

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: tert-Butyl Acetate
Chemical name	: Acetic Acid, tert-butyl ester
CAS-No.	: 540-88-5
Product code	: Solvent
Formula	: C6H12O2
Synonyms	: Tertiary butyl Acetate; Acetic Acid, 1,1-Dimethylethyl ester; 1,1-Dimethyl acetate

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Solvent
Restrictions on use	: Automotive (motor vehicle)

1.3. Supplier

ECOLINK

2177 Flintstone Drive
Suite A
Tucker, GA 30084
770-621-8240 (t)
www.ecolink.com

1.4. Emergency telephone number

Emergency number : **INFOTRAC** 800-535-5053

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapor
Acute toxicity (dermal) Category 4	H312	Harmful in contact with skin
Acute toxicity (inhalation) Category 4	H332	Harmful if inhaled
Specific target organ toxicity (single exposure) Category 3	H336	May cause drowsiness or dizziness
Specific target organ toxicity (single exposure) Category 3	H335	May cause respiratory irritation
Hazardous to the aquatic environment - Acute Hazard Category 3	H402	Harmful to aquatic life

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapor
H312+H332 - Harmful in contact with skin or if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H402 - Harmful to aquatic life

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Precautionary statements (GHS-US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P322 - Specific treatment (see supplemental first aid instruction on this label)
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and/or international regulations.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Repeated exposure may cause skin dryness or cracking.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
tert-Butyl Acetate (Main constituent)	(CAS-No.) 540-88-5	>99.5	Flam. Liq. 2, H225 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 STOT SE 3, H336 STOT SE 3, H335 Aquatic Acute 3, H402
t-Butyl Alcohol (impurity)	(CAS-No.) 75-65-0	<0.5	
2,4,4-Trimethyl-1-pentene (impurity)	(CAS-No.) 107-39-1	<0.5	

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Consult a physician/ doctor if necessary. Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Show this safety data sheet to the doctor in attendance.

First-aid measures after inhalation : Remove to fresh air immediately. Give oxygen or artificial respiration as needed. Call a physician.

First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Soap may be used. Remove contaminated clothing as needed. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, seek medical attention.

First-aid measures after ingestion : If large quantity swallowed, give lukewarm water (pint / ½ liter) if completely conscious/ alert. Do NOT induce vomiting. Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

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4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects : If inhalation occurs signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath and/ or fever.
High doses may cause CNS depression (fatigue, dizziness and possibly loss of concentration, with collapse, coma and death in cases of severe over-exposure).
The onset of respiratory symptoms may be delayed for several hours after exposure.
- Hazards : May be harmful if swallowed and enters airways. May be harmful if swallowed. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness.

4.3. Immediate medical attention and special treatment, if necessary

Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Small Fire: Use dry chemicals, CO₂, water spray or alcohol-resistant foam.
Large Fire: Use water spray, water fog or alcohol-resistant foam.
- Unsuitable extinguishing media : Do not use solid water stream – may spread fire.

5.2. Specific hazards arising from the chemical

- Fire hazard : Highly flammable liquid and vapor.
When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined.
Flammable vapors may be heavier than air and travel long distances along the ground before igniting and flashing back to vapor source.
Move containers from fire area if it can be done without risk. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
Cool containers with flooding quantities of water until well after fire is out.
Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
Always stay away from tanks engulfed in fire.
For massive fire, use unmanned hose holders or monitor nozzles; if this is possible, withdraw from area and let fire burn.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.
- Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus.
- Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

- For containment : Extremely flammable. Eliminate all sources of ignition. All equipment used when handling this product must be grounded.
Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapor with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

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- Methods for cleaning up : Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Use spark-/explosion-proof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Keep container tightly closed.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Ground/bond container and receiving equipment.
- Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up. Store closed drums with bung in up position. Store containers away from heat, sparks, open flame and strong oxidizing agents. Containers must be properly grounded before beginning transfer. This material may attack some forms of plastics, rubbers, and coatings.
- Packaging materials : SUITABLE MATERIAL: glass. steel. metal.
(Steel drums are recommended for packaging.) Consult supplier of these materials for specific recommendations.
MATERIAL TO AVOID: synthetic material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

tert-Butyl Acetate (540-88-5)		
ACGIH	Local name	tert-Butyl acetate
ACGIH	ACGIH TWA (ppm)	50 ppm
ACGIH	ACGIH STEL (ppm)	150 ppm
ACGIH	Remark (ACGIH)	Eye & URT irr
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m ³)	950 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

GIVE GOOD RESISTANCE: butyl rubber. PVA. tetrafluoroethylene.

GIVE LESS RESISTANCE: polyurethane. chlorosulfonated polyethylene.

GIVE POOR RESISTANCE: natural rubber. neoprene. nitrile rubber. polyethylene. PVC. viton. nitrile rubber/PVC

Hand protection:

Gloves. Chemical resistant gloves such as : butyl rubber.

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Eye protection:

Safety glasses. Splash goggles when splashing or spraying liquid is possible.

Skin and body protection:

Protective clothing.

Respiratory protection:

Full face mask with filter type A. High vapour/gas concentration: self-contained respirator

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colorless
Odor	: Camphor-like odor
Odor threshold	: 8 ppb
pH	: 6 -7
Melting point/ Freezing point	: -58.15 °C at 1,013 hPa
Boiling point	: 97.8 °C
Flash point	: 4 °C
Relative evaporation rate (butyl acetate=1)	: 2.8
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: 55.995 hPa at 20 °C
Relative vapor density at 20 °C	: 4
Relative density	: 0.87
Specific gravity / density	: 0.86 g/cm ³
Molecular mass	: 116.16 g/mol
Solubility	: Poorly soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetic acid. Soluble in chloroform. Water: 0.1 g/100ml
Log Pow	: 1.37 - 1.76
Auto-ignition temperature	: 589 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: < 1 mm ² /s
Viscosity, dynamic	: < 1 mPa.s
Explosion limits	: ≥ 1.5 vol % ≥ 72 g/m ³ LEL: 1.5 vol %
Explosive properties	: Not explosive
Oxidizing properties	: Not considered an oxidizing agent.

9.2. Other information

Saturation concentration	: 195 g/m ³
VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Volatile.

SECTION 10: Stability and reactivity

10.1. Reactivity

Will not occur.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Some plastics. Acids. Alkalies. Nitrates. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under hot, acidic conditions, the decomposition products are isobutylene and acetic acid.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Dermal: Harmful in contact with skin.
Acute toxicity (inhalation) : Inhalation: Harmful if inhaled.

tert-Butyl Acetate (540-88-5)	
LD50 oral rat	4500 mg/kg
LD50 dermal rabbit	2000 mg/kg
ATE US (oral)	4500 mg/kg body weight
ATE US (dermal)	2000 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : May cause drowsiness or dizziness. May cause respiratory irritation.
Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : < 1 mm²/s

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life.
Ecology - water : Not harmful to aquatic organisms. Slightly harmful to fishes. Mild water pollutant (surface water). Fouling to shoreline. Not harmful to algae.

tert-Butyl Acetate (540-88-5)	
LC50 fish 1	100 mg/l (96 h, <i>Lepomis macrochirus</i>)
EC50 Daphnia 1	3968 mg/l (24 h, <i>Daphnia magna</i>)
ErC50 (algae)	16 mg/l 72H <i>Pseudokirchneriella subcapitata</i> (green algae)

12.2. Persistence and degradability

tert-Butyl Acetate (540-88-5)	
Persistence and degradability	Biodegradable in water.

12.3. Bioaccumulative potential

tert-Butyl Acetate (540-88-5)	
BCF fish 1	6.6 (Pisces)
Log Pow	1.37 - 1.76
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Released material would be expected to show high soil mobility and to volatilize readily from soil and surface waters, forming atmospheric vapor.

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12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Product/Packaging disposal recommendations : Do not discharge into surface water. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Incinerate under surveillance with energy recovery.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN1123 Butyl acetates, 3, II
- UN-No.(DOT) : UN1123
- Proper Shipping Name (DOT) : Butyl acetates
- Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- Packing group (DOT) : II - Medium Danger
- Hazard labels (DOT) : 3 - Flammable liquid



- DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
- DOT Packaging Bulk (49 CFR 173.xxx) : 242
- DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 150
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L
- DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
- Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

- Transport document description (IMDG) : UN 1123 Butyl acetates, 3, II
- UN-No. (IMDG) : 1123
- Proper Shipping Name (IMDG) : Butyl acetates
- Class (IMDG) : 3 - Flammable liquids
- Packing group (IMDG) : II - substances presenting medium danger

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EmS-No. (1) : F-E
EmS-No. (2) : S-D

Air transport

Transport document description (IATA) : UN 1123 Butyl acetates, 3, II
UN-No. (IATA) : 1123
Proper Shipping Name (IATA) : Butyl acetates
Class (IATA) : 3 - Flammable Liquids
Packing group (IATA) : II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

tert-Butyl Acetate (540-88-5)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes	Health hazard - Specific target organ toxicity (single or repeated exposure) Physical hazard - Flammable (gases, aerosols, liquids, or solids)
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Tert Butyl Acetate	CAS-No. 540-88-5	100%
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SARA 313

This product contains the following chemicals subject to the reporting requirements of SARA Title III, Section 313 and 40 CFR 372:

Component : t-Butyl Alcohol **Reporting Threshold:** 1.0%

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

tert-Butyl Acetate (540-88-5)

U.S. - California - Proposition 65 - Other information	This material is not known to contain a chemical substance known to the State of California to cause cancer, reproductive, or developmental toxicity under California Proposition 65. However, Whitaker Oil Company has not tested for the presence of listed chemical substances.
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

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Full text of H-phrases:

H225	Highly flammable liquid and vapor
H312	Harmful in contact with skin
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H402	Harmful to aquatic life

NFPA health hazard

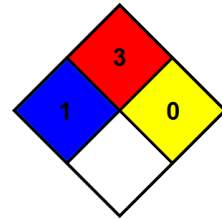
: 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard

: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012)

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