

Section 1. Product and Company Identification

**Product Name** Tert Butyl Acetate  
**CAS Number** 540-88-5

**Parchem - fine & specialty chemicals**  
**415 Huguenot Street**  
**New Rochelle, NY 10801**  
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CHEMTEL  
Toll Free US & Canada: 1 (800) 255-3924  
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Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**  
**Classification according to Regulation (EC) No 1272/2008**  
**Hazard class:** Flammable liquids  
**Hazard category:** Category 2  
**Target organs:** -  
**Hazard statements:** H22

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**  
**Hazard symbol / Category of danger:** Highly flammable (F)  
**Risk phrases:** R11; R66

**GHS label elements, including precautionary statements**

**Pictograms:**



**Signal word:** Danger

**Hazard and precautionary statements**

**Hazard statements**

H225 Highly flammable liquid and vapor.

**Precautionary statements**

**Prevention**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 Keep container tightly closed.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.



**Response**

P370 + P378 In case of fire: Use water spray, foam, carbon dioxide or extinguishing powder for extinction.

**Disposal**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Potential Health Effects**

**Primary Routes of Entry:** Eye. Inhalation. Skin. Ingestion

**Target Organs:** central nervous system (CNS), Respiratory system

**Inhalation:** Harmful if inhaled. High vapor concentrations may cause central nervous system (CNS) depression with symptoms such as nausea, dizziness, weakness, headache, loss of coordination, loss of consciousness, coma and death. May cause respiratory tract irritation.

**Skin:** May cause slight transient skin irritation. Repeated or prolonged exposure of the skin to this material may cause defatting and drying of the skin.

**Eyes:** May cause slight transient eye irritation.

**Ingestion:** May be harmful if swallowed. Ingestion of high doses may cause discomfort and irritation of the gastrointestinal tract and CNS depression (fatigue, dizziness and possibly loss of concentration, with collapse, coma and death in cases of severe over-exposure).

**Chronic Exposure:** Prolonged or high exposures may cause CNS effects, liver, adrenal gland and kidney changes. The kidney findings are not likely relevant to humans.

**Symptoms of Overexposure:** 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.

Section 3. Composition / Information on Ingredients

**Common Name** Tert Butyl Acetate  
**Synonym(s)** Tertiary butyl acetate; t-Butyl acetate; Acetic Acid, tert-butyl ester Acetic Acid, 1,1-Dimethylethyl ester; 1,1-Dimethyl acetate  
**CAS Number** 540-88-5

COMPONENT	CAS NUMBER	CONCENTRATION
Tert Butyl Acetate	540-88-5	99.5 – 100.0%

Section 4. First Aid Measures

**General advice:** Liquid, vapors or mist may be irritating to eyes, skin and respiratory tract. Harmful: may cause lung damage if swallowed. Exposure to very high concentrations of aerosols may cause CNS depression. Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 2 of this SDS. Consult a physician/doctor if necessary. Show this material safety data sheet to the doctor in attendance.

**If inhaled:** If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Call a physician.

**In case of 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.

**In case of 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.

**If swallowed:** If large quantity swallowed, give lukewarm water (pint/ 1/2 litre) if victim completely conscious/alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

### Notes to physician

**Symptoms:** 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:** Can cause pulmonary edema if aspirated into lungs.

**Treatment:** 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.

### Section 5. Firefighting Measures

**Flash point:** 39 °F (4 °C) at 1013.0 hPa (759.8 mm Hg)

**Autoignition temperature:** 1092 °F (589 °C) at 1,013 hPa (760 mm Hg)

**Lower explosion limit:** ~1.26 vol%

**Upper explosion limit:** ~6.88 vol%

**Flammability (solid, gas):** not applicable

### Fire fighting

#### Suitable extinguishing media

**Small fire:** Use dry chemicals, CO<sub>2</sub>, 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.



### **Protective equipment and precautions for firefighters**

**Specific hazards during firefighting:** 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 vapor source. Move containers from fire area if you can do it 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 impossible, withdraw from area and let fire burn.

**Special protective equipment for fire-fighters:** Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighter's protective clothing will only provide limited protection.

### Section 6. Accidental Release Measures

**Personal precautions:** Use personal protective equipment. Ensure adequate ventilation.

**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.

**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.

**Additional advice:** See section 8 for additional PPE information.

### Section 7. Handling and Storage

#### **Handling**

**Advice on 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.

**Advice on protection against fire and explosion:** Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take precautionary measures against static discharge.



### Storage

**Requirements for storage areas and containers:** 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.

### Section 8. Exposure Controls / Personal Protection

#### Ingredients with workplace control parameters

Ingredients	CAS-No.	Value	Control parameters	Update	Basis
Tert-Butyl Acetate	540-88-5	TWA	200 ppm	2012	US (ACGIH)
Tert-Butyl Acetate	540-88-5	IDLH	1,500 ppm	September 2007	NIOSH
Tert-Butyl Acetate	540-88-5	TWA	200 ppm 950 mg/m <sup>3</sup>	June 23, 2006	US (OSHA)

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

#### Personal protective equipment

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

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

**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.

**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.

### Section 9. Physical and Chemical Properties

**Physical state:** liquid

**Color:** Clear, colorless.

**Odor:** Camphor-like odor.

**Odor Threshold:** 71 ppb

**Flash point:** 39 °F (4 °C) at 1013.0 hPa (759.8 mm Hg)

**Lower explosion limit:** ~1 vol%



**Upper explosion limit:** ~6.88 vol%  
**Flammability (solid, gas):** not applicable  
**Oxidizing properties:** Not considered an oxidizing agent.  
**Autoignition temperature:** 1092 °F (589 °C) at 1,013 hPa (760 mm Hg)  
**Molecular weight:** 116.16 g/mol  
**pH:** 6 - 7  
**Melting point/freezing point:** -72.67 °F (-58.15 °C) at 10,132 hPa (7,600 mm Hg)  
**Boiling point/boiling range:** 208.0 °F (97.8 °C) at 10,132 hPa (7,600 mm Hg)  
**Density:** 0.86 g/cm<sup>3</sup> at 77 °F (25 °C)  
**Water solubility:** 7,820 mg/l at 73 °F (23 °C)  
**Partition coefficient: n-octanol/water:** log Pow: 1.64 at 71.1 °F (21.7 °C)  
**Viscosity, dynamic:** <1 mPa.s at 77 °F (25 °C)  
**Relative vapor density:** No Data Available.  
**Evaporation rate:** 2.8 (butyl acetate = 1)  
**Explosive properties:** Not explosive

#### Section 10. Stability and Reactivity

##### Acute toxicity

**Acute oral toxicity:** LD50 Oral: 4,500 mg/kg.

Based on acute toxicity values, not classified.

High doses may cause CNS depression (fatigue, dizziness and possibly loss of concentration, with collapse, coma and death in cases of severe over-exposure).

**Acute inhalation toxicity:** LC50: 12.52 mg/l

Exposure time: 4 HOURS

Method: Calculation method

Harmful if inhaled.

High vapor concentrations may cause CNS stimulation (increased activity, shaking, tremors) and/or depression (fatigue, dizziness, and possibly loss of concentration, with collapse, coma and death in cases of severe over-exposure).

**Acute dermal toxicity:** LD50 Dermal: > 2,000 mg/kg

Based on acute toxicity values, not classified.

**Skin corrosion/irritation:** Based on skin irritation values, not classified.

May cause slight transient skin irritation. Repeated exposure may cause skin dryness or cracking.

**Serious eye damage/eye irritation:** Based on eye irritation values, not classified.

May cause slight transient eye irritation.

**Respiratory or skin sensitization:** Not classified due to data which are conclusive although insufficient for classification.



### Chronic toxicity

**Carcinogenicity:** Not listed by IARC, NTP, OSHA or EPA. Not classified due to data which are conclusive although insufficient for classification. There are no carcinogenicity studies for tertiary butyl acetate. Long term toxicity studies with tertiary butyl alcohol (the breakdown product of tertiary butyl acetate) on rats and mice have found tumors to occur in the kidneys of male rats and thyroids of mice. These findings have been examined through mechanistic studies and expert reviews of the tissue specimens demonstrating the tumors arose from rodent-specific tumor formation characteristics that would not be expected to occur in humans

**Germ cell mutagenicity:** Not classified due to data which are conclusive although insufficient for classification.

### Reproductive toxicity

**Effects on fertility:** Not classified due to data which are conclusive although insufficient for classification.

**Effects on Development:** Not classified due to data which are conclusive although insufficient for classification.

### Target Organ Systemic Toxicant - Single exposure

**Target Organs:** Central nervous system, Respiratory system May cause respiratory irritation. May cause drowsiness or dizziness.

**Target Organ Systemic Toxicant - Repeated exposure:** Based on repeated exposure toxicity data, not classified for STOT RE. Aspiration hazard.

Not classified due to data which are conclusive although insufficient for classification.

## Section 11. Toxicological Information

### Acute toxicity

**Acute oral toxicity:** LD50 Oral: 4,500 mg/kg.

Based on acute toxicity values, not classified.

High doses may cause CNS depression (fatigue, dizziness and possibly loss of concentration, with collapse, coma and death in cases of severe over-exposure).

**Acute inhalation toxicity:** LC50: 12.52 mg/l

Exposure time: 4 HOURS

Method: Calculation method

Harmful if inhaled.

High vapor concentrations may cause CNS stimulation (increased activity, shaking, tremors) and/or depression (fatigue, dizziness, and possibly loss of concentration, with collapse, coma and death in cases of severe over-exposure).

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May cause slight transient skin irritation. Repeated exposure may cause skin dryness or cracking.

**Serious eye damage/eye irritation:** Based on eye irritation values, not classified.

May cause slight transient eye irritation.

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#### **Chronic toxicity**

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#### **Reproductive toxicity**

**Effects on fertility:** Not classified due to data which are conclusive although insufficient for classification.

**Effects on Development:** Not classified due to data which are conclusive although insufficient for classification.

#### **Target Organ Systemic Toxicant - Single exposure**

**Target Organs:** Central nervous system, Respiratory system May cause respiratory irritation. May cause drowsiness or dizziness.

**Target Organ Systemic Toxicant - Repeated exposure:** Based on repeated exposure toxicity data, not classified for STOT RE. Aspiration hazard.

Not classified due to data which are conclusive although insufficient for classification.

### Section 12. Ecological Information

#### **Ecotoxicity effects**

**Toxicity to fish:** LC50: 240 mg/l Exposure time: 96 HOURS Species: Oncorhynchus mykiss (rainbow trout)

**Static test:** Harmful to aquatic life.

**Toxicity to daphnia and other aquatic invertebrates:** EC50: 350 mg/l Exposure time: 48 HOURS Species: Daphnia magna (Water flea)

**Immobilization:** Based on acute aquatic toxicity values, not classified.

**Toxicity to algae:** EC50: 16 mg/l Exposure time: 72 HOURS  
Species: Pseudokirchneriella subcapitata (green algae)

**Growth inhibition:** EC50: 64 mg/l Exposure time: 96 HOURS  
NOEC: 2.3 mg/l

**Toxicity to bacteria:** 1.5 mg/l  
Species: Activated sludge Respiration inhibition

**Toxicity to fish (Chronic toxicity):** Not classified due to lack of data.





**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):** Not classified due to lack of data.

**Elimination information (persistence and degradability)**

**Bioaccumulation:** This material is not expected to bioaccumulate.

**Distribution among environmental compartments:** Released material would be expected to show high soil mobility and to volatilize readily from soil and surface waters, forming atmospheric vapor.

**Additional advice Environmental fate and pathways:** Expected to be emitted and partition predominantly to the atmosphere. Accidental releases to water or soil are expected to evaporate and undergo atmospheric decomposition processes.

**Biodegradability:** Inherently biodegradable.

**Ecotoxicology Assessment**

**Acute aquatic toxicity:** Harmful to aquatic life.

**Chronic aquatic toxicity:** Not classified due to lack of data.

**Results of PBT assessment**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

**Additional ecological information:** No additional information available.

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

Special Requirements If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the composition section of this sheet, based on final composition of your product.

**DOT**

**UN number:** 1123

**Description of the goods:** Butyl acetates

**Class:** 3

**Packing group:** II

**Labels:** 3



Section 15. Regulatory Information

**Notification status**

All ingredients are on the following inventories or are exempted from listing

<b>Country</b>	<b>Notification</b>
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
Philippines	PICCS
United States of America	TSCA
New Zealand	NZIoC

**SARA 302/304**

This product contains no known chemicals regulated under SARA 302/304.

**SARA 311/312**

Fire Hazard. Immediate (Acute) Health Hazard.

**SARA 313**

This product contains no known chemicals regulated under SARA 313.

**State Reporting**

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.

This product contains no known chemicals regulated by New Jersey's Worker and Community Right to Know Act.

No components are subject to the Massachusetts Right to Know Act.

This product contains no known chemicals regulated by Pennsylvania's Right to Know Act.

**HMIS Classification**

**Health Hazard:** 1

**Flammability:** 3

**Reactivity:** 0

**NFPA Classification**

**Health Hazard:** 1

**Fire Hazard:** 3

**Reactivity Hazard:** 0



Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 5/19/2015

