

<b>MATERIAL SAFETY DATA SHEET</b>	
PARUL CHEMICALS <b>Product : TRIETHYL CITRATE</b>	Page1of4 Review Date:27/4/2022
<b>1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION</b>	
COMMERCIALPRODUCTNAME	TRIETHYLCITRATE
COMPANY/SUPPLIER	Parul Chemicals Survey No 63/APart1 Village Panchdevla, Taluka Vaghodia, District Vadodara-391510 Gujarat, India
Product use	Plasticizer, solvent, egg white whipping aid, fixative, deodorant active ingredient
<b>2. COMPOSITION, INFORMATION ON INGREDIENTS</b>	
Chemical name	Triethyl Citrate
Chemical characterization	C <sub>12</sub> H <sub>20</sub> O <sub>7</sub> 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, Triethyl ester organic Acid Ester
Chemical family	Triethyl citrate, TEC, TEC plasticizer
Synonyms	
<b>COMPOSITION</b>	<b>CAS Reg. No.</b> <b>%</b>
Triethyl Citrate	77-93-0                              100
Hazardous impurities	None
EINECS-No.	201-070-7
E-No.	E1505
<b>3. HAZARDS IDENTIFICATION</b>	
Classification of the substance or mixture	: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
Label Elements	: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
Other Hazards	:This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
<b>4. FIRST AID MEASURES</b>	
General advice	No hazards which require special first aid measures. If you feel unwell seek medical advice.
Inhalation	Move to fresh air, if symptoms persist, call a physician.
Skin contact	Wash off with soap and plenty of water. If skin irritation persists, call a physician.
Eye contact	Flush eyes with water as a precaution. If eye irritation persists, consult a specialist.
Ingestion	Drink water as a precaution. Consult a physician if necessary.
Protection of first-aiders	No hazards which require special first aid measures.

**For PARUL CHEMICALS**

*Leekha*  
Partner

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### 5. FIRE FIGHTING MEASURES

Flash point	151°C
Flammable limits	Not available
Auto ignition temperature	Not available
Suitable extinguishing media	water, water spray, dry powder, foam, carbon dioxide (CO <sub>2</sub> )
Extinguishing media which must not be used for safety reasons	None
Hazardous decomposition products	carbon oxides
Special protective equipment	Use personal protective equipment including self-contained breathing apparatus when fighting fire in enclosed area.
Specific methods	Standard procedure for chemical fires.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment. Avoid dust formation.
Environmental precautions	Do not allow material to contaminate ground water system.
Methods for cleaning up gel,	Soak up within art absorbent material (e.g. sand, silica acid binder, universal binder, sawdust).

### 7. HANDLING AND STORAGE

<b>HANDLING</b>	
Technical measures/Precautions	Use only in area provided with appropriate exhaust ventilation.
Safe handling advice	Use personal protective equipment.
<b>STORAGE</b>	
Technical measures/Storage conditions	Keep tightly closed in a dry and cool place.
Incompatible products	No special restrictions on storage with other products.
Packaging material	Intermediate Bulk Container (IBC), Iron drums

### 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering measures	Ensure adequate ventilation, especially in confined areas.
Exposure limit(s)	None established for this ingredient,
Personal protection equipment	
Respiratory protection	No personal respiratory protective equipment normally required
Hand protection	Impervious gloves, breakthrough time > 8 hours
Eye Protection	Safety glasses with side shields
Skin and body protection	Lightweight protective clothing
Hygiene measures	Handle in accordance with good industrial hygiene and safety Practice

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**Partner**

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	liquid
Color	colorless/translucent
Odor	slight
pH	not available
Vapor pressure(25°C)	1.89 x 10 <sup>-3</sup> mmHg
Vapor density	9.7
Boiling point	294°C
Boiling point range(1mmHg)	127°C
Pour point	-45.5°C
Decomposition temperature	>200°C
Evaporation rate	< 1 vs. butyl acetate
Coefficient of water/oil distribution	not available
Melting point/range	not available
Relative density	1.135g/cm <sup>3</sup>
Explosive properties	None when properly stored
Water solubility(25°C)	65g/kg
Solubility in other solvents	
Alcohol	soluble
Acetone	soluble
Viscosity(25°C)	35.2mPa.s

### 10. STABILITY AND REACTIVITY

Stability	Stable at normal conditions
Conditions to avoid	none under normal use. Hydrolyses in presence of aqueous solution of alkali salts
Materials to avoid	Incompatible with strong bases and oxidizing agents.
Hazardous decomposition products	No decomposition if stored normally. Thermal decomposition can lead to release of irritating gases and vapors.

### 11. TOXICOLOGICAL INFORMATION

Acute toxicity	LD50/p.o./rat >32 g/kg bw(1) LD50/i.p./mouse=1.75g/kgbw(2)
Local effects	No skin irritation and no eye irritation (rabbit)(3)
Chronic toxicity	Did not show carcinogenic effects in animal experiments. NOEL (no-observed-effect-level) =100 mg/kg bw(3)
Reproductive toxicity	Did not show mutagenic effects in animal xperiments(3) Not mutagenic in AMES Test (4)
Human experience	Health injuries are not known or expected under normal use. Patch test on human volunteers did not demonstrate sensitization properties. (5)

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### 12. ECOLOGICAL INFORMATION

Mobility	No information available
Persistence and degradability	Readily biodegradable, according to OECD test. <sup>(6)</sup>
Eco toxicity	This product has no known eco-toxicological effects.
	EC50/72h/algae = G 1 <sup>(6)</sup>
	LC50/96h/golden orfe = 450 mg/l <sup>(7)</sup>
	EC10/18h/bacteria => 100,000 mg/L <sup>(9)</sup>

### 13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products	Can be landfilled or incinerated when in compliance with local, State and federal laws and regulations (contact local or state environmental agency for specific rules).
Contaminated packaging	Empty containers should be transported/delivered for local recycling or waste disposal

### 14. TRANSPORT INFORMATION

DOT Not regulated  
TDG Not regulated  
IATA Not regulated  
IMDG/IMO Not regulated

### 15. REGULATORY INFORMATION

Is generally regarded as safe (GRAS) by USAFDA.21CFR182.1911 The ingredient is listed on the TSCA Inventory List.  
European Food Additive, E 1505  
CERCLA (Comprehensive Response Compensation, and Liability Act): Not hazardous  
SARA Title III (Superfund Amendments and Reauthorization Bill): Not Considered  
Hazardous USP-NG listed; Ph.Eur. Listed, FEMA (3083),JECFAFlavoringagent629  
Foreign Inventory Status: Canadian DSL (Domestic Substance List)

### 16. OTHER INFORMATION

HMIS*Rating	Health	= 1
	Fire	=1
	Reactivity	=0

\*Hazardous Material Information System of the National Paint and Coating Association.

Sources of key data used to compile the datasheet

- (1) M.Finklestein & H. Gold, Toxic. Appl. Pharmac. (1959))1,283
- (2) D.B.Meyers et all, J.pharm. Sci.(1964)53,774
- (3) CSTEE(1999)11thPlenarymeetingon28.9.99
- (4) J.LHeath & M.Reilly, Poult.Sci.(1982)61,2517
- (5) Hill Top Research Report 77-1035A-71 for Pfizer Inc.(1978)
- (6) Jungbunzlauer1994, DIN 38 412 L25
- (7) Universität des Saarlandes for Jungbunzlauer3/95,DIN38412L33
- (8) Universität des Saarlandes for Jungbunzlauer3/95,DIN38412L15
- (9) Universität des Saarlandes for Jungbunzlauer3/95,CellinhibitiontestDIN38412L8

MSDS Status: Reviewed 21/11/2021.

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