



SAFETY DATA SHEET

(according to (EC) 1907/2006)

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

1.1. Product identifier

Acetyltriethyl citrate

Synonyms:

ATEC; A-2 Acetyl Triethyl Citrate

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

chemical intermediate

1.3. Details of the supplier of the safety data sheet

Manufacturer Information:

Vertellus LLC
201 North Illinois Street, Suite 1800,
Indianapolis, IN 46204

Non-Emergency Fax Number:

1-336-854-4058

E-Mail Address:

msds@vertellus.com

Non-Emergency Phone Number: 336-292-1781

1.4. Emergency telephone number

Vertellus: 1-336-292-1781

CHEMTREC (USA): 1-800-424-9300 (collect calls accepted); (Int'l): 1-703-527-3887 (collect calls accepted; 011 prefix not needed)

SECTION 2: Hazards identification

HMIS Rating	
HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

2.1. Classification of the substance or mixture

(According to Regulation (EC) No 1272/2008)

Serious Eye Damage/Eye Irritation Category 2

Signal Word:

Warning

Hazard Precautions:

H319 - Causes serious eye irritation.

2.2. Label elements

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Hazard Symbols (Pictogram):



Prevention Precautions:

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.

First Aid Precautions:

P337+P313 - If eye irritation persists: Get medical advice/attention.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Precautions:

Not required.

Disposal Precautions:

Not required.

Single Exposure Target Organs:

Not applicable

Repeated Exposure Target Organs:

Not applicable

(According to Directive 67/548/EEC)

Symbol: Xi

Risk Phrases: R36: Irritating to the eyes.

Safety Phrases: S36: Wear suitable protective clothing.

2.3. Other hazards

Signs and Symptoms of Potential Overexposure: Contact with eyes may cause slight irritation. Non-irritating to both intact and abraded skin. May be harmful if ingested in sufficient quantities. High gas, vapor, or mist concentrations may be harmful if inhaled.

Primary Route(s) of Exposure: Eye contact. Ingestion. Inhalation.

Medical Conditions Aggravated by Exposure: No data found

SECTION 3: Composition/information on ingredients

3.1. Substances or 3.2. Mixtures

Ingredient

CAS Number

Concentration (%)

EINECS / ELINCS

EU Symbol

Risk Phrases



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Acetyltriethyl citrate 77-89-4 100.000000 201-066-5 Xi R36

NOTE: See Section 8 of this MSDS for exposure limit data for these ingredients.
See Section 15 of this MSDS for trade secret information (where applicable).
See Section 16 of this MSDS for the full text of the R-phrases above.

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact: Wash thoroughly after skin contact.
Eye Contact: Immediately flush the eyes with plenty of water for at least 15 minutes. Call a physician.
Inhalation: Remove from exposure. If not breathing, give artificial respiration and call a physician.
Ingestion: If swallowed, do not induce vomiting. Get prompt medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Acute: Contact with eyes may cause slight irritation. Non-irritating to both intact and abraded skin. May be harmful if ingested in sufficient quantities. High gas, vapor, or mist concentrations may be harmful if inhaled.
Delayed Effects: None known.

4.3. Indication of any immediate medical attention and special treatment needed

Thermal Exposure: Not applicable.
Note to Physician: No additional first aid information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media: Foam Dry chemical Carbon dioxide Water spray

5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion: As with other organic materials, combustion will produce carbon monoxide and carbon dioxide.
Potential for Dust Explosion: not available
Special Flammability Hazards: Not applicable.

5.3. Advice for firefighters

Basic Fire Fighting Guidance: Wear self-contained breathing apparatus and protective clothing. Normal firefighting procedures may be used.
Flammability Classification (OSHA): Combustible Liquid - Class III B

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NFPA Rating



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuation Procedures:	Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
Special Instructions:	Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

6.2. Environmental precautions

Prevent releases to soils, drains, sewers, and waterways.

6.3. Methods and material for containment and cleaning up

Containment Techniques and Clean-up Procedures:	Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Remove all ignition sources. Ventilate the area of spill or leak. Wear protective equipment during clean-up. For small spills, use suitable absorbent material and collect for later disposal. For large spills, the area may require diking to contain the spill. Material can then be collected (eg., suction) for later disposal. After collection of material, flush area with water. Dispose of the material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws.
Special Reporting Requirements:	Not applicable.

6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for Unique Hazards:	Not applicable.
Practices to Minimize Risk:	Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material.
Special Handling Equipment:	Not applicable.

7.2. Conditions for safe storage, including any incompatibilities

Storage Precautions & Recommendations:	This product should be stored at ambient temperature in a dry, well-ventilated location. Keep container closed when not in use.
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Dangerous Incompatibility Reactions: Incompatible with oxidizing materials.

Incompatibilities with Materials of Construction: none known

7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits (United States): **OSHA PEL:** Not established **ACGIH TLV:** Not established

8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

Personal Protective Equipment: Impervious gloves, boots, and clothing, chemical goggles or face shield where necessary, and a NIOSH approved chemical cartridge respirator or supplied air breathing apparatus.

Respirator Caution: Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.

Ventilation: All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.

Other Engineering Controls: All appropriate engineering controls should be used to minimize exposure potential. Use exhaust ventilation to keep airborne concentrations below exposure limits.

Thermal Hazards: Not applicable.

Additive or Synergistic Effects: None known.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance, State & Odor (ambient temperature):	Clear, oily liquid with essentially no odor.		
Molecular Formula:	C14H22O8	Molecular Weight:	318.30
Vapor Pressure:	< 1.00 mm Hg @ 25°C	Evaporation Rate:	< 1 (Butyl Acetate = 1)
Specific Gravity or Density:	1.135	Vapor Density (air = 1):	11.1
Boiling Point:	297 °C 567 °F	Freezing / Melting Point:	-42 °C -45 °F
Solubility in Water:	0.72% @ 25°C	Octanol / Water Coefficient:	Not available.
pH:	Not available.	Odor Threshold:	N
Viscosity:		Autoignition Temperature:	Not available.
Flash Point and Method:	370°F (188°C) (COC)	Flammable Limits:	Not available (LEL) – Not available (UEL)

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9.2. Other information

Not applicable.

SECTION 10: Stability and reactivity

<u>10.1. Reactivity</u>	Not classified as dangerously reactive.
<u>10.2. Chemical stability</u>	Stable
<u>10.3. Possibility of hazardous reactions</u>	Will not occur.
<u>10.4. Conditions to avoid</u>	No data.
<u>10.5. Incompatible materials</u>	Incompatible with oxidizing materials.
<u>10.6. Hazardous decomposition products</u>	As with other organic materials, combustion will produce carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Oral LD₅₀:	Oral LD ₅₀ (rat) = 7000 mg/kg Oral LD ₅₀ (cat) = 8510 mg/kg
Acute Dermal LD₅₀:	Not available.
Acute Inhalation LC₅₀:	Not available.
Other Toxicity Data:	Intraperitoneal LD ₅₀ (mouse) = 1150 mg/kg
Skin Irritation:	Non-irritating to both intact and abraded skin.
Skin Sensitization:	No data available.
Eye Irritation:	May cause slight irritation. Slight to moderate erythema observed in eyes in contact with material over 20 minutes to 3 hours.
Target Organs:	TDLo (intraperitoneal, mouse) = 3,220 mg/kg/14D-I TDLo (oral, cat) = 31,780 mg/kg/8W-C
Carcinogenicity:	This material is not listed by IARC, NTP or OSHA as a carcinogen. No test data is available that indicates this material is a carcinogen.
Teratogenicity:	No data available.
Reproduction:	No data available.
Neurotoxicity:	No data available.
Mutagenicity:	No data available.

SECTION 12: Ecological information

<u>12.1. Toxicity</u>	Not available.
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<u>12.2. Persistence and degradability</u>	Based on environmental modeling, this material is expected to be readily biodegradable. Not expected to bioaccumulate.
<u>12.3. Bioaccumulative potential</u>	No data
<u>12.4. Mobility in soil</u>	No data
<u>12.5. Results of PBT and vPvB assessment</u>	Not available.
<u>12.6. Other adverse effects</u>	Not predicted to exhibit significant toxicity to fish.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

US EPA Waste Number: Not applicable

Waste Disposal: Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

<u>14.1. UN number</u>	Not applicable
<u>14.2. UN proper shipping name</u>	Chemicals. n.o. s. (Acetyltriethyl Citrate)
<u>14.3. Transport hazard class(es)</u>	Not applicable
<u>14.4. Packing group</u>	Not applicable
<u>14.5. Environmental hazards</u>	Not applicable
<u>14.6. Special precautions for user</u>	Not available.
NA Emergency Guidebook Numbers: Not applicable	IMDG EMS: Not applicable
<u>14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</u>	Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

OSHA Hazards: Health: Irritant (eye). Physical: Not applicable.

WHMIS Classification: Class D, Division 2, Subdivision B: Irritant.



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Chemical Inventory Lists:	Status
TSCA:	Present
EINECS:	201-066-5
Canada(DSL/NDSL):	DSL
Japan:	(2)-1327
Korea:	KE-00159
Australia:	Present
New Zealand:	Present
China:	Present
Philippines:	Present
Switzerland:	G-3110
New Zealand GHS Classification:	Not classified by this country.
Japan GHS Classification:	Not classified by this country.
Korea (MOL) GHS Classification:	Not classified by this country.
Australia GHS Classification:	Not classified by this country.
Taiwan GHS Classification:	Not classified by this country.
Indonesia GHS Classification:	Not classified by this country.
SARA 313:	None
Reportable Quantities:	Not applicable

15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information

Full text of R phrases in Section 3: R36: Irritating to the eyes.



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Legend of abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.
CAS = Chemical Abstracts Service.
CERCLA = Comprehensive Environmental, Response, Compensation and Liability Act (1990).
CFR = Code of Federal Regulations.
DSL/NDL = Domestic Substances List/Non-Domestic Substances List.
EC = European Community.
EEC = European Economic Community.
EINECS = European Inventory of Existing Commercial chemical Substances.
ELINCS = European List of Notified Chemical Substances.
EU = European Union.
GHS = Globally Harmonized System.
LC = Lethal concentration.
LD = Lethal dose.
MOL = Ministry of Labor.
NEMA = National Emergency Management Agency.
NFPA = National Fire Protection Association.
NIOSH = National Institute of Occupational Safety and Health.
NTP = National Toxicological Program.
OSHA = Occupational Safety and Health Administration
PEL = Permissible exposure limit.
RQ = Reportable quantity.
SARA = Superfund Amendments and Reauthorization Act of 1986.
TLV = Threshold limit value.
WHMIS = Workplace Hazardous Materials Information System.

Precautionary Statement: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

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