



Safety Data Sheet Tertiary butyl acetate

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Tertiary butyl acetate
Manufacturer or supplier's details

Company : Solvents and Petroleum Service, Inc
Address : 1405 Brewerton Rd Syracuse, NY 13208

Telephone Number : 800-315-4467
Fax Number : 315-454-8230

Emergency telephone number: CHEMTREC (1-800-424-9300)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 2
Acute toxicity (Inhalation) : Category 4
Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS Label element

Hazard pictograms :



Signal word : Danger
Hazard statements : H225 Highly flammable liquid and vapor.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**
P210 Keep away from heat/sparks/open flames/hot surfaces.
No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

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P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
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.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Substance / Mixture : Substance

Hazardous components

CAS-No.	Chemical Name	Weight %
540-88-5	Tert-butyl acetate	90 - 100

Any Concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.
If unconscious place in recovery position and seek medical advice.

In case of skin contact : If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

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If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
Water spray

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : No hazardous combustion products are known

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.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

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 and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local

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/ national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
- Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Container may be opened only under exhaust ventilation hood. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
540-88-5	Tert-butyl acetate	TWA	200 ppm	ACGIH
		TWA	200 ppm 950 mg/m ³	NIOSH REL
		TWA	200 ppm 950 mg/m ³	OSHA Z-1
		TWA	200 ppm 950 mg/m ³	OSHA P0

Personal protective equipment

- Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are un-

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known, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : Clear, Colorless

Odor : characteristic

Odor Threshold : 71 ppb

pH : 6 - 7 @ 20 - 25 °C (68 - 77 °F)

Freezing Point (Melting point/freezing point) : -58.15 °C (-72.67 °F)
(1013 hPa)

Boiling Point (Boiling point/boiling range) : 97.8 °C (208.0 °F)
(1013 hPa)

Flash point : 4 °C (39 °F)
(1013.1 hPa)

Evaporation rate : 2.8
(Butyl Acetate = 1)

Flammability (solid, gas) : No data available

Upper explosion limit : Estimated 6.88 %(V)

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Lower explosion limit	: Estimated 1.26 %(V)
Vapor pressure	: 42 mmHg @ 20 °C (68 °F)
Relative vapor density	: No data available
Relative density	: No data available
Density	: 0.86 g/cm ³ @ 25 °C (77 °F)
Solubility(ies)	
Water solubility	: 7.82 g/l @ 23 °C (73 °F)
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: log Pow: 1.64 @ 21.7 °C (71.1 °F)
Auto-ignition temperature	: 589 °C 760 mmHg
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: < 1 mPa.s @ 25 °C (77 °F)
Viscosity, kinematic	: < 1 mm ² /s @ 20 - 25 °C (68 - 77 °F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazards to be specially mentioned.
Conditions to avoid	: Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	: Plastics Acids Bases nitrates Strong oxidizing agents
Hazardous decomposition products	: acetic acid Carbon oxides

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

- Acute oral toxicity : Acute toxicity estimate: 4,110 mg/kg
- Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.
- Acute dermal toxicity : Acute toxicity estimate: 2,010 mg/kg

Components:

540-88-5:

- Acute oral toxicity : LD50 (Rat, female): 4,100 mg/kg
Symptoms: ataxia, dyspnea
- Acute inhalation toxicity : LC50 (Rat, male and female): > 2.23 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg

Skin corrosion/irritation

Components:

540-88-5:

- Species: Rabbit
Exposure time: 4 h
Result: No skin irritation

Serious eye damage/eye irritation

Components:

540-88-5:

- Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitisation

Components:

540-88-5:

- Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Components:

540-88-5:

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- Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative
- : Test Type: Chromosome aberration test in vitro
Species: Human lymphocytes
Metabolic activation: with and without metabolic activation
Result: negative
- Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Rat (male and female)
Cell type: Bone marrow
Application Route: Inhalation
Exposure time: 6 h
Dose: 0, 93, 451, 2044 ppm
Result: negative
- Germ cell mutagenicity - Assessment : Did not show mutagenic effects in animal experiments.

Carcinogenicity

Components:

540-88-5:

Species: Rat, (female)
Application Route: Oral
Exposure time: 103 weeks
Dose: 0, 2.5, 5, 10 mg/l
NOAEL: 10 mg/l

Result: did not display carcinogenic properties
Remarks: Information given is based on data obtained from similar substances.

Species: Mouse, (female)
Application Route: Oral
Exposure time: 103 weeks
Dose: 0, 5, 10, 20 mg/l
NOAEL: < 5 mg/l

Result: evidence of carcinogenic activity
Symptoms: Increased incidences of follicular adenoma of the thyroid gland
Remarks: Information given is based on data obtained from similar substances.

Species: Rat, (male)
Application Route: Oral
Exposure time: 103 weeks
Dose: 0, 1.25, 2.5, 5 mg/l
NOAEL: < 1.25 mg/l

Result: evidence of carcinogenic activity
Symptoms: Renal tubule adenoma and carcinoma
Remarks: Information given is based on data obtained from similar substances.

Species: Mouse, (male)

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Application Route: Oral
Exposure time: 103 weeks
Dose: 0, 5, 10, 20 mg/l
NOAEL: 5 mg/l

Result: Ambiguous
Symptoms: increase incidence of hepatocellular carcinomas
Remarks: Information given is based on data obtained from similar substances.

Carcinogenicity - Assessment : Carcinogenicity classification not possible from current data.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:

540-88-5:

Effects on fertility

: Test Type: One generation study
Species: Rat, male and female
Application Route: Inhalation
Dose: 0, 100, 400, 1600 ppm
Frequency of Treatment: 7 days/week
General Toxicity - Parent: NOAEC: 400 ppm
General Toxicity F1: NOAEC: 1,600 ppm
Fertility: NOAEC: 1,600 ppm
Result: No reproductive effects.

Effects on foetal development

: Species: Rat
Application Route: inhalation (vapor)
Dose: 0, 100, 400, 1600 ppm
Duration of Single Treatment: 120 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: NOAEC: 1,600 ppm
Teratogenicity: NOAEC: 1,600 ppm
Developmental Toxicity: NOAEC: 1,600 ppm
Result: No teratogenic effects, No effects on fertility and early embryonic development were detected.

Species: Rat
Application Route: Oral
Dose: 0, 400, 800, 1000, 1600 mg/kg
Duration of Single Treatment: 14 d
General Toxicity Maternal: NOAEL: 400 mg/kg body weight

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Teratogenicity: NOAEL: 1,600 mg/kg body weight
Embryo-foetal toxicity: NOAEL: 400 mg/kg body weight
Symptoms: Maternal toxicity
Result: No teratogenic effects

Species: Rat
Application Route: Oral
Dose: 0, 400, 800, 1600 mg/kg bw
Duration of Single Treatment: 14 d
General Toxicity Maternal: NOAEL: 800 mg/kg body weight
Teratogenicity: NOAEL: 16,000 mg/kg body weight
Embryo-foetal toxicity: NOAEL: 400 mg/kg body weight
Symptoms: Maternal toxicity
Result: No teratogenic effects

Reproductive toxicity - Assessment

Animal testing did not show any effects on fertility.

Teratogenicity - Assessment : Did not show teratogenic effects in animal experiments.

Aspiration toxicity

Components:

540-88-5:

No aspiration toxicity classification

Further information

Product:

Remarks: Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Acute aquatic toxicity- Assessment : Harmful to aquatic life.

Components:

540-88-5:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 240 mg/l
Exposure time: 96 h
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 350 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EbC50 (Pseudokirchneriella subcapitata (microalgae)): 6.1

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mg/l
End point: Biomass
Exposure time: 72 h
Test Type: static test

Persistence and degradability

Components:

540-88-5:

Biodegradability : Remarks: No data available

Bioaccumulative potential

Components:

540-88-5:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 1.38

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.
Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Solvents & Petroleum Service at 315-454-4467.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

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Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):

UN1123, BUTYL ACETATES, 3, II

IATA (International Air Transport Association):

UN1123, BUTYL ACETATES, 3, II

IMDG (International Maritime Dangerous Goods):

UN1123, BUTYL ACETATES, 3, II, Flash Point:4 °C(39 °F)

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : B2: Flammable liquid

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Tert-butyl acetate	540-88-5	5000	5000

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Immediate (Acute) Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

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This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

540-88-5	Tert-butyl acetate	90 - 100 %
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Pennsylvania Right To Know

540-88-5	Tert-butyl acetate	90 - 100 %
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75-65-0	Tert-butyl alcohol	0.1 - 1 %
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New Jersey Right To Know

540-88-5	Tert-butyl acetate	90 - 100 %
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California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

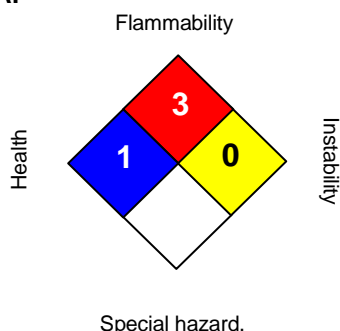
TSCA	: On TSCA Inventory
DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory

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SECTION 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	1
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
 2 = Moderate, 3 = High
 4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, Solvents and Petroleum Service, Inc. does not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances

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MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50			Lethal Concentration 50%