

MATERIAL SAFETY DATA SHEET
Distributed by:
THERMAL FLUID TECHNOLOGIES, LTD.
6102 Chicago Avenue
Lubbock, Texas 79424
LASER COOL

SECTION 1: PRODUCT IDENTIFICATION & EMERGENCY INFORMATION

PRODUCT NAME: LASER COOL

CHEMICAL NAME: Not Applicable; blend

PRODUCT DESCRIPTION: Laser Cool is a biodegradable solvent occurring in nature as the main component of orange peel oil. Its positive environmental profile and pleasant orange aroma have earned the product acceptance in many diverse industry applications. Laser Cool can be used in its pure form, blended with other solvents, or easily emulsified to make water soluble cleaning products. Laser Cool is 100% bio-based and is GRAS (Generally Recognized As Safe) rated.

USES & APPLICATIONS: Laser Cool is a safer alternative to toxic, hazardous, and dangerous petroleum-derived chemicals. It can be used to formulate parts cleaner, engine degreaser (automotive, aircraft, and aerospace industries), electronics cleaner, tar cleaner, asphalt release agent, graffiti remover, grease trap maintainer, heat transfer fluid, lift station and sewage treatment solvent. Laser Cool is excellent in household, institutional and industrial product formulations such as: hand cleaner, adhesive remover, hard surface cleaner, floor cleaner, automotive cleaner, ink cleaners, carpet/stain cleaner, metal cleaner, petroleum tank cleanser, asbestos abatement cleaner, and oil field solvents. It is also commonly used as an aerosol ingredient, fragrance ingredient, fragrance additive or odor mask in formulated products. New applications for Laser Cool are emerging daily. Laser Cool is also showing promise in medical and pharmaceutical fields.

EMERGENCY TELEPHONE NUMBERS: (800) 687-7116 or (806) 798-7116 or (806) 790-5203

SECTION 2: HAZARDOUS INGREDIENT INFORMATION

Component: Citrus Terpenes

CAS#: 94266-47-4

% by Weight: 100

Product is Combustible.

Slippery when spilled.

Potential Health Effects: See Section 12 for more information.

Likely Routes of Exposure: Eye contact, skin contact, inhalation

Eye: Causes moderate to severe irritation.

Skin: May cause slight redness. Prolonged or repeated exposure may cause drying of the skin.

Inhalation: May cause nose, throat, and respiratory tract irritation, coughing, headache.

Ingestion: Not likely to be toxic, but may cause vomiting, headache, or other medical problems.

Medical Conditions Aggravated by Exposure: May irritate skin of people with pre-existing skin conditions.

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC, ACGIH or NTP.

OSHA Regulatory Status

This material is combustible, which is defined as having a flash point between 100°F (37.8°C) and 200°F (93.3°C). Combustible materials are hazardous according to the OSHA Hazard Communication Standard (29 CFR 1910.1200). Does NOT include lead, cadmium, mercury, or hexavalent chromium nor does it come in contact with these chemicals since it is a citrus derived essential oil produced by steam/vacuum distillation.

SECTION 3: PHYSICAL DATA

Appearance and Odor:	Colorless to pale yellow liquid with citrus aroma
Boiling Point:	349° F (176°C)
Evaporation Rate	0.2 (BuAc=1)
Melting Point:	-140° F (-96°C), thickens at -108° F (-78°C)
Optical Rotation:	+96° to +104°
Percent Volatile by Volume:	95%
Physical State:	liquid
Solubility in Water:	Insoluble
Specific Gravity	0.838 to 0.843 @ 68° F (20°C)
Refractive Index:	1.471 to 1.474

SECTION 3: PHYSICAL DATA (continued)	
Vapor Density:	(Air = 1); Heavier than 1
Vapor Pressure:	<2mm Hg @ 68° F (20°C)
Note: These specifications represent a typical sample of this product, but actual values may vary. Certificates of Analysis and Specification Sheets are available upon request.	

SECTION 4: FIRE AND EXPLOSION DATA	
FLASHPOINT: 110° F	AUTOIGNITION TEMPERATURE: 458° F (237° C)
FLAMMABLE LIMITS: 0.7 Lower 6.1 Upper	
EXTINGUISHING MEDIA:	Water may spread fire - USE SPRAY ONLY Use carbon dioxide - dry chemical or foam. Caution: Carbon dioxide will displace air in confined spaces and may create an oxygen deficient atmosphere.
SPECIAL FIRE FIGHTING PROCEDURES:	Vapors may be irritating to eyes, skin and respiratory tract. Firefighters should wear self-contained breathing apparatus (SCBA) and full fire-fighting turnout gear.
PRODUCTS OF COMBUSTION:	Forms acid fumes, carbon monoxide, and carbon dioxide.

SECTION 5: STABILITY & REACTIVITY DATA	
STABILITY: Stable	
CONDITIONS TO AVOID INSTABILITY: Keep away from heat, sparks, and flames.	
INCOMPATIBLE MATERIALS AND CONDITIONS: Strong oxidizing agents and strong acids, including acidic clays, peroxides, halogens, vinyl chloride, and iodine pentafluoride.	
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of citrus terpenes, which can result from improper storage and handling, are known to cause skin sensitization.	
POSSIBILITY OF HAZARDOUS REACTIONS: To prevent oxidation, avoid long-term exposure to air. If storing partially filled container, fill headspace with an inert gas such as nitrogen or carbon dioxide.	

SECTION 6: HEALTH INFORMATION & PROTECTION	
H.M.I.S Ratings (MPCA/NAPIM):	
(NFPA Ratings: 4 - Extreme; 3 - High; 2 - Moderate; 1 - Slight; 0 - Insignificant)	
Fire - 2	Health - 1 Reactivity - 0
FIRST AID	
EYE CONTACT:	Flush eyes with large amounts of water for at least 15 minutes or until irritation subsides. If irritation persists, get medical attention.
SKIN CONTACT:	Wash affected area with large amounts of soap and water until irritation subsides. If irritation persists, get medical attention.
INGESTION:	Seek medical attention immediately. DO NOT induce vomiting. Rinse mouth with water. DO NOT administer anything by mouth to an unconscious person. DO NOT leave victim unattended.
INHALATION:	If symptoms of overexposure are experienced, move to fresh air. If symptoms persist, seek medical attention.

SECTION 7: SPILL CONTROL PROCEDURE	
PERSONAL PRECAUTIONS: Use personal protection recommended in Section 8. Product is slippery when spilled. Isolate the hazard area. Deny entry to unnecessary and unprotected personnel.	
ENVIRONMENTAL PRECAUTIONS: Keep out of drains, sewers, ditches and waterways.	
METHODS FOR CONTAINMENT: Dike spill area and cap leaking containers as necessary to prevent further spreading of spilled material. Absorb spilled liquid with suitable material such as dirt or sand.	
METHODS OF CLEAN UP: Eliminate all ignition sources. Use equipment rated for use around combustible materials. Oil soaked rags may spontaneously combust; place in appropriate disposal container.	
OTHER INFORMATION: There are no special reporting requirements for spills of this material.	

SECTION 8: CONTROL MEASURES

Exposure Guidelines

Citrus Terpenes

8h TWA=30 ppm (AIHA Standard)

TWA - Time Weighted Average

ENGINEERING CONTROLS: Provide ventilation. Keep away from sparks and flames.

EYE/FACE PROTECTION: Wear safety glasses or goggles.

SKIN PROTECTION: Nitrile gloves are recommended. Boots, apron, or bodysuit should be worn as necessary.

RESPIRATORY PROTECTION: Not normally required. If adequate ventilation is unavailable, use NIOSH approved air-purifying respirator with organic vapor cartridge or canister.

GENERAL HYGIENE CONSIDERATIONS: Wash hands thoroughly after handling. Have eyewash and emergency shower facilities immediately available. Launder contaminated clothing before reuse.

SECTION 9: HANDLING & STORAGE

HANDLING: Keep away from heat, sparks, and flame. Open container slowly to release pressure caused by temperature variations. Do not allow this material to come in contact with eyes. Avoid prolonged contact with skin. Use in well ventilated areas. Do not breathe vapors. Drum lining may occasionally chip and fall to the bottom of container; product should be filtered or strained before blending or repackaging. As with any chemical, employees should thoroughly wash hands with soap and water after handling this material.

STORAGE: Product may be packaged in phenolic-lined steel containers or fluorinated plastic containers. Store in well ventilated area with proper sprinkler/fire deterrent system. Storage temperature should not exceed the flash point for extended periods of time. Keep container closed when not in use. Air should be excluded from partially filled containers by displacing with nitrogen or carbon dioxide. Do not cut, drill, grind or weld on or near this container; residual vapors may ignite.

SECTION 10: TRANSPORT INFORMATION

US DOT Shipping Classification

Proper Shipping Name: TERPENE HYDROCARBONS, N.O.S.

Hazard Class: 3

Identification No.: UN2319

Packing Group: III

Label/Placard: Exception §173.150(f) applies.

TDG Status: Hazardous

IMO Status: Hazardous

IATA Status: Hazardous

The listed transportation classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptions.

SECTION 11: ENVIRONMENTAL REGULATORY DATA

The United States FDA lists Terpene Hydrocarbons, N.O.S. as GRAS in 21 CFR section 182.20 and 182.6.

Emergency Planning and Community Right to Know Information:

This product contains no chemicals subject to Sara Title III, Section 313 Reporting.

California Proposition 65:

This product contains no levels of listed substances, which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute.

SECTION 12: TOXICOLOGICAL INFORMATION

ACUTE EFFECTS: Citrus terpenes have been shown to have low oral toxicity ($LD_{50} > 5$ g/kg) and low dermal toxicity ($LD_{50} > 5$ g/kg) when tested on rabbits. Citrus terpenes also showed low toxicity by inhalation ($RD_{50} > 1$ g/kg) when tested on mice. The skin irritancy of citrus terpenes in guinea pigs and rabbits is considered moderate and low, respectively. Inhalation may cause irritation of the nose, throat, and respiratory tract.

CHRONIC EFFECTS: This product is not classified as a carcinogen by OSHA, JARC, ACGIH or NTP. This product has not been shown to produce genetic changes when tested on bacterial or animal cells. This product does not contain known reproductive or developmental toxins. Prolonged or repeated exposure can cause drying or dermatitis of skin. Improper storage and handling may lead to the formation of a possible skin sensitizer.

SECTION 13: ECOLOGICAL INFORMATION

ECOTOXICITY: There is no information available at this time for this product. However, a spill may produce significant toxicity to aquatic organisms and ecosystems. Some studies have shown that certain bacteria and fungi have the ability to degrade terpenes, decreasing their toxicity to fish. When spilled, this product may act as an oil, causing a film, sheen, emulsion or sludge at or beneath the surface of a body of water.

PERSISTENCE DEGRADABILITY: Product is expected to be readily biodegradable.

BIOACCUMULATION/ACCUMULATION: No appreciable bioconcentration is expected in the environment.

MOBILITY IN ENVIRONMENT: Citrus terpenes volatilize rapidly.

SECTION 14: DISPOSAL CONSIDERATIONS

DISPOSAL: Incinerate or dispose of in accordance with Local, State, and Federal Regulations. Taking regulations into consideration, waste may be incinerated or handled through EPA Spill Control Plan via landfill or dilution. Commercially clean containers prior to disposal. Oil soaked rags should be disposed of properly to prevent spontaneous combustion

We believe the statements, technical information, and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

John W. Beakley, Quality Control

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