

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Tert Butyl Acetate
CAS No	: 540-88-5
Formula	: C6H12O2
Synonyms	: acetic acid 1,1-dimethylethyl ester / acetic acid 1,1-dimethylethylethyl ester / acetic acid tert-butyl ester / acetic acid tertiaire-butyl ester / acetic acid, 1,1-dimethylethyl ester / Butyl acetates / t-butyl acetate / tertiary-butyl acetate / texaco lead appreciator / TLA

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

Use of the substance/mixture : Solvent

1.3. Details of the supplier of the safety data sheet

Ecolink Inc.

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

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

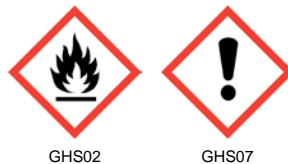
Flam. Liq. 2	H225 - Highly flammable liquid and vapor
Acute Tox. 4 (Inhalation)	H332 - Harmful if inhaled
STOT SE 3	H336 - May cause drowsiness or dizziness
STOT SE 3	H335 - May cause respiratory irritation
Aquatic Acute 3	H402 - Harmful to aquatic life

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US)	: Danger
Hazard statements (GHS-US)	: H225 - Highly flammable liquid and vapor H332 - Harmful if inhaled H335 - May cause respiratory irritation H336 - May cause drowsiness or dizziness H402 - Harmful to aquatic life
Precautionary statements (GHS-US)	: P210 - Keep away from heat, hot surfaces, open flames, sparks. - 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 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

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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

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

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

Key:

- (A) Substance
- (C) Impurity

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician/ doctor if necessary. Show this safety data sheet to the doctor in attendance.
First-aid measures after inhalation	: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Call a physician.
First-aid measures after skin contact	: Remove contaminated clothing as needed. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.
First-aid measures after eye contact	: Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.
First-aid measures after ingestion	: If large quantity swallowed, give lukewarm water (pint/ ½ litre) if victim completely conscious/alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

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

Symptoms/injuries	: May cause drowsiness or dizziness.
Symptoms/injuries after inhalation	: 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.
Symptoms/injuries after skin contact	: ON CONTINUOUS EXPOSURE/CONTACT: Red skin. Dry skin. Cracking of the skin.
Symptoms/injuries after eye contact	: Slight irritation.
Symptoms/injuries after ingestion	: Risk of aspiration pneumonia. AFTER ABSORPTION OF HIGH QUANTITIES: Central nervous system depression. Symptoms similar to those listed under inhalation.

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

Treat symptomatically.

Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision.

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SECTION 5: Firefighting measures

5.1. 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.
- Further Information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Releases flammable vapors below normal ambient temperatures.
- 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 the 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 the 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 impossible, withdraw from area and let fire burn.

5.3. Advice for firefighters

- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.
- Protection during firefighting : Wear positive pressure self-contained breathing apparatus. (SCBA).
Structural firefighter's protective clothing will only provide limited protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Protective equipment : Gloves. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus. See "Material-Handling" to select protective clothing.
- 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 explosion-proof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.
- 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 product from entering drains.
- Prevent further leakage or spillage if safe to do so.
- If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods and material for containment and cleaning up

- Methods for containment/
Methods for cleaning up : Extremely flammable. Eliminate all sources of ignition. All equipment used when handling this product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Dike large spills and place materials in salvage containers. Water spray may reduce vapor ; but may not prevent ignition in closed spaces.

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Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8 : Exposure-controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use only non-sparking tools. Extinguish all ignition sources. Carefully vent any internal pressure before removing closure. Containers must be properly grounded before beginning transfer. Handle empty containers with care; vapor/ residue may be flammable. All equipment must conform to applicable electrical code. This material may attack some forms of plastics, rubbers, and coatings. Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair. Check atmosphere for explosiveness and oxygen deficiencies. Wear recommended personal protective equipment. Observe precautions pertaining to confined space entry. Do not breathe vapors or spray mist.

Hygiene measures : Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Wash clothing frequently.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store closed drums with bung in up position. Store only in tightly closed, properly vented 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. Consult supplier(s) of these materials for specific recommendations. Steel drums are recommended for packaging.

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources. Take precautionary measures against static discharge.

Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases.

Storage area : Store in a dry area. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Provide the tank with earthing. Store only in a limited quantity. May be stored under inert gas. Keep out of direct sunlight. Meet the legal requirements.

Packaging materials : SUITABLE MATERIAL: glass. steel. metal. MATERIAL TO AVOID: synthetic material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Tert Butyl Acetate (540-88-5)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	Remark (ACGIH)	Eye & URT irr
OSHA	OSHA PEL (TWA) (mg/m ³)	950 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm

8.2. Exposure controls

Appropriate engineering controls : Both local exhaust and good general room ventilation must be provided not only to control exposure but also to prevent formation of flammable mixtures.

Hand protection : Wear chemical resistant gloves such as: Butyl rubber

Eye protection : Use splash goggles when eye contact due to splashing or spraying liquid is possible.

Skin and body protection : Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn. The equipment must be cleaned thoroughly after each use.

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Environmental exposure controls : Avoid release to the environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colorless. Clear
Odor	: Camphor-like odor.
Odor threshold	: 71 ppb
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 95 °C
Flash point	: 4 °C (39 °F) at 1013.0 hPa (759.8 mmHg)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: -1.26 lower -6.88 upper
Explosive properties	: No data available
Oxidizing properties	: Not considered an oxidizing agent
Vapor pressure	: 55.995 hPa (42.000 mmHg) at 68 °F (25 °C)
Vapor pressure at 50 °C	: 170 hPa (50 °C)
Density	: 0.87
Relative vapor density at 20 °C	: 4
Specific gravity / density	: 867 kg/m 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	: 425 °C
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: < 1 mm ² /s
Viscosity, dynamic	: < 1 mPa.s at 77°F (25°C)

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 recommended conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : 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)	4500.000 mg/kg body weight
ATE US (dermal)	2000.000 mg/kg body weight
ATE US (gases)	4500.000 ppmV/4h
ATE US (vapors)	11.000 mg/l/4h
ATE US (dust, mist)	1.500 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. May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: EXPOSURE TO HIGH CONCENTRATIONS: Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Central nervous system depression. Headache. Nausea. Dizziness. Disturbances of consciousness.
Symptoms/injuries after skin contact	: ON CONTINUOUS EXPOSURE/CONTACT: Red skin. Dry skin. Cracking of the skin.
Symptoms/injuries after eye contact	: Slight irritation.
Symptoms/injuries after ingestion	: Risk of aspiration pneumonia. AFTER ABSORPTION OF HIGH QUANTITIES: Central nervous system depression. Symptoms similar to those listed under inhalation.

SECTION 12 : Ecological information

12.1. Toxicity

Ecology – general	: Harmful to aquatic life.
Ecology – water	: Mild water pollutant (surface water). Fouling to shoreline. Slightly harmful to fishes (LC50(96h) 100-1000 mg/l). Not harmful to algae. Not harmful to aquatic organisms (EC50 >1000 mg/l).

Tert Butyl Acetate (540-88-5)	
EC50 Daphnia 1	3968 mg/l (EC50; 24 h)
LC50 fish 2	100 mg/l (LC50; 96 h)
ErC50 (algae)	16 mg/l 72H Pseudokirchneriella subcapitata (green algae)
Threshold limit algae 1	3700 mg/l (EC0; 168 h)

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 (BCF)
Log Pow	1.37 – 1.76
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

No additional information available

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12.5. Other adverse effects

No additional information available

SECTION 13 : Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : 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. Do not discharge into surface water.

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

Hazard labels (DOT) : 3 – Flammable liquid



Packing group (DOT) : II – Medium Danger

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.

TDG

No additional information available

Transport by sea

UN-No. (IMDG) : 1123

Class (IMDG) : 3 – Flammable liquids

EmS-No. (1) : F-E

EmS-No. (2) : S-D

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Air transport

UN-No. (IATA) : 1123
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 302/304: Tert Butyl Acetate RQ: 5000 LBS

SARA 311/312: Fire Hazard. Acute Health Hazard.

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

This product contains the following chemicals regulated by the Right to Know Act in the following states: New Jersey / Massachusetts / Pennsylvania

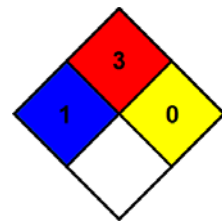
SECTION 16: Other information

Revision date : 01/04/2016

Full text of H-phrases:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Flam. Liq. 2	Flammable liquids Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H402	Harmful to aquatic life

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard : 3 - Liquids and solids that can be ignited under almost all ambient conditions.
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

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