TRIETHYL ACETYL CITRATE

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Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name:	Triethyl Acetyl Citrate
Synonyms / trade name:	CITROFOL AII, TRIETHYL O-ACETYLCITRATE, TRIETHYL 2-ACETYLOXYPROPANE1,2,3-TRICARBOXYLATE
CAS Number:	77-89-4
EC Number:	201-066-5
REACH registration number:	01-2120763425-52-XXXX
REACH registration notes:	This product is not classified as hazardous, the information in this datasheet is given for guidance only.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use: Industrial application Cosmetics Pharmaceuticals Paint. Plasticizer

1.3 Details of the supplier of the safety data sheet

Company name:	East Harbour Group Ltd 20 Clough Road, Severalls Industrial Park Colchester, Essex, CO4 9QS United Kingdom
Telephone:	+44 (0) 333 242 0100
Email:	info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone:	0800 246 1274

Section 2: Hazardous identification

2.1 Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards:	Not Classified
Health hazards:	Not Classified
Environmental hazards:	Not Classified

2.2 Label elements

EC number	201-066-5	
Hazard statement	NC	Not Classified

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2.3 Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

Section 3: Composition/information on ingredients

3.1 Substances

Product name	ACETYLTRIETHYL CITRATE
REACH registration number	01-2120763425-52-XXXX
REACH registration notes	This product is not classified as hazardous, the information in this datasheet is given for guidance only.
CAS number	77-89-4
EC number	201-066-5
Composition comments	The data shown are in accordance with the latest EC Directives.

Section 4: First aid measures

4.1 Description of first aid measures

General information	First aid personnel should wear appropriate protective equipment during any rescue. Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. Give plenty of water to drink. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Eye contact	May cause temporary eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations. Treat symptomatically.

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Section 5: Fire-fighting measures

5.1 Fire Fighting Media and Instructions:

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture

Special hazards	When heated, vapours/gases hazardous to health may be formed. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO2), Carbon monoxide (CO).

5.3 Advice for firefighters

Protective actions during fire	No action shall be taken without appropriate training or involving any personal risk. Evacuate firefighting area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Control run-off water by containing and keeping it out of sewers and watercourses.
Special protective equipment	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective for firefighters clothing.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken without appropriate training or involving any personal risk. Follow precautions for safe handling described in this safety data sheet. Keep unnecessary and unprotected personnel away from the spillage. Approach the spillage from upwind. Provide adequate ventilation. Avoid inhalation of vapours and contact with skin and eyes. Do not touch or walk into spilled material.

6.2 Environmental precautions

Stop leak if safe to do so. Avoid the spillage or runoff entering drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body

6.3 Methods and material for containment and cleaning up

Avoid the spillage or runoff entering drains, sewers or watercourses. Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Clean contaminated objects and areas thoroughly, observing environmental regulations.

6.4 Reference to other sections

Wear protective clothing as described in Section 8 of this safety data sheet. Collect and dispose of spillage as indicated in Section 13.

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Section 7: Handling and storage

7.1 Precautions for safe handling

Usage precautions	Handle all packages and containers carefully to minimise spills. Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid inhalation of vapours and contact with skin and eyes.
Advice on general occupational hygiene	Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Provide eyewash station and safety shower.

7.2 Conditions for safe storage, including any incompatibilities

Storage precautions	Keep container tightly closed, in a cool, well ventilated place. Avoid excessive heat for prolonged periods of time. Container must be kept tightly closed when not in use. When exposed to air, this product will absorb moisture. Protect from moisture. Store away from the following materials: Strong oxidising agents

7.3 Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient comments	No exposure limits known for ingredient(s).
PNEC	Fresh water; 0.038 mg/l marine water; 0.004 mg/l Sediment (Freshwater); 0.22 mg/kg Soil; 0.03 mg/kg

8.2 Exposure controls

Protective equipment

Appropriate engineering controls	Provide adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Avoid inhalation of vapours and contact with skin and eyes. Provide eyewash station and safety shower.

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Eye / face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Frequent changes are recommended
Other skin and body protection	Wear suitable protective clothing as protection against splashing or contamination.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Wash contaminated clothing before reuse.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. If ventilation is inadequate, suitable respiratory protection must be worn.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless to pale yellow
Odor	Characteristic
Odor Threshold	No information available
pH	No information available
Melting Point	-45°C
Initial Boiling Point and Range	131°C @ 1013 hPa
Flash Point	188°C Open cup
Evaporation Rate	No information available
Evaporation Factor	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Other flammability	No information available
Vapor Pressure	0.01 hPa @ 25°C
Vapor Density	No information available
Relative density	1.135 @ 20°C

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Bulk Density	No information available
Solubility(ies)	Miscible with the following materials: Alcohols. Slightly soluble in water. 0.07 g/l water @ 20°C
Partition Coefficient	log Pow: 1.34
Auto-ignition temperature	No information available
Decomposition temperature	No information available
Viscosity	39 mPa s @ 25°C
Explosive properties	Not considered to be explosive
Explosive under the influence of a flame	No information available
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2 Other information

Molecular weight	318.33 g/mol

Section 10: Stability and Reactivity

10.1 Reactivity	There are no known reactivity hazards associated with this product.
10.2 Chemical Stability	Stable at normal ambient temperatures and when used as recommended.
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
10.4 Conditions to avoid	Avoid excessive heat for prolonged periods of time. Protect from moisture. When exposed to air, this product will absorb moisture.
10.5 Incompatible materials	Materials to avoid: Avoid contact with strong oxidising agents.
10.6 Hazardous decomposition products	Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO2). Carbon monoxide (CO)

Section 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity - oral	
Notes (oral LD_{50})	LD_{50} 7000 mg/kg, Oral, Rat
Acute toxicity - dermal	
Notes (dermal LD_{50})	LD_{50} > 2000 mg/kg, Dermal, Rabbit Read-across data
Acute toxicity - inhalation	
Notes (inhalation LC_{50})	No specific test data are available.

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Skin corrosion/irritation	Not irritating. Read-across data.
Serious eye damage/irritation	Not irritating. Read-across data.
Respiratory sensitisation	No information available.
Skin sensitisation	No information available.
Germ cell mutagenicity	
Genotoxicity - in vitro	Ames test: Negative.
Genotoxicity - in vivo	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	
Reproductive toxicity - fertility	No information available.
Reproductive toxicity development	No information available.
Specific target organ toxicity - single exposure	No information available.
Specific target organ toxicity - repeated exposure	No information available.
Aspiration hazard	No information available.
Inhalation	Gas or vapour in high concentrations may irritate the respiratory system.
Ingestion	This product has low toxicity. No harmful effects expected from quantities likely to be ingested by accident. May cause discomfort if swallowed.
Skin contact	Prolonged skin contact may cause temporary irritation.
Eye contact	May cause temporary eye irritation.

Section 12: Ecological Information

Ecotoxicity
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1 Toxicity

Acute aquatic toxicity

Acute toxicity – fish	LC_{50}, 96 hour: 38 mg/l, Lepomis macrochirus (Bluegill) OECD 203 Read-across data. LC_{50}, 96 hour: 59 mg/l, Fish Read-across data.

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Acute toxicity - aquatic invertebrates	EC_{50}, 48 hour: 100 mg/l, Daphnia magna OECD 202
Acute toxicity - aquatic plants	EC_{50}, 72 hour: 100.4 mg/l, Pseudokirchneriella Subcapitata OECD 201 NOEC, 72 hour: 6 mg/l, Pseudokirchneriella subcapitata

12.2 Persistence and degradability

Persistence and degradability	The product is readily biodegradable.
Biodegradation	Activated sludge - Degradation 76%: 28 day OECD 301F

12.3 Bioaccumulative potential

Bioaccumulative potential	Bioaccumulation is unlikely
Partition coefficient	log Pow: 1.34

12.4 Mobility in soil

Mobility	No information available

12.5 Results of PBT and vPvB assessment

This substance is not classified as PBT or vPvB according to current EU criteria.

12.6 Other adverse effects

No information available.

Section 13: Disposal considerations

13.1 Waste treatment methods

General information:

Waste should be treated as controlled waste. Do not puncture or incinerate, even when empty. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Disposal methods:

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority

Section 14: Transport Information

The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1 UN number

Not applicable

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14.2 UN proper shipping name
Not applicable

14.3 Transport hazard class(es)
No transport warning sign required.

14.4 Packing group
Not applicable

14.5 Environmental hazards
Environmentally hazardous substance/marine pollutant: No

14.6 Special precautions for user
Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU legislation
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.

15.2 Chemical safety assessment
A chemical safety assessment has been carried out.

Inventories
EU - EINECS/ELINCS
All the ingredients are listed or exempt.