

Safety Data Sheet (SDS)

Section 1: Chemical Product and Company Identification

Cat# : 1601H

Part Name: CitriSolv Hybrid

Supplier: Decon Laboratories Inc.

460 Glennie Circle King of Prussia, Pa 19406
SDS Telephone # (610) 755-0800

Emergency Telephone Numbers

US Chemtrec: (800) 424-9300

Canada: (703) 527-3887

Identified uses: Laboratory use

Email Contact: cveloski@deconlabs.com

Section 2: Hazards Identification:

Hazard Overview

Emergency Overview

GHS Classification:

Physical Hazards

Flammable Liquids (4)

Health Hazards

Skin Irritation (2)
Skin Sensitizer (1B)
Aspiration Toxicity (1)
Eye Irritation (2A)

Environmental Hazards

Acute Aquatic Toxicity (1)
Chronic Aquatic Toxicity (1)

GHS Labeling:



Label Elements:

Signal Word: DANGER

Hazard and Precautionary Statements

Hazard Statements:

H227: Combustible liquid

H304: May be fatal if swallowed and enters airways

H315: Causes skin irritation

H317: May cause an allergic skin reaction

H410: Very toxic to aquatic life with long lasting effects

H319: Causes serious eye irritation

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Precautionary Statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241: Use explosion-proof [electrical/ventilating/lighting/...] equipment.

P280: Wear protective gloves/protective clothing/eye protection/face protection

P273: Avoid release to the environment

P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P331: Do NOT induce vomiting

P235: Keep cool

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing

P337+313: If eye irritation persists get medical advice/attention

Other hazards which do not result in classification: None determined.

NFPA Rating

Hazard Ratings:

These ratings are Decon Laboratories Inc.'s own assessments of the properties of the material using the ANSI/NFPA 704 Standard. Additional information can be found by consulting in the NFPA published ratings lists (List 325 and list 49).

If no data is listed the information is not available

Health 1 Flammability 2 Reactivity 1

Section 3: Composition/ Information on ingredients

| Common Name | Chemical Name | CAS Number | EINECS No. | Weight % |
|-----------------|--|------------|------------|------------|
| d-Limonene | (R)-1-methyl-4-(1-methylethenyl)-Cyclohexene | 5989-27-5 | 277-813-5 | 65 - 85 |
| Isopropylcumene | Isopropylcumene | 25321-09-9 | 246-835-6 | 50-90 |
| BHT | 2,6-di-tert-butyl-p-cresol | 128-37-0 | 204-881-4 | <= 300 ppm |

Section 4: First Aid Measures

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| Inhalation | Remove person to fresh air and keep at rest in a comfortable position for breathing. See a physician if breathing difficulty persists. |
| Eye contact | EYE CONTACT: Flush eyes with clean water for 15 minutes. If irritation persists, seek medical attention. |
| Skin contact | In case of skin contact, wash thoroughly with soap and water. |
| Ingestion | Keep respiratory tract clear. Do Not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Get medical attention or contact a poison control center for advice |

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Section 5: Fire-Fighting Measures

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| Flash point | 63°C (145°F) (Pensky Martens) |
| Auto-ignition temperature | Not determined. |
| Suitable extinguishing media | Water fog or spray, Foam, Dry Powder, Carbon Dioxide (CO ₂). |
| Extinguishing media which must not be used | If water must be used, use as a spray only to lower temperature. |
| Hazardous decomposition products | FROM FIRE: Smoke, carbon dioxide and carbon monoxide. |
| Special protective equipment for fire fighters | Self-contained positive pressure breathing apparatus and protective clothing should be worn when fighting fires involving chemicals. |
| Precautions for fire fighters | DANGER - FLAMMABLE LIQUID! Vapors may cause flash fires. May cause eye or skin irritation. Harmful or fatal if swallowed. Vapors and spray mist are harmful if inhaled. May produce a floating fire hazard. |
| Unusual Fire and Explosions Hazards | Containers may explode from internal pressure if confined to fire. Cool with water. Keep unnecessary people away. Exercise care when disposing of rags contaminated with the product. Use normal precautions appropriate for oily rags. |

Section 6: Accidental Release measures

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| Protective measures | ELIMINATE ALL SOURCES OF IGNITION. Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator. Wear appropriate personal protective equipment when cleaning up spills. Eliminate potential sources of ignition. Handling equipment must be bonded and grounded to prevent sparking. |
| Environmental Precautions | This product is a marine pollutant and is very toxic to aquatic organisms. Do not discharge into lakes, streams, ponds or public waters. |
| Spill Management | Exercise caution. Eliminate potential sources of ignition. Use spark-proof tools and explosion-proof equipment. Dike and contain spill. Small spills may be absorbed by sand or oil-absorbing materials. Large spills should be collected by pumping into closed containers for recovery or disposal. Spills over water will float and may be collected by oil absorbents and/or by skimming. |

Section 7: Handling and Storage

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| 7.1 Precautions for safe handling | Wear chemical safety glasses or goggles and chemically resistant gloves. A chemically resistant apron may be used to protect clothing. A respirator may be worn to prevent breathing spray mists or heated fumes. Take precautionary measures against static discharges. |
| 7.2 Conditions for safe storage | No smoking. Store in original container, preferably in a cool, ventilated, fire-resistant building. Avoid heat, sparks, and open flames. Empty containers may retain product residues (vapor, liquid, or solid) all label precautions must be observed. |

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Section 8: Exposure Controls/ Personal Protection

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| Exposure limits | AIHA WEEL 8-hr TWA (d-limonene) 30 ppm |
| Appropriate engineering controls | Use in a well-ventilated area. |
| Ventilation | Mechanical ventilation may be necessary at elevated temperatures to control odors. |
| PPE | Consistent with good occupational hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures, including engineering controls, ventilation and isolation. See also section 5 (Fire-fighting measure) of the SDS for specific fire/chemical PPE advice. |
| Respiratory protection | A respirator is not normally required. If vapor concentration is high, use a NIOSH approved organic vapor respirator or a properly fitted, air-purifying or air-fed respirator complying with an approved standard. |
| Eye protection | Wear chemical safety glasses, goggles or face shield. Provide eye bath near work site. |
| Skin protection | Wear chemically resistant rubber gloves and apron to minimize exposure. |
| Personal hygiene measures | When using do not eat or drink. Wash hands and other exposed areas of skin with soap and water after handling the material. |

Section 9: Physical and Chemical Properties

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| Appearance | Clear, Colorless to Light Yellow Liquid |
| Odor | Orange, Citrus |
| Odor threshold | Not determined. |
| pH | Not applicable. |
| Melting point/freezing point | Not determined. |
| Boiling point (initial) | 192°C to 204°C (378°F to 400°F) |
| Flash point | 63°C (145°F) (Pensky Martens) |
| Evaporation rate (BUAC =1) | Not determined. |
| Flammability (Solid, gas) | Not determined. |
| Flammable limits (% by volume in air) | Not determined. |
| Vapor pressure | 1.5 mmHg @ 20°C |
| Relative vapor density (Air=1) | >1 |
| Relative density | 0.852 at 25°C |
| Solubility in water | Not determined. |
| Partition coefficient: n-octanol/water | ca. Log P _{ow} 4.57 (from ChemIDplus TOXNET for d-limonene) |
| Auto-ignition temperature | ca. 237°C (459°F) |
| Decomposition temperature | Not determined. |
| Viscosity | Not determined. |

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Section 10: Stability and Reactivity:

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| Reactivity | Not determined. |
| Chemical stability | Product is stable and not reactive under conditions of normal use. |
| Hazardous polymerization | Hazardous polymerization will not occur. |
| Conditions to avoid | Prolonged or excessive heat and/or exposure to air may cause non-hazardous decomposition and/or oxidation. |
| Incompatible materials | May react with strong acids, bases, and oxidizing agents. |
| Hazardous decomposition products | Incomplete decomposition may produce carbon monoxide. Ultimate decomposition products are carbon dioxide and water. |

Section 11: Toxicological Information

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| Target organs | Eyes. Skin. |
| Likely routes of | Eye/skin contact. |
| Medical conditions aggravated by | No known conditions. |
| Symptoms related to overexposure | Prolonged exposure may cause skin irritation and/or sensitization. |
| Acute toxicity | From TOXNET ChemIDPlus |

Limonene

(<<http://chem.sis.nlm.nih.gov/chemidplus/rn/5989-27-5>>): **Rabbit** LD₅₀ skin > 5gm/kg (5000mg/kg) Food and Cosmetics Toxicology. Vol. 13, Pg. 825, 1975.

Rat LD₅₀ oral 4400mg/kg (4400mg/kg) SKIN AND APPENDAGES (SKIN): HAIR: OTHER LUNGS, THORAX, OR RESPIRATION: RESPIRATORY DEPRESSION BEHAVIORAL: CHANGES IN MOTOR ACTIVITY (SPECIFIC ASSAY) Oyo Yakuri. Pharmacometrics. Vol. 9, Pg. 387, 1975.

Isopropylcumene

(<<http://chem.sis.nlm.nih.gov/chemidplus/rn/25321-09-9>>)

Rat LD₅₀ Oral 6.5 mL/Kg Toxicology and Applied Pharmacology. Vol. 28, Pg. 313, 1974

Rat LD₅₀ Inhalation 5300 mg/m³/4H Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure," Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982 Vol. -, Pg. 54, 1982.

Rabbit LD₅₀ Dermal 16 mL/Kg Toxicology and Applied Pharmacology. Vol. 28, Pg. 313, 1974

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| Dermal contact | d-Limonene; skin - mild irritant (rabbit) |
| Eye contact | Contact with the undiluted material may cause eye irritation. |
| Respiratory or Skin sensitization | No known significant effects or critical hazards |

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| Germ cell mutagenicity | Refer to WHO Concise International Chemical Assessment Document 5 for Limonene. AMES Test; Negative |
| Carcinogenicity | No component of the product is listed as carcinogenic by IARC, ACGIH, and NTP. IARC has classified d-limonene as Group 3: Not classifiable as to its carcinogenicity to humans. |
| Reproductive toxicity | Not determined. |
| STOT – single exposure | Not determined. |
| 11.1 (i) STOT repeated exposure | Not determined. |
| Aspiration Hazard | Component categorized as a Cat 1 Aspiration Hazard. |

Section 12: Ecological Information

The product contains a marine pollutant and is toxic to aquatic organisms.

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| Toxicity | Refer to the WHO (World Health Organization) Concise International Chemical Assessment Document 5 for Limonene for a detailed analysis. Water flea (<i>Daphnia magna</i>) 48-h LC ₅₀ ; flow-through 0.577 mg/L (0.496-0.672) US EPA, 1990b Water flea (<i>Daphnia magna</i>) 48-h EC ₅₀ ; flow-through 0.421 mg/L US EPA, 1990b Fathead minnow (<i>Pimephales promelas</i>) 96-h LC ₅₀ ; flow-through 0.702 mg/L (0.619-0.796) US EPA, 1990b Green algae 96-h NOEC; static 4.08 mg/L US EPA, 1990a |
| Persistence and degradability | Limonene: 92.7% in 21 days per method CEC L33T82. Isopropylcumene showed essentially no degradation in the aqueous environment according to HPVIS. |
| Bio accumulative potential | Not determined. |
| Mobility in Soil | Not determined. |
| Other adverse effects | Not determined. |

Section 13: Disposal Considerations

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| Disposal methods | This material, if discarded, would be considered a hazardous waste by EPA regulations 40 CFR 261 due to flammability. Dispose of this material at a local, state or federally approved landfill, incinerator or recovery facility. User must determine proper disposal method and classification when material is declared a waste. |
| Safe handling of wastes | Refer to Section 8 for information pertaining to personal protective equipment and exposure controls when handling this material for disposal. |

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Section 14: Transportation Information

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| US DOT | NA1993, Combustible Liquids, N.O.S (d-Limonene), 3, PGIII, Marine Pollutant- Exemptions exist for small pack sizes |
| ICAO/IATA | UN3082, Environmentally Hazardous substance, N.O.S. (Limonene), 9, PGIII, Marine Pollutant |
| IMO/IMDG | UN3082, Environmentally Hazardous substance, N.O.S. (Limonene), 9, PGIII, Marine Pollutant |
| USDOT Non-Bulk Packaging | FLORASOLV™ LHF (Excepted from HMR as per §173.150 & §171.4) |
| Shipping Label | Combustible Liquid, Marine Pollutant |

Section 15: Regulatory Information

Chemical Inventories Status

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| USA | Compliant |
| Canada | Compliant. |
| European Community | Compliant. |
| Australia | Compliant |
| Japan | Compliant |
| Korea | Compliant |
| Philippines | Compliant. |
| China | Compliant. |

USA Federal and States Information

OSHA - Hazardous by definition of 29 CFR 1910.1200

SARA 311/312 Hazard Category - Fire Hazard and Immediate (Acute) Health

Section 16: Other Information

Date of Issue: 01/01/2002

Date of Revision: 05/01/2018

Risk phrases

R10 – Flammable

R36/38 - Irritating to eyes and skin

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R65 - Harmful: may cause lung damage if swallowed. R43 - May cause sensitization by skin contact

Safety phrases

S24 - avoid contact with skin S25 - avoid contact with eyes

S26 - in case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S60 - this material and its container must be disposed of as a hazardous waste.

S61 - avoid release to the environment. Refer to special instructions/safety data sheets

S37 - wear suitable gloves

S62 - if swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

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End of Safety Data Sheet