MATERIAL SAFETY DATA SHEET
Finished Product

NTE®
ELECTRONICS, INC.

Date-Issued: 8/16/2004
MSDS Ref. No: RX1700-2.5
Date-Revised: 8/16/2004
Revision No: New MSDS

ECG Smoke Detector Tester

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1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ECG Smoke Detector Tester
PRODUCT DESCRIPTION: Smoke Detector Tester
PRODUCT CODE: RX1700-2.5

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. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS#	EINECS#
1,1,1,2-Tetraflouroethane (HFC-134a)	92-99	811-97-2	223770
2-Propanol	1-5	67-63-0	200-661-0
Dibutylphthalate	<3	84-74-2	

EEC LABEL SYMBOL AND CLASSIFICATION

R63 – Possible risk of harm to the unborn child.

EEC Harmful – "Xn"

R36/37/38– Irritating to eyes, respiratory system and skin.

EEC Irritant – "Xi"

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3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

PHYSICAL APPARANCE: Clear, Colorless, Volatile Liquid

IMMEDIATE CONCERNS: Warning! High concentrations of vapor can reduce oxygen available for breathing. Harmful if inhaled. May decompose on contact with flames or extremely hot metal surfaces to produce toxic and corrosive products.

POTENTIAL HEALTH EFFECTS:

EYES: Irritating, and may injure eye tissue if not removed promptly.

SKIN: Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

INGESTION: Single dose toxicity is low to moderate. If vomiting occurs, liquid can be aspirated into lungs, causing chemical pneumonia/systemic effects. Psychotropic, CNS, and gastrointestinal effects possible.

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: Can cause severe eye irritation.

SKIN: Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite ("cold" burn.)

INHALATION: High concentrations may lead to central nervous system effects (drowsiness, 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.

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4. FIRST AID MEASURES

EYES: Immediately flush with plenty of water. Get medical attention, if irritation persists.

SKIN: In case of cold burns (frostbite) caused by rapidly expanding gas or vaporizing liquids, get medical attention promptly.

INGESTION: If swallowed, do not induce vomiting. If conscious and alert, give two glasses of water. Seek medical attention.

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

NOTES TO PHYSICIAN: Because of the possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with special caution and only in situations of emergency life support. Treatment of overexposure should be directed at the control of symptoms and the clinical conditions.

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5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: None:….ASTM D-56 (Tag C.C.)

FLAMMABLE LIMITS: None*

AUTOIGNITION TEMPERATURE: >750˚C (1382˚F)

FLAMMABLE CLASS: Not Applicable

FLAME PROPAGATION OR BURNING RATE OF SOLIDS: Not Applicable

EXTINGUSHING MEDIA: As appropriate for combustibles in area.

EXPLOSION HAZARDS: This product is not flammable at ambient temperatures and atmospheric pressure. However, this material may become combustible when mixed with air under pressure and exposed to strong ignition sources.

FIERE FIGHTING PROCEDURES: Use water spray to cool containers.

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

COMMENTS: *Based on ASHRAE Standard 34 with match ignition.

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6. ACCIDENTAL RELEASE MEASURES

GENERAL PROCEDURES: Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

RELEASE NOTES: Spills and releases may have to be reported to Federal and/or local authorities.

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7. HANDLING AND STORAGE

HANDLING Follow standard safety precautions for handling and use of compressed gas cylinders.

STORAGE: Store in a cool place in original container and protect from sunlight.

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8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		Supplier OEL	
		Ppm	mg/m³	ppm	mg/m³	ppm	mg/m³
1,1,1,2-Tetrafluoroethane (HFC-134a)	**TWA**	NE	NE	1,000[1]			
2-Propanol	**TWA**	400	980	400	983	NL[2]	NL
	STEL	500	1225	500	1230	NL	NL

Dibutylphthalate

OSHA TABLE COMMENTS:

1. * (AEL)= Acceptable Exposure Limit as established by the manufacture
2. NL = Not Listed

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses (or goggles) and a face shield.

SKIN: Skin contact with liquid may cause frostbite. General work clothing and gloves (leather) should provide adequate protection. If prolonged contact with the liquid or gas is anticipated, insulated gloves constructed of PVA, neoprene or butyl rubber should be used. Any contaminated clothing should be promptly removed and washed before reuse.

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.

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9. PHYSICAL AND CHEMICAL PROPERTIES

PHYICAL STATE: Gas
ORDOR: Faint ethereal order
pH: Neutral
PERCENT VOLATILE: 100 at 20˚C (68˚F)
VAPOR PRESSURE: 85.8 psi at 21.1˚C (70˚F)
VAPOR DENSITY: 3.0 (Air=1)
BOILING POINT: -16˚c (-27˚F)
SOLUBILITY IN WATER: Negligible
EVAPORATION RATE: >1 (H2O=1)
SPECIFIC GRAVITY: 1.22 (water=1) AT 20˚c (68˚F)
(VOC): 20 g/L (non exempt VOC)

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10. STABILITY AND REACTIVITY

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

STABILITY: Stable.

POLYMERIZATION: Will not occur.

HAZARDOUS DECPMPOSITION PRODUCTS: May form hydrochloric and hydrofluoric acids – possibly carbonyl halides, when exposed to high temperatures.

INCOMPATIBLE MATERIALS: Chemically active metals: potassium, calcium, powdered aluminum, magnesium and zinc.

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11. TOXICOLOGICAL INFORMATION

ACUTE
INHALATION LC50: >500000 ppm, 4-hour

SENSITIZATION: Cardiac sensitization threshold (dog) 80,000 ppm. NOEL – 50,000 ppm.

SUBCHRONIC:
Subchronic inhalation (rat) NOEL – 50,000 ppm
Chronic NOEL – 10,000 ppm

CARCINOGENICITY:
IARC: NOT listed

NTP: NOT listed

OSHA: NOT listed

MUTAGENCITY: Collective data indicate non-mutagenic.

TERATOGENIC EFFECTS: NOEL (rat and rabbit) – 40,000 ppm.

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12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Degradability (BOD): This material is a gas at room temperature; therefore, it is unlikely to remain in water.

DISTRIBUTION: Octanol Water Partition Coefficient: Log P=1.06

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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.

GENERAL COMMENTS: 1,1,1,2 – tetrafluoroethane is subject to U.S. Environmental Protection Agency Clean Air Act Regulations, Section 608 in 40 CFR Part 82 regarding refrigerant recycling.

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14. TRANSPORATION INFORMATION

DOT (DEPARTMENT OF TRANSPORATON)
PROPER SHIPPING NAME: CONSUMER COMMODITY ORM-D
TECHNICAL NAME: 1,1,1,2-Tetrafluoroethane
PRIMARY HAZARD CLASS/DIVISION: No classification
UN/NA NUMBER: NA
PACKING CODE GROUP: N/A
OTHER SHIPPING INFORMATION: Must have a copy of the DOT-E-10232 with each shipment.

AIR (ICAO/IATA)
PROPER SHIPPING NAME: CONSUMER COMMODITY ID8000
PRIMARY HAZARD CLASS/DIVISION: 9
UN/NA NUMBER: ID8000
PACKING CODE GROUP: N/A
IATA NOTE: Domestic shipments only. When shipping International contact TechSpray shipping department.

VESSEL (IMO/IMDG)
PROPER SHIPPING NAME: AEROSOLS IN LIMITED QUANTITES OF CLASS 2
PRIMARY HAZARD CLASS/DIVISION: 2.2
UN/NA NUMBER: UN1950
PACKING GROUP: N/A
IMDG 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 / PRESSURE
PRESSURE GENERATING: YES **ACUTE:** YES

313 REPORTABLE INGREDIENTS: 2-propanol (CAS #67-63-0) Butyl phthalate (CAS# 84-74-2)

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: Releases to air, land, or water whitish exceed the RQ must be reported to the National Response Center (800) 424-8802 and to your Local Emergency Planning Committee.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All chemicals in this product are listed on the TSCA Inventory.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

29 CFR 1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: None of the chemicals in this product are considered highly hazardous by OSHA

CANADA

WHMIS CLASS: Class A, Class D2B.

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

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION

R63 – Possible risk of harm to the unborn child.

EEC Harmful – "Xn"

R36-/37/38– Irritating to eyes, respiratory system and skin.

EEC Irritant – "Xi"

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

GENERAL COMMENTS: 1,1,1,2-tetrafluoroethane is subject to U.S. Environmental Agency Clean Air Act Regulations, (40CFR Part 82).

COMMENTS: WARNING: Contains 1,1,1,2-tetrafluoroethane (HFC-134a), a greenhouse gas which may contribute to global warming.

16. OTHER INFORMATION

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

REVISION SUMMARY: New MSDS

HMIS RATING		**NEPA CODES**	
HEALTH	**1**	**1**	
FLAMMABILITY	**1**		
PHYSICAL HAZARD	**0**	2	**0**
PERSONAL PROTECTION:			

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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