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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product	Acetyl Tributyl Citrate (ATBC)	**Revision date**	2026-11-16
Version	1.0	**Brand**	Richest

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

Product name	Acetyl Tributyl Citrate (ATBC)
Synonyms	Acetyl tributyl citrate; Tributyl O-acetylcitrate
CAS No.	77-90-7
EC No.	201-067-0
Molecular formula	C20H34O8
Molecular weight	402.48 g/mol
Relevant identified uses	Plasticizer for PVC, cellulose resin and synthetic rubber; Non-toxic PVC granulation, food packaging containers, children toys, medical products, film, sheet and cellulose coating; Stabilizer of polyvinylidene chloride
Uses advised against	No specific uses advised against were identified in the reviewed sources.
Company	Richest Group
Address	No. 999, Jiangyue Rd, Minhang, Shanghai 201114, China
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E-mail	inquiry@richest-group.com
Website	www.richest-group.com
Emergency telephone number	0086 21 5017 5386

SECTION 2: Hazards identification

GHS Classification	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008
Pictogram(s)	None
Signal word	None
Hazard statement(s)	None
Precautionary statement(s)	None
Other hazards	Emergency treatment: Irritants; No observations of skin irritation or sensitization in study with 59 volunteers; Intravenous dosing of cats and rabbits caused dose-related drop in blood pressure (found to be caused by cardiac inhibition); Other effects noted in high-dose animal studies by different exposure routes include decreased weight gain, decreased hemoglobin (no indication of aplastic...

SECTION 3: Composition/information on ingredients

Component	Acetyl Tributyl Citrate (ATBC)
CAS No.	77-90-7
EC No.	201-067-0
Classification	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008

SECTION 3: Composition/information on ingredients	
Concentration	Ester content ≥99.0%

SECTION 4: First-aid measures	
If inhaled	Move the person to fresh air and keep comfortable for breathing. Get medical advice if symptoms occur.
In case of skin contact	Wash with plenty of water. Remove contaminated clothing. Get medical advice if irritation occurs.
In case of eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical advice if irritation persists.
If swallowed	Rinse mouth. Do not induce vomiting unless directed by medical personnel. Get medical advice if symptoms occur.
Most important symptoms and effects	No data available
Indication of immediate medical attention	Treat symptomatically. Show this safety data sheet to medical personnel.

SECTION 5: Fire-fighting measures	
Suitable extinguishing media	Wear self contained breathing apparatus for fire fighting if necessary.
Unsuitable extinguishing media	No data available
Special hazards arising from the chemical	No data available
Advice for firefighters	Wear self-contained breathing apparatus and protective clothing appropriate for the surrounding fire.

SECTION 6: Accidental release measures	
Personal precautions and emergency procedures	Avoid contact with the material. Ensure adequate ventilation. Wear appropriate personal protective equipment.
Environmental precautions	Prevent uncontrolled release to drains, soil and watercourses.
Methods for containment and cleaning up	Collect mechanically or with a suitable absorbent and place in a suitable closed container for disposal.

SECTION 7: Handling and storage	
Precautions for safe handling	Avoid contact with skin and eyes. Avoid formation or inhalation of dust, mist or vapour as applicable. Wash thoroughly after handling.
Conditions for safe storage, including incompatibilities	Store at room temperature; keep containers tightly closed in a dry and ventilated place; avoid rain and sunlight during transportation.

SECTION 8: Exposure controls/personal protection	
Occupational exposure limit values	Does not contain substances with occupational exposure limits (ChemicalBook SDS).
Biological limit values	No biological limit values were identified in the reviewed sources.
Appropriate engineering controls	Provide adequate ventilation. Eyewash facilities should be available where contact is possible.
Eye/face protection	Skin protection: Handle with gloves.

SECTION 8: Exposure controls/personal protection	
Skin and body protection	Skin protection: Handle with gloves.
Respiratory protection	Use suitable respiratory protection if exposure limits may be exceeded or dust, mist or vapour is generated.
Thermal hazards	No specific thermal hazards were identified in the reviewed sources; see Sections 5 and 10.

SECTION 9: Physical and chemical properties	
Physical state	Colorless and transparent oily liquid
Colour	Colorless liquid
Odour	Very faint sweet, herbaceous odor
Melting point / freezing point	−80°C at 1.013 hPa
Boiling point / boiling range	343°C (TDS); 331°C at 976.4 hPa (SDS, OECD TG103)
Flammability	Combustible liquid; flash point 217 °C, closed cup, ASTM D93 (reviewed SDS).
Explosion / flammability limits	No data available
Flash point	204°C (TDS); 217°C closed cup, ASTM D93 (SDS)
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	Not applicable to the neat, slightly water-soluble organic liquid.
Viscosity	40.4 mm^2/s at 20°C
Solubility	0.00449 g/L at 20°C, slightly soluble (SDS); TDS states insoluble in water
Partition coefficient n-octanol/water	log Kow = 4.92
Vapour pressure	VP: 1 mm Hg at 173 °C
Density and/or relative density	1.050 g/cm^3
Relative vapour density	14.1 (Air = 1; 20 °C)
Particle characteristics	Not applicable (liquid).
Refractive index	Index of refraction= 1.4408 at 25 °C

SECTION 10: Stability and reactivity	
Reactivity	No data available
Chemical stability	Stable under recommended storage conditions; moisture sensitive.
Possibility of hazardous reactions	No specific hazardous reactions were identified under recommended storage; avoid moisture and strong oxidizing agents.
Conditions to avoid	Avoid moisture.
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	When heated to decomposition it emits acrid smoke and irritating vapors.

SECTION 11: Toxicological information	
Acute toxicity	LD50 Rat oral 31.4 g/kg; LD50 Mouse ip >4 g/kg; LD50 Cat oral >50 mL/kg

SECTION 11: Toxicological information

Toxicological summary	IDENTIFICATION AND USE: Acetyl tributyl citrate (ATBC) is a colorless liquid. It is the most widely used phthalate substitute plasticizer. It is used in products such as food wrap, vinyl toys, and pharmaceutical excipients. It is also used as a flavor ingredient in non-alcoholic beverages. HUMAN EXPOSURE AND TOXICITY: The skin irritation potential of acetyl tributyl citrate was evaluated using 59 men and women, all of whom had history of diabetes, psoriasis, or active dermatoses.
Health effects	Emergency treatment: Irritants; No observations of skin irritation or sensitization in study with 59 volunteers; Intravenous dosing of cats and rabbits caused dose-related drop in blood pressure (found to be caused by cardiac inhibition); Other effects noted in high-dose animal studies by different exposure routes include decreased weight gain, decreased hemoglobin (no indication of aplastic anemia in bone marrow smears), and neurological effects (i.e.

SECTION 12: Ecological information

Ecotoxicity	LC50; Species: Fundalus heteroclitus (Mummichogs) length 3.5-8.5 in; Conditions: flow through tanks delivered 4.8 volume replacements/day; the dilution water was synthetic seawater (25%); the pH ranged from 6.5-7.6; the dissolved oxygen concentration was 70-95% saturation; temperature was maintained at approximately 23-24 °C; ...; LC50; Species: Lepomis macrochirus (Bluegill sunfish); Conditions: flow through tanks delivered 4.8 volume replacements/day; the pH ranged from 6.5-7.6; the dissolved oxygen concentration was 70-95% saturation; temperature was maintained at approximately 23-24 °C; Concentration: 38-60 mg/L for 96 hr.
Persistence degradability	AEROBIC: Acetyl tributyl citrate, present at an initial concentration of 30 mg/L, reached 82% of the theoretical BOD in 4 weeks with an activated sludge inoculum at 100 mg/L in the modified MITI test which classified the compound as readily biodegradable(1). Acetyl tributyl citrate was shown to biodegrade extensively in several other biodegradation studies and simulation tests(2,3).
Bioaccumulative potential	An estimated BCF of 35 was calculated in fish for acetyl tributyl citrate(SRC), using a log Kow of 4.92(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is moderate(SRC), provided the compound is not metabolized by the organism(SRC).
Mobility in soil	The Koc of acetyl tributyl citrate is estimated as 3280(SRC), using a log Kow of 4.92(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that acetyl tributyl citrate is expected to have slight mobility in soil.
Other adverse effects	The rate constant for the vapor-phase reaction of acetyl tributyl citrate with photochemically-produced hydroxyl radicals has been estimated as 1.4X10-11 cu cm/molecule-sec at 25 °C(SRC) using a structure estimation method(1).
Environmental fate	TERRESTRIAL FATE: Based on a classification scheme(1), an estimated Koc value of 3280(SRC), determined from a log Kow of 4.90(2) and a regression-derived equation(3), indicates that acetyl tributyl citrate is expected to have slight mobility in soil(SRC).

SECTION 13: Disposal considerations

Product disposal methods	Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contaminated packaging Dispose of as unused product.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal in accordance with local regulations.

SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	Not regulated as dangerous goods

SECTION 14: Transport information

UN Proper Shipping Name	Not regulated as dangerous goods
Transport hazard class(es)	Not regulated as dangerous goods
Packing group	Not regulated as dangerous goods
Environmental hazards / Marine pollutant	No
Special precautions for user	Keep containers closed and secured during transport. Follow local transport requirements.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	No data available

SECTION 16: Other information

Full text of H-Statements	None
Revision date	2026-11-16
Version	1.0
References	Supplier technical documents, public SDS/COA/TDS and regulatory sources reviewed. Public data citations are listed below. Public data sources: PubChem Acetyl Tributyl Citrate (CID 6505): https://pubchem.ncbi.nlm.nih.gov/compound/6505 | Acetyl Tributyl Citrate Safety Data Sheet, CAS 77-90-7: https://www.chemicalbook.com/msds/acetyl-tributyl-citrate.htm
Abbreviations	CAS: Chemical Abstracts Service; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; SDS: Safety Data Sheet.
Disclaimer	The information in this SDS applies to the specified product and is provided in good faith based on information available to Richest Group at the date of issue. It describes health, safety and environmental requirements and does not constitute a guarantee of product properties. Users must assess suitability and comply with applicable regulations.