

1 PRODUCT AND COMPANY IDENTIFICATION**Product Name:** HPR-506**Product Number:** 00000000000820007**Synonyms:** None**Company:**FUJIFILM Electronic Materials U.S.A., Inc.
80 Circuit Road
North Kingstown RI 02852**Emergency Telephone:**Transportation Emergency:FOR ALL TRANSPORTATION ACCIDENTS,
CALL CHEMTREC: 1-800-424-9300Medical Emergency (24HR):FOR ANY HEALTH & MEDICAL
EMERGENCY, 24 HOURS /7 DAYS CALL:
1-800-365-8951**Non-emergency Telephone:**General Information:FOR ALL MSDS REQUESTS & QUESTIONS,
CALL CUSTOMER SERVICE: 1-800-553-6546**Intended Use:** Positive Photoresist**2 HAZARDS IDENTIFICATION****Emergency Overview****Physical State:** Liquid**Color:** Yellowish/Reddish**Odor:** Mild. Ester-like**CAUTION!**May cause eye, skin and respiratory irritation.
Combustible liquid.**Potential Health Effects****Inhalation:** May cause irritation to the respiratory system. Vapors may cause drowsiness and dizziness.**Eye Contact:** May cause eye irritation. May cause redness and pain.**Skin Contact:** May cause skin irritation. May cause redness and pain. Degreasing to skin.**Ingestion:** May cause discomfort if swallowed.**Chronic Health Effects:** High concentrations: Organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain.**Target Organ(s):** | Respiratory system | Eye | Skin | Central nervous system.**Potential Physical / Chemical Effects:** COMBUSTIBLE. The product may form explosive vapors/air

mixtures even at normal room temperatures.

OSHA Regulatory Status: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

Environment: The product contains a substance which has a photochemical ozone creation potential.

3 COMPOSITION / INFORMATION ON INGREDIENTS

General Information: The product contains: Novolac resin. Naphthoquinone diazide ester derivative.

Chemical Name	CAS-No.	Concentration*
†Ethyl lactate	97-64-3	60 - 90%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

† This chemical is hazardous according to OSHA/WHMIS criteria.

4 FIRST AID MEASURES

General: Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

Inhalation: Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort continues.

Eye Contact: Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. If irritation occurs, get medical assistance.

Skin Contact: Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

Ingestion: Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Get medical attention if any discomfort continues.

5 FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable Extinguishing Media: None.

Special Fire Fighting Procedures: Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.

Unusual Fire & Explosion Hazards: During fire, gases hazardous to health may be formed. Solvent vapors may form explosive mixtures with air.

Hazardous Combustion Products: Carbon Dioxide, Carbon Monoxide

Protective Measures: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Flammability Class: 2

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions: Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Avoid inhalation of vapors/spray and contact with skin and eyes. Wear suitable protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.

Spill Cleanup Methods: Remove sources of ignition. Absorb spillage with non-combustible, absorbent material. For waste disposal, see section 13 of the MSDS.

Environmental Precautions: Avoid discharge into drains, water courses or onto the ground unless authorized by permit.

7 HANDLING AND STORAGE

Handling: Local exhaust is recommended. Avoid inhalation of vapors and spray mist and contact with skin and eyes. Wear approved safety goggles. Wear protective gloves and appropriate clothing to prevent skin contact. Do not smoke and do not spray near an open flame or other sources of ignition. The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Ground container and transfer equipment to eliminate static electric sparks. Observe good industrial hygiene practices.

Storage: Follow rules for combustible liquids. Keep away from heat, sparks and open flame. Store in tightly closed original container in a well-ventilated place.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: No exposure limits noted for ingredient(s) on ACGIH, OSHA and WEEL lists. Consult Canadian Provincial Regulations and/or Mexican Regulations on exposure limits, if applicable.

Engineering Controls: Use explosion-proof ventilation equipment. Provide adequate ventilation. Provide easy access to water supply and eye wash facilities.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure air supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

Eye Protection: Wear approved safety goggles.

Hand Protection: Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

Skin Protection: Wear appropriate clothing to prevent repeated or prolonged skin contact. Apron and long sleeves are recommended.

Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular Weight:	No data available.
Physical State:	Liquid
Color:	Yellowish/Reddish
Odor:	Mild. Ester-like
Odor Threshold:	No data available.
pH:	Not applicable
Freezing Point:	No data available.
Boiling Point:	No data available.
Density:	No data available.
Specific Gravity (=Relative Density):	No data available.
Vapor Pressure:	1.5 mmHg - 2 mmHg @25°C
Vapor Density (Air=1):	3.5 - 4.1 (Air=1)
Evaporation Rate:	0.2 - 0.29 (N-Butyl Acetate = 1)
Volatiles, % by vol:	60 % Vol - 80 % Vol
Solubility in Water:	No data available.
Solubility (Other):	No data available.
Partition Coefficient (n-Octanol/water):	No data available.
Flash Point:	55°C (131°F) (Open Cup)
Autoignition Temperature:	No data available.
Viscosity:	No data available.
Upper Flammability / Explosion limit in air %:	No data available.
Lower Flammability / Explosion limit in air %:	No data available.
Decomposition Temperature:	50°C (122°F) (After removal of solvents)

10 STABILITY AND REACTIVITY

Stability: Stable under normal temperature conditions

Conditions to Avoid: Heat, sparks, flames.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: No data available.

Possibility of Hazardous Reactions: No data available.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

Component Chemical Name	Test Results
Ethyl lactate	Inhalation LC50 (8 hour(s), Rat): >5400 mg/m ³
Ethyl lactate	Oral LD50 (Rat): >=5000 mg/kg

Listed Carcinogens: None

Product Information

Other Acute: May cause eye, skin and respiratory irritation.

Chronic Toxicity: High concentrations: Organic solvents may be absorbed into the body by inhalation and cause permanent damage to the nervous system, including the brain.

12 ECOLOGICAL INFORMATION

Ecotoxicity: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Specified Substance(s)

Chemical Name	Test
Ethyl lactate	EC50 (Alga): 2200 mg/l
Ethyl lactate	EC50 (48 hour(s), Daphnia): 683 mg/l
Ethyl lactate	LC50 (48 hour(s), Saltwater - Fish): 320 mg/l

Mobility: The product contains organic solvents which will evaporate easily from all surfaces.

Persistence and Degradability: No data available

Bioaccumulation Potential: No data available on bioaccumulation.

Other Adverse Effects: The product contains a substance which has a photochemical ozone creation potential.

13 DISPOSAL CONSIDERATIONS

Disposal Methods: Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

RCRA Information: D001- IGNITABLE

14 TRANSPORT INFORMATION

DOT

UN No.: UN1192

Proper Shipping Name: Ethyl lactate (Solution)

Class: 3

Packing Group: III

Label(s): 3

This material can be reclassified as a combustible liquid and is considered not regulated by ground transport when packaged in non-bulk packaging (<119 G). This exception is found in 49 CFR 173.150(f).

TDG**UN No.:** UN1192**Proper Shipping Name:** ETHYL LACTATE (Solution)**Class:** 3**Packing Group:** III**IATA****UN No.:** UN1192**Proper Shipping Name:** Ethyl lactate (Solution)**Class:** 3**Packing Group:** III**Label(s):** Flamm. liquid**IMDG****UN No.:** UN1192**Proper Shipping Name:** ETHYL LACTATE (Solution)**Class:** 3**Packing Group:** III**EmS No.:** F-E, S-D**15 REGULATORY INFORMATION**

Canadian Controlled Products Regulations: This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

WHMIS Classification: B3, D2B

Mexican Dangerous Statement: This is a Mexican "dangerous" product.

Inventory Status: All ingredients are listed on TSCA.

TSCA: No component is listed on TSCA Sections 4(a), 5(a)(2), 5(e) or 12(b).

US Regulations

CERCLA Hazardous Substance List (40 CFR 302.4): None

SARA Title III

Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A): None

Section 311/312 (40 CFR 370):

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

Section 313 Toxic Release Inventory (40 CFR 372): None

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): None

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): None

Drug Enforcement Act: None

State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): None

Massachusetts Right-To-Know List: Ethyl lactate

Michigan Critical Materials List (Michigan Natural Resources and Environmental Protection Act (Act. 451 of 1994)): None

Minnesota Hazardous Substances List: None

New Jersey Right-To-Know List: Ethyl lactate

Pennsylvania Right-To-Know List: Ethyl lactate

Rhode Island Right-To-Know List: None

16 OTHER INFORMATION

HAZARD RATINGS

National Fire Protection Association	Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
NFPA	NONE	NONE	NONE	--

Hazardous Materials Information System	Health Hazard	Fire Hazard	Reactivity Hazard	Other
HMIS	1*	2	0	--

0 - Minimal; 1- Slight; 2 - Moderate; 3 - Serious; 4 - Severe *- Chronic Health Effect

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Replaces file: 00532

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