MATERIAL SAFETY DATA SHEET

ECG Isopropanol

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ECG Isopropanol
PRODUCT DESCRIPTION: Generalized Cleaner (Isopropyl Alcohol)
PRODUCT CODE: RX1500-16, RX1500-100

MANUFACTURER
NTE Electronics, Inc.
44 Farrand St.
Bloomfield, NJ 07003

Phone: 973-748-5089

2. 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>99.6 - 100</td>
<td>67-63-0</td>
<td>200-661-0</td>
</tr>
</tbody>
</table>

EEC LABEL SYMBOL AND CLASSIFICATION

- EEC Highly flammable - "F"
- EEC Irritant - "Xi"
3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Clear, Colorless, Volatile Liquid
IMMEDIATE CONCERNS: Flammable liquid and vapor.

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).
SKIN ABSORPTION: Skin absorption can occur.
INGESTION: This product is toxic by ingestion. Ingestion may cause irritation of the digestive tract. Nausea and vomiting will most likely occur.
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.

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.
SKIN: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
INHALATION: Do not induce vomiting. Give milk or water. Get immediate medical attention immediately.
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: 11.7°C (53°F)
FLAMMABLE LIMITS: 2.0 to 12.0
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.

EXPLOSION HAZARDS: Vapors, when present in the flammable range (listed above), especially in a confined or poorly ventilated space, can be ignited with a flame or high intensity source of heat.

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.

6. ACCIDENTAL RELEASE MEASURES

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.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Use spark proof tools and explosion proof equipment.

HANDLING: Ground and bond containers when transferring material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL ppm</th>
<th>OSHA PEL mg/m³</th>
<th>ACGIH TLV ppm</th>
<th>ACGIH TLV mg/m³</th>
<th>Supplier OEL ppm</th>
<th>Supplier OEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propanol</td>
<td>TWA 400</td>
<td>980</td>
<td>400</td>
<td>983</td>
<td>NL</td>
<td>NL</td>
</tr>
<tr>
<td></td>
<td>STEL 500</td>
<td>1225</td>
<td>500</td>
<td>1230</td>
<td>NL</td>
<td>NL</td>
</tr>
</tbody>
</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: 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.

Buna
Butyl
Natural Latex
Neoprene
Solvex
Viton

RESPIRATORY: NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
ODOR: Alcohol odor
APPEARANCE: Clear, Colorless liquid
pH: Neutral
PERCENT VOLATILE: 100
VAPOR PRESSURE: 33 mmHg at 20°C
VAPOR DENSITY: 2.07 (Air=1)
BOILING POINT: to 82°C (180°F)
FREEZING POINT: to -88°C
SOLUBILITY IN WATER: Miscible
MOLECULAR WEIGHT: 60.09
MOLE. WT. FORMULA: C3H8O

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

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

STABILITY: Stable under normal conditions.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Dioxide and carbon Monoxide may form when heated to decomposition.
INCOMPATIBLE MATERIALS: Strong acids and alkalis, reactive metals and strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

ACUTE

**DERMAL LD**<sub>50</sub>: 12800 mg/kg (rabbit)

**ORAL LD**<sub>50</sub>: 5045 mg/kg (rat)

**INHALATION LC**<sub>50</sub>: 16000 ppm, 8-hour

**EYE EFFECTS:** Draize test, rabbit, eye: 100 mg Severe; Draize test, rabbit, eye: 10 mg Moderate

**SKIN EFFECTS:** Draize test, rabbit, skin: 500 mg Mild.

**CARCINOGENICITY:**

IARC: NOT listed

NTP: NOT listed

OSHA: NOT listed

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

12. ECOLOGICAL INFORMATION

**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.

14. TRANSPORT INFORMATION

**DOT (DEPARTMENT OF TRANSPORTATION)**

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

**CANADA TRANSPORT OF DANGEROUS GOODS**

**PROPER SHIPPING NAME:** CONSUMER COMMODITY ID8000

**AIR (ICAO/IATA)**

**PROPER SHIPPING NAME:** CONSUMER COMMODITY ID8000
UN/NA NUMBER: ID8000

VESSEL (IMO/IMDG)
  PROPER SHIPPING NAME: ISOPROPAK
  PRIMARY HAZARD CLASS/DIVISION: 3
  UN/NA NUMBER: UN1219
  PACKING GROUP: II
  IMDG NOTE: Page 3244

SPECIAL SHIPPING NOTES: IATA Limitations: FOR DOMESTIC SHIPMENTS ONLY. When shipping INTERNATIONAL contact the Tech Spray Shipping Department.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES:
  FIRE: YES  ACUTE: YES  CHRONIC: YES

313 REPORTABLE INGREDIENTS: 2-propanol (CAS #67-63-0)

CANADA


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

[Image of EEC Highly flammable - "F"

[Image of EEC Irritant - "Xi"

[Image of EEC Environment - "N"]
16. OTHER INFORMATION

APPROVED BY: Pierce A. Pillon    TITLE: Chemist

REVISION SUMMARY: New MSDS

HMIS RATING

| HEALTH: | 2 |
| FLAMMABILITY: | 3 |
| PHYSICAL HAZARD: | 1 |
| PERSONAL PROTECTION: |

NFPA CODES

1 3 0

DATA SOURCES: Code of Federal Regulations (CFR)
The Sigma-Aldrich Library of Regulatory and Safety Data
Various Federal, State and Local Regulations

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