

SAFETY DATA SHEET

Classified According to OSHA Hazard Communication Standard (HCS)



SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Citral
Isolate

Product Number: TTI-CITR

Other Identifying Product Numbers: TTI-CITR-02, TTI-CITR-05, TTI-CITR-120, TTI-CITR-15, TTI-CITR-30, TTI-CITR-480

1.2. Recommended Use and Restrictions on Use

This product is intended for use only by adults 21 or older. For lawful use only. This product is concentrated and should not be used undiluted. Not for use with tobacco or nicotine. Avoid contact with the skin, eyes, wood surfaces, and fabrics. Keep out of reach of children and pets. Consumers should determine and conduct their own safety standards and testing. The United States Food and Drug Administration, and Center for Disease Control and Prevention, and multiple state governments are investigating numerous instances of severe respiratory illnesses and deaths associated with the use of vaping products. Symptoms include breathing difficulty, shortness of breath, chest pain, mild to moderate gastrointestinal illness, fever, or fatigue. To date, True Terpenes has not received any evidence to suggest that this product has caused any adverse health consequences. Do not use this product if you are pregnant, nursing or a person with or at risk of serious health conditions including but not limited to: heart disease, high blood pressure, diabetes, respiratory illness, or a person taking medicine for depression or asthma. Discontinue use and consult your doctor if an adverse reaction occurs. This product is not intended to diagnose, treat, cure or prevent any disease. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. Multiple state governments have banned the sale of flavors, including terpenes, in vaping applications. These laws are in flux.

1.3. Details of the Supplier of the Safety Data Sheet

Company: True Terpenes
Address: 2416 N Hayden Island Dr.

Portland, OR 97217 USA

Telephone: 888-954-8550

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA)	800-424-9300
CHEMTREC (International)	1+ 703-527-3887

SAFETY DATA SHEET

Classified According to OSHA Hazard Communication Standard (HCS)

TRUE
TERPENES

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements	Precautionary Statements:
Skin Corrosion / Irritation	Category 2	H315	P264, P280, P302+P352, P321, P332+P313, P362
Eye Damage / Irritation	Category 2A	H319	P264, P280, P305+P351+P338, P337+P313
Skin Sensitizer	Category 1	H317	P261, P272, P280, P302+P352, P332+P313, P321, P363, P501
Reproductive Toxicity	Category 2	H361	P201, P202, P280, P308+P313, P405, P501
Specific Target Organs/Systemic Toxicity Following Repeated Exposure	Category 2	H373	P260, P314, P501
Flammable Liquids	Category 4	H227	P210, P280, P370+P378, P403+P235, P501
Hazardous to the Aquatic Environment (Acute)	Category 2	H401	P273, P501

2.2. GHS Label Elements

Pictograms:



Signal Word: **Warning**

Hazard Statements:

Hazard Number	Hazard Statement
H227	Combustible liquid.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life.

SAFETY DATA SHEET



Classified According to OSHA Hazard Communication Standard (HCS)

Precautionary Statements:

Precautionary Number	Precautionary Statement
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, sparks and open flame. No smoking.
P260	Do not breathe fumes, mist, vapors, or spray.
P261	Avoid breathing fumes, mist, vapors, or spray.
P264	Wash arms, hands and face thoroughly after handling.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.
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 remove. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical attention.
P314	Get medical attention if you feel unwell.
P321	Specific treatment (Wash areas of contact with plenty of water.).
P332+P313	If skin irritation occurs: Get medical attention.
P337+P313	If eye irritation persists: Get medical attention.
P362	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number
Citral	C ₁₀ H ₁₆ O	152.23 g/mol	5392-40-5

Exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation, redness, pain, and tearing.

SAFETY DATA SHEET



Classified According to OSHA Hazard Communication Standard (HCS)

Inhalation: Not expected to require first aid. If necessary, remove to fresh air.

Skin Contact: IF ON SKIN: Wash with plenty of soap and water. May cause irritation, redness, itching and pain.

Ingestion: Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. May cause irritation to the eyes and skin. Wash areas of contact with water. Call a physician if irritation develops. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, redness, itching and pain.

4.3. Medical Attention or Special Treatment Needed

Specific treatment (Wash areas of contact with plenty of water.).

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

In case of fire: Use dry chemical, foam or carbon dioxide to extinguish. Use any means suitable for extinguishing surrounding fire.

5.2. Specific Hazards Arising from the Substance or Mixture

Combustible liquid. Not considered to be a fire or explosion hazard.

5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Absorb with suitable material and treat as normal refuse. Always dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up in original container with lid securely tightened. Store in a cool dry place away from heat, open flame, sunlight, combustible materials, hot surfaces, and other sources of ignition in a secure, preferably flammable, storage area. As with all chemicals, use PPE and wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Empty containers may be hazardous since they retain product residues.

SAFETY DATA SHEET

Classified According to OSHA Hazard Communication Standard (HCS)



TRUE
TERPENES

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Citral (5392-40-5)	TLV-TWA	USA	5 ppm TWA (inhalable fraction and vapor)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

8.2. Exposure Controls

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

SAFETY DATA SHEET

Classified According to OSHA Hazard Communication Standard (HCS)



SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Pale yellow liquid

Physical State: Liquid

Odor: Strong Lemon Odor

Odor Threshold: Data not available.

pH: 5

Melting/Freezing Point: 14°F

Initial Boiling Point/Range: 442.4°F - 444.2°F

Flash Point: >200°F

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: 5.3

Relative Density: 0.89 at 25°C

Solubility: Insoluble

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Keep away from heat, sparks and open flame. No smoking. Strong oxidizing agents, strong acids, strong bases.

10.4. Hazardous Decomposition Products

Carbon oxides may form on decomposition.

SAFETY DATA SHEET

Classified According to OSHA Hazard Communication Standard (HCS)



SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral (calculated): 4960 mg/kg

Skin Corrosion and Irritation:

Causes skin irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF ON SKIN: Wash with plenty of soap and water. Specific treatment (Wash areas of contact with plenty of water.). If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

Serious Eye Damage and Irritation:

Causes serious eye irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

May cause an allergic skin reaction. Avoid breathing fumes, mist, vapors, or spray. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves and eye protection. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical attention. Specific treatment (Wash areas of contact with plenty of water.). Wash contaminated clothing before reuse. Dispose of contents in accordance with local, state, federal and international regulations.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

Suspected of damaging fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.

Specific Target Organ Toxicity from Repeated Exposure:

May cause damage to organs through prolonged or repeated exposure. Do not breathe fumes, mist, vapors, or spray. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

Aspiration Hazard:

Not applicable.

SAFETY DATA SHEET



Classified According to OSHA Hazard Communication Standard (HCS)

Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Toxic to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Dispose of contaminated packaging as unused product.

SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

SAFETY DATA SHEET

Classified According to OSHA Hazard Communication Standard (HCS)



14.2. Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.

14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG Regulations.

SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Not listed.

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Not listed.

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Not listed.

15.5. Massachusetts Right-to-Know Substance List

Not listed.

15.6. Pennsylvania Right-to-Know Hazardous Substances

Not listed.

SAFETY DATA SHEET



Classified According to OSHA Hazard Communication Standard (HCS)

15.7. New Jersey Worker and Community Right-to-Know Components

Not listed.

15.8. California Proposition 65

Not listed.

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Citral (CAS # 5392-40-5): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List

Citral (CAS # 5392-40-5): Present

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Citral (CAS # 5392-40-5): 226-394-6

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

Combustible liquid. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks and open flame. No smoking. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves and eye protection.

IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical attention. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with plenty of water.). If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.

Store in a well-ventilated place. Keep cool. Store locked up.

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

Biohazardous Infectious Materials Hazard Class: Not Applicable.

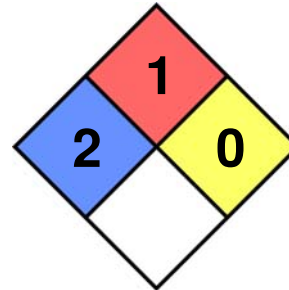
SAFETY DATA SHEET

Classified According to OSHA Hazard Communication Standard (HCS)



16.3. National Fire Protection Association (NFPA) Rating

Health: 2
Flammability: 1
Reactivity: 0
Special Hazard:



16.4. Document Revision

Last Revision Date: 2020-06-10

DISCLAIMER

True Terpenes cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for use, handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on knowledge and experience currently available. To date, True Terpenes has not received any evidence to suggest that this product has caused any adverse health consequences. The above information relates only to this product and not to its use in combination with any other material or any particular process, and is designed only as guidance for the handling, use, processing, storage, transportation, and disposal. It should not be considered as a guarantee or quality specification. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. True Terpenes has performed no testing on these products in e-cig/vaping applications. It is the sole responsibility of the individual(s) purchasing this product to assess its safety in the final application. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of True Terpenes' knowledge-based upon current information as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own uses, processes, and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.