

SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: Histo-Clear II

Product Number: HS-202

1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer

National Diagnostics
305 Patton Drive
Atlanta, GA 30036
(404) 699-2121
(800) 526-3867
info@nationaldiagnostics.com

1.4 Emergency Telephone Number

Chemtrec

1-800 424-9300 (U.S. & Canada)
01-703-527-3887 (outside U.S. & Canada)

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]

H226 - Flammable Liquids (Category 3)
H304 - Aspiration Hazard (Category 1)
H315 - Skin Corrosion/Irritation (Category 2)
H317 - Skin Sensitizer (Category 1)
H336 - May cause drowsiness or dizziness
H411 - Chronic Hazards to the Aquatic Environment (Category 2)

2.2 Label Elements

GHS LABEL ELEMENTS AND CLASSIFICATION

GHS Label Elements



DANGER

H226 - Flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H336 - May cause drowsiness or dizziness.
H411 - Toxic to aquatic life with long lasting effects.
P260 - Do not breathe dust/fumes/gas/mist/vapors/spray.
P262 - Do not get into eyes, on skin or on clothing.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 - Do NOT induce vomiting.
P333+P313 - IF SKIN irritation or rash occurs: Get medical advice/attention.
P370+P378 - In case of fire: Use a dry chemical fire extinguisher for extinction.

2.3 Other Hazards

None found.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Chemical Names/Description

Mixture of alkyl hydrocarbons and essential oils

Component List

Component	% Comp.	CAS #	EC #	1278/2008
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				Classification
Aliphatic Hydrocarbons	70 - 90	64742-48-9	265-150-3	H226, H304, H315, H336, H411
d-limonene	10 - 30	5989-27-5	227-813-5	H226, H315, H317, H410

Note: Total aromatic content contained in this product is less than 0.01 percent

SECTION 4 - FIRST AID MEASURES

4.1 Description of First Aid Measures

Inhalation

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

Ingestion

Do not induce vomiting. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

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.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

Inhalation

Aliphatic Hydrocarbons:

Headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death.

d-limonene:

May include dizziness, headaches, and nasal irritation.

Ingestion

Aliphatic Hydrocarbons:

Minimal toxicity by ingestion.

d-limonene:

May include nausea, vomiting, and headache.

Skin

Aliphatic Hydrocarbons:

Dermatitis may occur with frequent or prolonged contact.

d-limonene:

May include drying and redness (dermatitis) of the skin.

Eyes

Aliphatic Hydrocarbons:

Product is only slightly irritating to eye tissue, non injurious.

d-limonene:

May include redness, itching, and watering of the eyes.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

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

5.2 Special Hazards Arising from the Substance/Mixture

Hazardous Combustion Products

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

Hazardous Decomposition Products

None

Hazardous Polymerization

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

5.3 Advice for Firefighters

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.

5.4 Further Information

No data available.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

Wear appropriate protective equipment as specified in Section 8.

6.2 Environmental Precautions

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

6.3 Methods and Materials for Containment and Cleaning Up

Eliminate source of ignition. Ventilate area. Cover with absorbent material (soda ash) to confine spill and sweep or shovel into container. Close container tightly. Avoid breathing vapors.

6.4 References to Other Sections

For disposal information, see Section 13. For Protective clothing and equipment, see Section 8.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Transfer methods should avoid static sparks. Use explosion proof ventilation.

7.2 Conditions for Safe Storage (including any incompatibles)

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.

Incompatibles

Aliphatic Hydrocarbons:
Strong oxidizing agents.

d-limonene:

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

7.3 Specific End Uses

Investigational research by professional users

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

Component: Aliphatic Hydrocarbons

ACGIH Threshold Limit Value (TLV): 300 ppm

OSHA Permissible Exposure Limit (PEL): None established

Component: d-limonene

ACGIH Threshold Limit Value (TLV): None established

OSHA Permissible Exposure Limit (PEL): None established

8.2 Exposure Controls

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 the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airtight hood, or full-facepiece self-contained breathing apparatus.

Eye Protection

Safety glasses.

Skin Protection

Wear protective gloves and clean body covering clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Clear and colorless	b. Odor	No data
c. Odor Threshold	N.A.	d. pH	N.A.
e. Melting/Freezing Point (°C)	-55	f. Boiling point (°C)	162-182
g. Flash Point (°C)	40	h. Evaporation Rate	0.3 (n-Bu Acetate=1)
i. Flammability	Combustible	j. Upper/Lower Flammability or Explosive Limits	LEL 1.2%; UEL 9.6%
k. Vapor Pressure	2 mmHg @ 20 C	l. Vapor Density (Air = 1)	4.94
m. Relative Density	0.75 kg/L @ 15.56 C	n. Water Solubility	Less than 0.01% @ 25 C
o. Partition Coefficient n-octanol/water	Mixture	p. Autoignition Temperature (°C)	292.78 (approximate)
q. Decomposition Temperature (°C)	N.A.	r. Viscosity	0.4-0.9 cSt @ 40 C
s. Explosive Properties	Combustible vapors	t. Oxidizing Properties	No Data

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

Oxidizable liquid and vapor. Avoid ignition sources, oxidizers and strong acids.

10.2 Chemical Stability

Stable under normal conditions of use.

10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

10.4 Conditions to Avoid

Heat, sources of ignition.

10.5 Incompatible Materials

Aliphatic Hydrocarbons:

Strong oxidizing agents.

d-limonene:

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

10.6 Hazardous Decomposition Products

None

SECTION 11 - TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)

Minimal toxicity by ingestion.

Dermal Rabbit LD50 (mg/kg)

Minimal toxicity by skin contact.

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Aliphatic Hydrocarbons	No	No	None
d-limonene	No	No	None

Potential Health Effects

Inhalation

Aliphatic Hydrocarbons

High vapor/aerosol concentrations (greater than approximately 1000 ppm) are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death.

d-limonene

Inhalation can cause nose, throat, and respiratory tract irritation. Prolonged exposure to high vapor or mist concentrations may cause dizziness, headaches, and nasal irritation.

Ingestion

Aliphatic Hydrocarbons

Minimal toxicity by ingestion, though small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause

mild to severe pulmonary injury, possibly progressing to death.

d-limonene

Ingestion may cause vomiting, headache, and other medical problems.

Skin

Aliphatic Hydrocarbons

Low order of toxicity. Frequent or prolonged contact may irritate and cause dermatitis. Skin contact may aggravate an existing dermatitis condition.

d-limonene

Repeated or prolonged contact can cause redness, irritation, and scaling of the skin (dermatitis). Normal care and personal hygiene should prevent skin effects.

Eyes

Aliphatic Hydrocarbons

Slightly irritating but does not injure eye tissue.

d-limonene

Eye irritation may occur with exposure to concentrated vapors or contact with product.

Carcinogenicity

Aliphatic Hydrocarbons

Not listed by NTP, IARC, or OSHA.

d-limonene

None of the components of this material are listed by NTP, OSHA, ACGIH, or IARC as a carcinogen or a suspected carcinogen.

Mutagenicity

Aliphatic Hydrocarbons

No information available.

d-limonene

No information available.

Reproductive Toxicity

Aliphatic Hydrocarbons

No information available.

d-limonene

No information available.

Teratogenic Effects

Aliphatic Hydrocarbons

No information available.

d-limonene

No information available.

Routes of Entry

Aliphatic Hydrocarbons

Inhalation or by skin contact.

d-limonene

May be absorbed through the skin, by inhalation, or by ingestion.

Target Organ Statement

Aliphatic Hydrocarbons

No information available.

d-limonene

No information available.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

COMPONENT: Aliphatic Hydrocarbons

	Vertebrates	Invertebrates	Algae	Microorganisms
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Aquatic Toxicity (ppm unless otherwise noted)	LC50 (fathead minnow): 8.2 mg/L	48-hour EL50 to Daphnia (calculated) 4.5 mg/l.	72 -hour EL50 for Selenastrum capricornutum (Pseudokirchnerella subcapitata): 3.1 mg/L	72-hr LL50 value for Tetrahymena pyriformis: 15.41 mg/L.
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	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No Data	PNEC soil: 0.4 - 20.8 mg/kg soil	PNEC soil: 0.4 - 20.8 mg/kg soil	PNEC soil: 0.4 - 20.8 mg/kg soil

COMPONENT: d-limonene

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr fathead minnow): 720ug/L	EC50 (48hrs, Daphnia) 0.36mg/L	EC50 (72hrs) 8mg/L	EC50 (3hr) 209mg/L

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No Data	No Data	No Data	No Data

12.2 Persistence and Degradability

Aliphatic Hydrocarbons

biodegraded 77% after 28 days (readily biodegradable)

d-limonene

Readily biodegradable

12.3 Bioaccumulative Potential

Aliphatic Hydrocarbons

No Data

d-limonene

BCF is 1022 L/kg (calculated)

12.4 Mobility in Soil

Aliphatic Hydrocarbons

calculated log Koc ~2

d-limonene

Koc of d-limonene (predicted): 1984 L/kg.

12.5 Results of PBT and vPvB Assessment

Aliphatic Hydrocarbons

not PBT / vPvB

d-limonene

Not a PBT or vPvB

12.6 Other Adverse Effects

Aliphatic Hydrocarbons

No Data

d-limonene

No data

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	1268	1268	1268	N.A.
14.2 Shipping Name	Petroleum Products N.O.S. (aliphatic and terpene hydrocarbons)	Petroleum Products N.O.S.	Petroleum Products N.O.S. (aliphatic and terpene hydrocarbons)	Not regulated
14.3 Hazard Class	3	3	3	N.A.
14.4 Packing Group	III	III	III	N.A.
14.5 Environmental Hazards	N.A.	N.A.	Marine pollutant	N.A.
14.6 Special Precautions	N.A.	N.A.	N.A.	N.A.

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture

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
Aliphatic Hydrocarbons	Yes	No	No	No	No
d-limonene	Yes	No	No	Yes	No

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

SECTION 16 - OTHER INFORMATION

Revisional Updates

5/29/2015 - Updated Sections 2.1 and 3.2

11/25/2013 - Updated Section 9

11/21/2013 - Updated Sections 2 and 3

5/29/2013 - Released Version 1.0

NFPA Codes

Health 1 Flammability 2 Reactivity 0

Dangers

Aliphatic Hydrocarbons

H226 - Flammable liquid and vapor.

H304 - May be fatal if swallowed and enters airways.

H315 - Causes skin irritation.

H336 - May cause drowsiness or dizziness.

H411 - Toxic to aquatic life with long lasting effects.

d-limonene

H226 - Flammable liquid and vapor.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H410 - Very toxic to aquatic life with long lasting effects.

MANUFACTURER DISCLAIMER: The information given herein is offered in good faith as accurate, but without guarantee. Conditions of the use and suitability of the product for particular uses are beyond our control. All risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.