Section 1. Product and Company Identification

Product Name Tetrahydrolinalool
CAS Number 78-69-3

Parchem - fine & specialty chemicals
415 Huguenot Street
New Rochelle, NY 10801
(914) 654-6800 **(914) 654-6899**
parchem.com **info@parchem.com**

EMERGENCY RESPONSE NUMBER
CHEMTEL
Toll Free US & Canada: 1 (800) 255-3924
All other Origins: 1 (813) 248-0585
Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture
GHS Classification
Flammable liquids: Category 4
Skin irritation: Category 2
Eye irritation: Category 2A

GHS Label Elements
Pictograms:

Signal word: WARNING

Hazard and precautionary statements
Hazard statements
H227 Combustible liquid.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements
Prevention
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/eye protection/face protection
Response
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/attention.

P337 + P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.

Potential Health Effects
Primary Routes of Entry: Skin Absorption
Skin: May cause skin irritation.
Eyes: May cause eye irritation.
Aggravated Medical Condition: None known.
Symptoms of Overexposure: No specific symptoms known.

Carcinogenicity
IARC: No component of this product, present at levels greater than or equal to 0.1%, is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA: No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by OSHA.
NTP: No component of this product, present at levels greater than or equal to 0.1%, is identified as a known or anticipated carcinogen by NTP.

Additional hazards and advice: None known.

Section 3. Composition / Information on Ingredients

Common Name Tetrahydrolinalool
Synonym(s) 3,7-dimethyloctan-3-ol; THLL
Formula $C_{10}H_{22}O$
CAS Number 78-69-3

COMPONENT	CAS NUMBER	CONCENTRATION
Tetrahydrolinalool	78-69-3	90 - 100%

Section 4. First Aid Measures

General advice: Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
Inhalation: Move to fresh air. Consult a physician after significant exposure.
Skin contact: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.
Eye contact: Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
Ingestion: Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed: No specific symptoms known.
Notes to physician: Treat symptomatically.

Section 5. Firefighting Measures

Flammable properties
Flash point: 171°F (77°C)
Method: DIN 51758
Ignition temperature: 365°C (at 1,013 hPa, DIN 51794)
Lower explosion limit: 1.1% (V)
Upper explosion limit: 6.5% (V)
Flammability (solid, gas): The substance or mixture does not emit flammable gases in contact with water.

Firefighting
Suitable extinguishing media: Alcohol-resistant foam; Dry chemical; Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media: High volume water jet

Further information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Protective equipment and precautions for firefighters
Specific hazards during firefighting: Do not allow run-off from firefighting to enter drains or water courses.
Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Use personal protective equipment. Ensure adequate ventilation.
Environmental precautions: Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

Advice on safe handling: Avoid contact with skin and eyes. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations.
Smoking, eating, and drinking should be prohibited in the application area. Ensure material transfers are under containment or extract ventilation. Ensure adequate ventilation, especially in confined areas.
Advice on protection against fire and explosion: Take necessary action to avoid static electricity discharge. Product will burn under fire conditions.

Conditions for safe storage: Protect against light. Protect from humidity. Keep container tightly closed and dry. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage temperature: < 77°F (< 25°C)

Section 8. Exposure Controls / Personal Protection

Components with workplace control parameters: Contains no substances with occupational exposure limit values.

Personal protective equipment
Respiratory protection: In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. In the case of vapor formation use a respirator with an approved filter.
Hand protection: Glove material: for example nitrile rubber
Consider the hazard characteristics of this product and any special workplace conditions when selecting the appropriate type of protective gloves.
Eye protection: Safety glasses with side-shields
Skin and body protection: Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties
Appearance: Liquid
Color: Colorless
Odor: Floral, Citrous-like
Odor Threshold: No information available.
pH: No data available
Melting point/range: -56°C
Boiling point/boiling range: 197°C (at 1,013 hPa)
Flash point: 77°C (Closed Cup, DIN 51758)
Evaporation rate: Not determined

Flammability (solid, gas): The substance or mixture does not emit flammable gases in contact with water.
Lower explosion limit: 1.1% (V)
Upper explosion limit: 6.5% (V)
Vapor pressure: 0.111 hPa (at 20°C)
Vapor pressure: 3 hPa (at 50°C)

Relative vapor density: Not determined
Density: 0.825 g/cm^3 (at 25°C)

Solubility
Water solubility: 0.32 g/l (25°C)
Various organic solvents: Soluble

Partition coefficient (n-Octanol/water): log Pow 3.3 (20 - 23°C; OECD Test Guideline 117)
Ignition temperature: 365°C (at 1,013 hPa, DIN 51794)
Thermal decomposition: No data available
Viscosity, dynamic: 11.1 mPa*s (at 25°C)
Explosive properties: Not explosive
Oxidizing properties: Not oxidizing

Other information
Molecular weight: 158.29 g/mol
Surface tension: 28 mN/m (20°C)

Section 10. Stability and Reactivity

Reactivity: No hazards to be specially mentioned.
Chemical stability: Stable under recommended storage conditions.
Possibility of hazardous reactions: Possible incompatibility with materials listed under section 10.5.
Conditions to avoid: Heat.
Incompatible materials: Strong acids and strong bases; Strong oxidizing agents
Hazardous decomposition products: No decomposition if used as directed

Section 11. Toxicological Information

Acute oral toxicity - LD50 (Rat): 8,270 mg/kg
Acute oral toxicity - LD50 (Mouse): 4,500 mg/kg
Acute inhalation toxicity - LC0 (Rat, 8 h): 0.885 mg/l
Acute dermal toxicity - LD50 (Rat): > 5,000 mg/kg

Skin irritation: Skin irritation (In vitro study, Skin corrosion: Human Skin Model Test)
Eye irritation: Eye irritation (Rabbit)

Sensitization: Did not cause sensitization. (Human, Maximization Test (GPMT))
Sensitization: Does not cause skin sensitization. (Guinea pig) Test performed using a similar product
Carcinogenicity: This information is not available.

Genotoxicity in vitro
Not mutagenic, not genotoxic (Various test systems)

Reproductive toxicity: No indication for adverse effects on fertility known.
NOAEL: 365 mg/kg bw/d (Rat, Oral)
Test performed using a similar product.
Teratogenicity: Not teratogenic. Not embryotoxic. NOEL: 1,000 mg/kg bw/d (Rat, Oral, OECD Test Guideline 414)
Test performed using a similar product.

STOT - single exposure (Acute Exposure): The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure
NOAEL (Oral, Rat, male and female): 160 mg/kg bw/d
Subacute toxicity study (28 days)
Test performed using a similar product.
(OECD Test Guideline 407)
NOAEL (Dermal, Rat, male and female): 250 mg/kg bw/d
Sub-chronic toxicity study (90-day)
Test performed using a similar product.

Further information: May cause irritation of respiratory tract.
Aspiration toxicity: No aspiration toxicity classification

Section 12. Ecological Information

Toxicity
Toxicity to fish
Danio rerio (zebra fish) LC50 (96 h): 8.9 mg/l (nominal concentration) (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates
Daphnia magna (Water flea) EC50 (48 h): 14.2 mg/l (OECD Test Guideline 202)
Toxicity to algae
Desmodesmus subspicatus (green algae)
ErC50 (72 h): 21.6 mg/l (nominal concentration) (DIN 38412)
ErC10 (72 h): 9.5 mg/l (nominal concentration) (DIN 38412)
Toxicity to bacteria
Pseudomonas putida
EC50 (0.5 h): 1,000 mg/l (DIN 38412)
EC10 (0.5 h): 450 mg/l (DIN 38412)

Persistence and degradability
Biodegradability: Readily biodegradable. 60 - 70% (28 d) (OECD Test Guideline 301F)
Photodegradation: 27 d (Air, 25 °C)

Bioaccumulative Potential
Bioaccumulation: Bioaccumulation is unlikely.
Partition coefficient (n-Octanol/Water): log Pow 3.3 (20 - 23°C ; OECD Test Guideline 117)

Mobility in soil
Mobility: Not expected to adsorb on soil.
Distribution among environmental compartments: Adsorption/Soil
log Koc 1.75 (calculated value)
Surface tension: 28 mN/m (20°C)

Other Adverse Effects
Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information: There is no data available for this product.

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

International Regulation
UNRTDG: Not regulated as a dangerous good
IATA-DGR: Not regulated as a dangerous good
IMDG-Code: Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable for product as supplied.

National Regulations
49 CFR
UN/ID/NA number: NA 1993
Proper shipping name: Combustible liquid, n.o.s. (3,7-dimethyloctan-3-ol)
Class: 3 - CBL
Packing group: III
ERG Code: 128

Marine pollutant: No
Remarks: Above applies only to containers over 119 gallons or 450 liters.
Not regulated if shipped in packages less than or equal to 119 gallons (450 liters).

Section 15. Regulatory Information

TSCA list: Not relevant
EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity: This material does not contain any components with a CERCLA RQ.
SARA 304 Extremely Hazardous Substances Reportable Quantity: This material does not contain any components with a section 304 EHS RQ.
SARA 311/312 Hazards: Fire Hazard; Acute Health Hazard
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act
This product does not contain any Hazardous Substances listed under the U.S. Clean Water Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. Clean Water Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right to Know
No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right to Know
3,7-dimethyloctan-3-ol (78-69-3) 90 - 100%
New Jersey Right to Know
3,7-dimethyloctan-3-ol (78-69-3) 90 - 100%

The components of this product are reported in the following inventories:
TSCA: On TSCA Inventory

HMIS Rating
Health: 2
Flammability: 2
Reactivity: 0

NFPA Rating
Health: 1
Flammability: 2
Reactivity: 0

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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