

Triethyl Citrate

triethyl-citrate · Version 1.0 · Issued 21 August 2026

SECTION 1 — IDENTIFICATION

Product identifier	Triethyl Citrate
Veriscents SKU	triethyl-citrate
CAS number	77-93-0
FEMA number	3083
Molecular formula	$C_{12}H_{20}O_7$ · molecular weight 276.29 g/mol
Synonyms	Citric acid triethyl ester; ethyl citrate; triethyl 2-hydroxypropane-1,2,3-tricarboxylate; 2-hydroxy-1,2,3-propanetricarboxylic acid triethyl ester
Recommended use	Aromatic raw material for professional use in flavour and fragrance compounding. Commonly used as a diluent, carrier and fixative. Use subject to applicable IFRA Standards and, in flavour applications, to FEMA GRAS and FDA food additive provisions.
Restrictions on use	For manufacturing and professional use only. Not supplied for direct undiluted application to skin and not intended for sale to consumers in the form supplied. Not evaluated for use in electronic cigarette or other inhalation-by-design products.

Supplier

Company	Veriscents
Address	30 N. Gould Street, Sheridan, WY 82801, USA
Telephone	+1 877.863.7700
E-mail	support@veriscents.com
Contact	Regulatory Officer

Issued to

Emergency telephone (24 hours) · +1 800.222.1222

Poison Help, the US national poison control line, funded by HRSA and staffed around the clock. The call is routed to the caller's regional poison center. It provides medical advice on human exposure by ingestion, inhalation, skin contact and eye contact.

This line is not a chemical incident response service. It does not handle spills, fire or transport incidents, and it holds no product-specific information from Veriscents. It does not satisfy 49 CFR 172.604. Triethyl citrate is not regulated as a dangerous good by any transport mode (see Section 14), so no monitored hazmat response number is required for shipment of this material.

Provenance

This sheet is prepared by Veriscents from the manufacturer's safety data sheet for the material we repackage: Vigon International, LLC, item 504113 Triethyl Citrate Natural, version 04, revision date 18 November 2022. Veriscents is the issuing party and is responsible for the content of this sheet. Full sourcing, and identification of the items determined by Veriscents rather than taken from the manufacturer, appear in Section 16.

SECTION 2 — HAZARD(S) IDENTIFICATION

Classification of the substance

This substance has been evaluated against the criteria of 29 CFR 1910.1200 Appendix A and B (GHS Rev. 8) and is **not classified** in any physical, health or environmental hazard class.

Hazard group	Classification
Physical hazards	Not classified
Health hazards	Not classified
Environmental hazards	Not classified

GHS label elements

Pictogram	None — no classification requires one
Signal word	None
Hazard statements	None. The substance does not meet the criteria for classification in any hazard class.
Precautionary statements	None required. Precautionary statements under Appendix C are assigned on the basis of hazard classification; where there is no classification, no statement is mandated.

Triethyl Citrate

triethyl-citrate · Version 1.0 · Issued 21 August 2026

Why no precautionary statement set is printed here

Veriscents sheets normally carry the complete precautionary statement set derived from the classification rather than the shorter selection a manufacturer may print. For this material the derived set is empty, because there is no classification to derive it from. The handling advice given in Sections 7 and 8 is good occupational practice for a combustible ester, not GHS label content, and must not be transcribed onto a label as though it were.

Hazards not otherwise classified (HNOC)	None known. The manufacturer reports mild skin and mild eye irritation in Section 11; the effects described fall below the thresholds for classification as a skin or eye irritant.
Supplemental information	100% of the substance consists of components of unknown acute hazard to the aquatic environment, and 100% of components of unknown long-term hazard to the aquatic environment.

SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Substance. Single-component material; no impurity or stabilising additive is declarable.

Chemical name	Common name and synonyms	CAS number	Concentration
Triethyl citrate	Citric acid triethyl ester; ethyl citrate; triethyl 2-hydroxypropane-1,2,3-tricarboxylate; 2-hydroxy-1,2,3-propanetricarboxylic acid triethyl ester	77-93-0	100%

The manufacturer designates the grade supplied as “natural”. That designation concerns the origin of the feedstock used in manufacture and does not indicate any difference in chemical composition; the substance is triethyl citrate at 100%. Sourcing is set out in Section 16.

SECTION 4 — FIRST-AID MEASURES

Inhalation	Move the affected person to fresh air and keep them at rest in a position that eases breathing. Give oxygen if breathing is laboured and a trained responder is available. Seek medical attention if symptoms appear or persist.
Skin contact	Remove contaminated clothing at once. Wash the affected skin thoroughly with soap and water for several minutes. Seek medical attention if irritation develops and persists. Launder contaminated clothing before re-use.
Eye contact	Rinse the eye with plenty of water, holding the eyelids apart, for at least 15 minutes. Remove contact lenses if present and easily done, then continue rinsing. Seek medical attention if irritation develops and persists.
Ingestion	Rinse the mouth with water if the person is conscious. Do not induce vomiting. If vomiting occurs spontaneously, keep the head below hip level so that stomach contents are not aspirated into the lungs. Call a physician or poison control center.
Most important symptoms and effects, acute and delayed	Direct contact with the eyes may cause temporary irritation. Prolonged or repeated skin contact may cause mild irritation and defatting of the skin. No delayed effects are known.
Indication of immediate medical attention and special treatment needed	No specific antidote is known. Treat symptomatically. No information on special treatment is available from the manufacturer.
Notes for the physician	Ensure that attending medical personnel are aware of the material involved and take appropriate precautions. Provide this safety data sheet to the physician in attendance.

SECTION 5 — FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray or fog, carbon dioxide, dry chemical, or alcohol-resistant foam.
Unsuitable extinguishing media	Solid water stream, which may scatter the material and spread the fire.
Specific hazards arising from the chemical	Combustible liquid with a closed-cup flash point above 93.3 °C (NFPA Class IIIB). It does not ignite readily at ambient temperature but will burn once heated above its flash point. Combustion may produce irritating, corrosive or toxic gases, including carbon monoxide and carbon dioxide. Static charge generated when emptying a package in or near flammable vapour may cause a flash fire.
Special protective equipment for firefighters	Full structural firefighting kit including flame-retardant coat, helmet with face shield, gloves and rubber boots. Structural kit alone gives only limited chemical protection. Wear self-contained breathing apparatus with a full facepiece operated in positive-pressure demand mode, and in all enclosed spaces.
Fire-fighting instructions	Do not breathe fumes in the event of fire or explosion. Use standard firefighting procedures and take account of the hazards of other materials involved. Move containers away from the fire if this can be done without risk, and use water spray to cool containers that cannot be moved. Contain firewater; runoff may cause environmental damage. Keep runoff out of sewers and watercourses and dike for water control. Ventilate closed spaces before entry.

Triethyl Citrate

triethyl-citrate · Version 1.0 · Issued 21 August 2026

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Eliminate sources of ignition where the material may be heated above its flash point. Avoid skin contact and avoid breathing any mist or vapour generated. Do not handle damaged containers or spilled material without appropriate protective clothing (Section 8). Ventilate closed spaces before entry.
Environmental precautions	Prevent further leakage or spillage if it is safe to do so. Do not allow the material to enter drains, sewers, watercourses or the ground. Retain contaminated wash water for disposal. Notify the local authority if the material reaches a drain or an aquatic environment.
Methods and materials for containment and cleaning up	Stop the flow of material if this can be done without risk and dike the spill where possible. The material is immiscible with water and will spread across a water surface. Absorb with an inert absorbent such as dry clay, sand, diatomaceous earth or a commercial sorbent, or recover with a pump. For large spills, cover with plastic sheet to limit spreading and absorb into vermiculite, dry sand or earth before transferring to containers. For small spills, wipe up with absorbent cloth or fleece and clean the surface to remove residue. Do not return recovered material to its original container for re-use. Collect the recovered material and contaminated absorbent for disposal in accordance with Section 13.

SECTION 7 — HANDLING AND STORAGE

Precautions for safe handling	Handle in accordance with good industrial hygiene and safety practice. Do not handle or store near an open flame, hot surface or other ignition source, and do not heat above the flash point except under controlled conditions. Take precautions against static discharge and ground equipment where the material is transferred in bulk or where flammable vapour from other materials may be present. Avoid contact with the eyes and prolonged contact with the skin. Avoid breathing mist. Wash thoroughly after handling and before eating, drinking or smoking.
Conditions for safe storage, including incompatibilities	Keep the container tightly closed when not in use. Open slowly to release any pressure that has developed. Store upright in a cool, dry, well-ventilated area away from direct sunlight and away from strong oxidising agents. Handle containers with care. Protect from freezing is not necessary at normal warehouse temperatures; the material remains liquid to approximately –55 °C.

SECTION 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Component	Occupational exposure limit	Biological limit value
Triethyl citrate (CAS 77-93-0)	None established. No OSHA PEL, no ACGIH TLV, no NIOSH REL and no other recommended occupational exposure limit has been assigned to this substance.	None established.

Where no occupational exposure limit exists, control exposure to the lowest level reasonably practicable using the engineering measures below.

Exposure controls

Appropriate engineering controls	Provide general dilution ventilation sufficient to keep airborne mist below any level at which discomfort or irritation occurs. Use local exhaust ventilation at points where mist or aerosol may be generated, such as spraying, high-shear mixing or heated transfer. Where the material is handled above its flash point, or in an area where flammable vapour from other materials may be present, use explosion-proof ventilation equipment.
Eye and face protection	Safety glasses with side shields, or chemical splash goggles where splashing is foreseeable, conforming to ANSI Z87.1.
Hand protection	Chemical-resistant gloves. Nitrile is generally suitable for incidental contact. Select breakthrough time against the actual task and replace gloves at the first sign of degradation.
Skin and body protection	Laboratory coat or other suitable protective clothing. Launder contaminated clothing before re-use.
Respiratory protection	Not required under normal handling with adequate ventilation. Where ventilation is insufficient or mist is generated, use a NIOSH-approved respirator with an organic vapour cartridge and particulate pre-filter under a written respiratory protection program meeting 29 CFR 1910.134.
Thermal hazards	Wear appropriate thermal protective clothing where the material is handled hot.
General hygiene considerations	Observe good personal hygiene. Wash after handling the material and before eating, drinking or smoking. Routinely launder work clothing and clean protective equipment to remove contamination. Do not eat, drink or store food in the work area.

Triethyl Citrate

triethyl-citrate · Version 1.0 · Issued 21 August 2026

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	Clear liquid. Refer to the product specification sheet.
Physical state	Liquid
Colour	Refer to the product specification sheet.
Odour	Characteristic; faint
Odour threshold	Not available
pH	Not available
Melting point / freezing point	–55 °C (–67 °F)
Initial boiling point and boiling range	294 °C (561.2 °F)
Flash point	> 93.3 °C (> 200.0 °F), closed cup
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable — the material is a liquid
Upper / lower flammability or explosive limits	Not available (upper and lower)
Vapour pressure	0.0002 mm Hg at 25 °C
Vapour density	9.6 (air = 1)
Relative density	Not available
Solubility in water	Insoluble
Solubility, other	Miscible with ethanol and with common fragrance solvents
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity, kinematic	30.96 mm²/s (estimated)
Viscosity, dynamic	35.2 mPa·s at 25 °C (77 °F)
Explosive properties	Not explosive
Oxidising properties	Not oxidising
Particle characteristics	Not applicable — the material is a liquid
Density	1.14 g/cm³ at 20 °C
Specific gravity	1.14 at 25 °C
Molecular formula	C ₁₂ H ₂₀ O ₇
Molecular weight	276.29 g/mol
Flammability class	Combustible IIIB (estimated)

SECTION 10 — STABILITY AND REACTIVITY

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction is known under conditions of normal use.
Conditions to avoid	Temperatures exceeding the flash point. Contact with incompatible materials. Ignition sources.
Incompatible materials	Strong oxidising agents. Strong acids and strong bases may hydrolyse the ester.
Hazardous decomposition products	None if stored and handled as indicated. Thermal decomposition or combustion produces carbon oxides.

Triethyl Citrate

triethyl-citrate · Version 1.0 · Issued 21 August 2026

SECTION 11 — TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Knowledge of the health hazard by this route is incomplete. Vapour exposure is limited by the very low vapour pressure of the material; mist or aerosol is the realistic inhalation exposure.
Skin contact	Causes mild skin irritation. Prolonged or repeated contact may defat the skin.
Eye contact	Causes mild eye irritation. Knowledge of the health hazard by this route is incomplete.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with the eyes may cause temporary irritation.

Acute toxicity

Route	Endpoint	Species	Result
Oral	LD50	Rat	5,900 mg/kg
Dermal	LD50	Rabbit	> 5,000 mg/kg
Inhalation	LC50	Rat	1,300 ppm, 6 hours. Reported effects: acute pulmonary oedema, pleural effusion and dyspnoea.

Note on the inhalation figure

The reported LC50 of 1,300 ppm over 6 hours corresponds to approximately 14.7 mg/L on a 6-hour basis and approximately 22 mg/L when adjusted to the 4-hour exposure period used for GHS classification, which is above the 20 mg/L cut-off for Acute Toxicity Category 4 by the vapour route. The saturated vapour concentration at 25 °C, derived from the vapour pressure in Section 9, is on the order of 0.3 ppm, so a concentration of this magnitude is not attainable as a vapour at ambient temperature and the test atmosphere would have been an aerosol. This is the basis on which the material is not classified for acute inhalation toxicity. The adjustment and the saturated vapour estimate are Veriscents calculations, not manufacturer data.

Information on toxicological effects

Endpoint	Assessment
Skin corrosion / irritation	Classification not possible on the available data. Mild irritation reported.
Serious eye damage / eye irritation	Classification not possible on the available data. Mild irritation reported.
Respiratory sensitisation	Classification not possible on the available data.
Skin sensitisation	Classification not possible on the available data.
Germ cell mutagenicity	Classification not possible on the available data.
Carcinogenicity	Classification not possible on the available data. Not listed by IARC, not listed by NTP, and not regulated under 29 CFR 1910.1001–1053.
Reproductive toxicity	Classification not possible on the available data.
Specific target organ toxicity, single exposure	Classification not possible on the available data.
Specific target organ toxicity, repeated exposure	Classification not possible on the available data.
Aspiration hazard	Classification not possible on the available data.

SECTION 12 — ECOLOGICAL INFORMATION

Ecotoxicity	The product is not classified as hazardous to the environment. This does not exclude the possibility that a large or frequent release may harm or damage the environment. No aquatic toxicity data are available for the substance.
Persistence and degradability	No data are available on the degradability of this substance.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects, such as ozone depletion, photochemical ozone creation potential, endocrine disruption or global warming potential, are expected from this substance.

Triethyl Citrate

triethyl-citrate · Version 1.0 · Issued 21 August 2026

SECTION 13 — DISPOSAL CONSIDERATIONS

Disposal instructions	Dispose of contents and container through a licensed waste disposal contractor in accordance with local, regional, national and international regulations. Do not discharge into drains, watercourses or onto the ground, and do not allow the material to enter sewers or water supplies. Do not contaminate ponds, waterways or ditches with the chemical or the used container. Incineration at a permitted facility is the usual route.
Hazardous waste code	Not established. This material is not listed as a RCRA hazardous waste and does not exhibit a characteristic of ignitability, corrosivity, reactivity or toxicity as supplied. The waste generator remains responsible for determining the correct classification of the waste at the point of disposal, which may differ if the material has been used, contaminated or blended.
Waste from residues and unused product	Empty containers and liners may retain product residue. Dispose of residue and container safely, following the disposal instructions above.
Contaminated packaging	Since an emptied container may retain residue, observe the label warnings after the container is emptied. Take empty containers to an approved waste handling site for recycling or disposal.

SECTION 14 — TRANSPORT INFORMATION

Regulation	Classification
DOT (49 CFR), bulk	Not regulated as a dangerous good.
DOT (49 CFR), non-bulk	Not regulated as a dangerous good.
IATA (air)	Not regulated as a dangerous good.
IMDG (sea)	Not regulated as a dangerous good.
ADR / RID / ADN (Europe, road, rail, inland waterway)	Not regulated as a dangerous good.
Transport in bulk according to MARPOL Annex II and the IBC Code	Not applicable.
Special precautions	None beyond ordinary care in securing and handling the load. The material is a combustible liquid of high flash point; keep it away from heat sources in transit.
Emergency response information	As the material is not regulated for transport by any mode, the 24-hour monitored emergency response telephone number required by 49 CFR 172.604 does not apply to shipments of this SKU.

SECTION 15 — REGULATORY INFORMATION

US federal regulations

Regulation	Status
TSCA Inventory (15 U.S.C. 2601 et seq.)	Listed on the TSCA Inventory of Chemical Substances.
TSCA Section 12(b) export notification (40 CFR 707, Subpt. D)	Not regulated.
CERCLA hazardous substance list (40 CFR 302.4)	Not listed.
SARA 302 extremely hazardous substance	Not listed.
SARA 304 emergency release notification	Not regulated.
SARA 311/312 hazardous chemical	No.
SARA 313 (TRI reporting)	Not regulated.
Clean Air Act Section 112 HAP list	Not regulated.
Clean Air Act Section 112(r) (40 CFR 68.130)	Not regulated.
Safe Drinking Water Act	Not regulated.
OSHA specifically regulated substances (29 CFR 1910.1001–1053)	Not listed.
FDA	Total food additive; direct food additive; GRAS food additive. FEMA GRAS number 3083.

US state regulations

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986). This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm at a level requiring a warning. No Proposition 65 warning is required for this material.

Triethyl Citrate

triethyl-citrate · Version 1.0 · Issued 21 August 2026

Fragrance industry — IFRA

Triethyl citrate is not the subject of an IFRA Standard under the 51st Amendment to the IFRA Code of Practice. No IFRA category limit applies to its use, and no restriction, prohibition or specification governs it. This is a statement about IFRA only; other regulation, including the provisions cited above and the cosmetic and food law of the destination market, continues to apply. Where an IFRA Certificate of Conformity is published for this SKU it is available from the product page at veriscents.com.

Other

EU Cosmetic Regulation 1223/2009, Annex III Triethyl citrate is not a declarable fragrance allergen under Annex III. Refer to the Allergen Statement for this SKU where one is published.

Chemical safety assessment No chemical safety assessment has been carried out for this substance by Veriscents.

SECTION 16 — OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Veriscents issue date	21 August 2026
Veriscents version	1.0
Veriscents document number	VS-TRIETHYL-CITRATE-R10
Revision information	First issue under the Veriscents name.
HMIS® ratings	Health 1 · Flammability 1 · Physical hazard 0

Sources

Source	Document	Version	Date
Vigon International, LLC	Safety Data Sheet, item 504113 Triethyl Citrate Natural	04	Revised 18 November 2022 (first issued 21 September 2017)
Veriscents	Classification review, GHS Rev. 8 criteria; acute inhalation adjustment and saturated vapour estimate in Section 11; TSCA Inventory and California Proposition 65 status in Section 15; IFRA status in Section 15; RCRA characterisation in Section 13	1.0	21 August 2026

Trade marks and affiliation

Vigon and Vigon International are marks of Vigon International, LLC. Veriscents is not affiliated with, endorsed by, or acting as an agent of that company. IFRA is a mark of the International Fragrance Association. FEMA is a mark of the Flavor and Extract Manufacturers Association. HMIS is a registered mark of the American Coatings Association. These marks are used for identification only.

Abbreviations

ACGIH American Conference of Governmental Industrial Hygienists · CAS Chemical Abstracts Service · GHS Globally Harmonized System of Classification and Labelling of Chemicals · HNOX hazards not otherwise classified · IARC International Agency for Research on Cancer · LC50 median lethal concentration · LD50 median lethal dose · NIOSH National Institute for Occupational Safety and Health · NTP National Toxicology Program · PEL permissible exposure limit · RCRA Resource Conservation and Recovery Act · REL recommended exposure limit · TLV threshold limit value · TSCA Toxic Substances Control Act

Disclaimer

Veriscents issues this sheet as the responsible party for its content. It is prepared from the manufacturer's data identified above together with the review recorded in Section 16, and reflects our knowledge at the date of issue. It describes the material as supplied and does not describe its behaviour in combination with other materials or within any particular process.

The information is guidance for safe handling, use, processing, storage, transport and disposal. It is not a specification and it is not a guarantee of any property or of fitness for a particular purpose; refer to the product specification sheet for quality parameters. It is the responsibility of the purchaser to assess the suitability and safety of the material in their own processes and finished products, to pass appropriate warnings and handling procedures to everyone who will handle it, and to comply with the law of the markets they supply.

This material has not been evaluated for use in electronic cigarettes or any other application in which it is deliberately vaporised and inhaled, and no testing has been performed for such use. It is not supplied for that purpose.

Review triggers for this sheet: a revised manufacturer safety data sheet; a change of manufacturer or supplier for this SKU; a change to the classification criteria or to the regulatory listings cited in Section 15; a change of Veriscents contact details; a new IFRA Amendment affecting this material.