A. Pillon       TITLE: Chemist

REVISION SUMMARY: Revision #: 5 This MSDS replaces the March 7, 2008 MSDS. Any changes in information are as follows: In Section 16 manufacturer Disclaimer

HMIS RATING

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
<th>PERSONAL PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

NFPA CODES


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