

MATERIAL SAFETY DATA SHEET

Conforms to 93/112/EC and ISO 11014-1

1. Chemical Product and Company Identification

Product Name: OptiClear R

Product Number: OE-102

Chemical

Names/Description: Mixture of d-limonene, ethanol, isopropanol and water.

Manufacturer

National Diagnostics 305 Patton
Drive Atlanta, GA 30336

Telephone Numbers

(800) 526-3867 (404) 699-2121

Emergency Numbers

Chemtrec (800) 424-9300 (U.S. &
Canada) 01-703-527-3887 (outside U.S. &
Canada)

2. Composition/Information on Ingredients

Component	% Comp.	CAS #	EINECS #	TLV (Units)
Ethanol	15 - 20	64-17-5		1000 ppm
Isopropyl Alcohol	2 - 4	67-63-0		400 ppm
d-limonene		5989-27-5	227-813-5	

3. Hazards Identification

Appearance and Odor

Colorless, mobile liquid with slight citrus odor.

EMERGENCY OVERVIEW - IMMEDIATE HAZARD

MAY BE HARMFUL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH THE SKIN. CAUSES EYE, AND UPPER RESPIRATORY TRACT IRRITATION. CAN CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.

EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING

CHRONIC EFFECTS INCLUDE DAMAGE TO THE LIVER, DAMAGE TO THE HEART, DAMAGE TO THE KIDNEYS.

Potential Health Effects

Inhalation

Can cause irritation to the lungs and upper respiratory tract. May cause headache or fatigue.

Ingestion

May cause irritation or central nervous system effects if swallowed.

Skin

May cause drying or irritation to the skin.

Eyes

May cause irritation to the eyes.

Signs and Symptoms of Overexposure

Inhalation

Cough. Drowsiness. Headache. Fatigue.

Ingestion

Burning sensation. Confusion. Dizziness. Headache. Unconsciousness.

Skin

Dry skin.

Eyes

Redness. Pain. Burning.

Carcinogenicity

Not listed as a known or possible carcinogen by NTP or IARC.

Mutagenicity

No information available.

Reproductive Toxicity

Consumption during pregnancy may adversely affect the unborn child.

Teratogenic Effects

No information available.

Routes of Entry

Inhalation, ingestion, skin contact.

Target Organ Statement

Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

4. First Aid Measures**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

Skin

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Flash Point	142 F	Flammable Limits	N.A.
Flash Point Method	TCC	Autoignition temperature	N.A.

Extinguishing media

Dry powder, foam, carbon dioxide. (Water may be ineffective.)

Protective Equipment

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Hazardous Combustion Products

Thermal decomposition products may include carbon monoxide, carbon dioxide, and hydrocarbons.

Unusual Fire and Explosion Hazards

Above flashpoint, vapor air mixtures are explosive. Vapors can flow along surfaces to distant ignition source and flash back. Sealed containers may rupture when heated.

NFPA Codes: Health 1 Flammability 2 Reactivity 0

6. Accidental Release Measures

Steps to be taken in case material is released or spilled

Contain and clean up spill immediately, prevent from entering floor drains. Contain liquids using absorbents. Shovel all spill materials into disposal drum. Scrub spill area with detergent, flush with copious amounts of water.

Waste Disposal Method

Disposal must be made in accordance with applicable federal, state, and local regulations.

Personal Precautions

Wear appropriate protective equipment as specified in section 8.

7. Handling and Storage

Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

Storage

Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage. Isolate from incompatible materials (section 10).

Storage Temperature

Room Temperature

Disposal

Observe all national, state, and local regulations regarding disposal.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits

Component: Ethanol

ACGIH Threshold Limit Value (TLV): 1000 ppm

OSHA Permissible Exposure Limit (PEL):

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection

If exposure limits are exceeded, wear a full-face respirator with organic vapor cartridge and high efficiency dust mist filter. Beyond fifty times exposure limits or when exposure levels are not known, wear a full-face piece positive pressure respirator.

Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection

Wear protective gloves and clean body covering clothing.

Other Control Measures

N.A.

9. Physical Properties

Boiling point	180 F	Evaporation rate	2.0 (Bu Acetate = 1)
Melting point	N.A.	Solubility in water	Soluble
Vapor pressure (mmHg)	58 mm Hg @ 38C	pH	N.A.
Vapor density (Air = 1)	1.5 (air = 1)	Specific gravity (H2O = 1)	0.94
% volatile by volume	100		

10. Stability and Reactivity

Stability

Stable under normal conditions of use and storage.

Conditions to Avoid

Heat, flame, incompatibles.

Hazardous Decomposition Products

Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization

Will not occur

Incompatibles

Ethanol:

Strong oxidants, silver salts, acid chlorides, alkali metals, hydrazine, and many other substances.

Isopropyl Alcohol:

Strong oxidizers, acetaldehyde, acids, chlorine, ethylene oxide, hydrogen-palladium combination, hydrogen peroxide-sulfuric acid combination, potassium tert-butoxide, hypochlorous acid, isocyanates, nitroform, phosgene, aluminum, oleum and perchloric acid.

d-limonene:

Avoid contact with strong acids, alkalis, or oxidizing agents.

11. Toxicological Information

Product LD50 Values

OptiClear R	Oral Rat LD50 (mg/kg):	39222
OptiClear R	Dermal Rabbit LD50 (mg/kg):	No Data

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Ethanol	No	No	None
Isopropyl Alcohol	No	No	3
d-limonene	No	No	None

12. Ecological Information

Ethanol

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material is expected to readily biodegrade. When released into water, this material may evaporate to a moderate extent. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to be readily removed from the atmosphere by dry and wet deposition. When released into the air, this material is expected to have a half-life between 1 and 10 days. This material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/l.

Isopropyl Alcohol

When released into the soil, this material is expected to quickly evaporate. When released into the soil, this material may leach into groundwater. When released into the soil, this material may biodegrade to a moderate extent. When released to water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. When released into water, this material may biodegrade to a moderate extent. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. The LC50/96-hour

values for fish are over 100 mg/l. This material is not expected to be toxic to aquatic life.

d-limonene

No information available on the ecological fate of this material.

13. Disposal Considerations

Observe all national, state, and local regulations regarding disposal.

14. Transport Information

D.O.T.

Proper Shipping Name: Not regulated.Hazard Class: N.A.UN Number: N.A.Packing Group: N.A.

I.A.T.A.

Proper Shipping Name: Not regulated.Hazard Class: N.A.UN Number: N.A.Packing Group: N.A.

I.M.O.

Proper Shipping Name: Not regulated.Hazard Class: N.A.UN Number: N.A.Packing Group: N.A.

15. Regulatory Information

United States

TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Ethanol	Yes	No	No	Yes	Yes
Isopropyl Alcohol	Yes	No	No	Yes	Yes
d-limonene	Yes	No	No	Yes	No

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

16. Other Information

NFPA Codes: Health 1 Flammability 2 Reactivity 0

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Appropriate warnings and safe handling procedures should be provided to handlers and users.