

tert-butyl acetate

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **tert-butyl acetate**

Other means of identification : Not available.

Recommended use of the chemical and restrictions on use

: Solvent
Use pattern: Professional Use Only
Restriction on use: None known

Chemical family : Organic Ester

Name, address, and telephone number
of the supplier:

Comet Chemical Company Ltd.

3463 Thomas Street
Innisfill, ON, Canada
L9S 3W4

Supplier's Telephone # : (705)436-5580

24 Hr. Emergency Tel # : GFL Environmental - 1-888-772-2543

Name, address, and telephone number of
the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear colourless liquid. Camphor-like odor.

Most important hazards: Flammable. May be ignited by open flame. May cause respiratory irritation. May cause drowsiness or dizziness. Occupational exposure to the substance or mixture may cause adverse effects. Refer also to TOXICOLOGICAL INFORMATION (Section 11). Avoid release to the environment.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Flammable liquids - Category 2

Specific target organ toxicity, single exposure - Category 3 (respiratory)

Specific target organ toxicity, single exposure - Category 3 (narcotic effects)

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

Highly flammable liquid and vapour.
May cause respiratory irritation.
May cause drowsiness or dizziness.

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Precautionary statement(s)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No Smoking
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical and ventilating equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Avoid breathing mist or vapours.
Use only outdoors or in a well-ventilated area.
Wear protective gloves and eye/face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
In case of fire: Use water fog, dry chemical, CO₂ or 'alcohol' foam to extinguish.

Store in a well-ventilated place. Keep cool.
Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Other hazards which do not result in classification: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

| <u>Chemical name</u> | <u>Common name and synonyms</u> | <u>CAS #</u> | <u>Concentration (% by weight)</u> |
|----------------------|--|--------------|------------------------------------|
| tert-Butyl acetate | Tertiary butyl Acetate; Acetic Acid, 1,1-Dimethylethyl ester; 1,1-Dimethyl acetate | 540-88-5 | 100.00 |

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Call a physician or poison control centre immediately. Do not induce vomiting. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Get medical attention if symptoms persist.
- Skin contact* : Wash off with soap and plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before re-use.
- Eye contact* : Immediately flush eyes with running water for at least 15 minutes. Obtain medical attention if irritation persists.

Most important symptoms and effects, both acute and delayed

- : May cause respiratory irritation. May cause central nervous system effects. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Direct skin contact may cause slight or mild, transient irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Direct eye contact may cause slight or mild, transient irritation.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically. This product is a CNS depressant.

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SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use water fog or fine spray, foams, carbon dioxide or dry chemical. Do not use a solid water stream as it may scatter and spread fire.

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Vapors may travel considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. Static discharge, impact, friction, and heat may ignite exposed chemical material.

Flammability classification (OSHA 29 CFR 1910.106)

- : Flammable liquids - Category 2

Hazardous combustion products

- : Carbon monoxide, carbon dioxide, toxic vapours, gases or particulates.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

- : Fight fires from a safe distance. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Individuals involved in the cleanup must wear appropriate personal protective equipment. For personal protection see section 8.

Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Methods and material for containment and cleaning up

- : Ventilate area of release. Stop spill or leak at source if safely possible. Dike for water control. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with inert, non-combustible absorbent material (e.g. sand, vermiculite), then place material into open, unsealed containers. For waste disposal, see Section 13 of the SDS.

Special spill response procedures

- : In case of transportation accident, contact TERRAPURE ENVIRONMENTAL at 1-800-567-7455.
US CERCLA Reportable quantity (RQ): tert-butyl acetate (5000 lbs / 2270 kg)

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

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- : Use only in well-ventilated areas. Wear suitable protective equipment during handling. Do not ingest or swallow. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Use only non-sparking tools. Avoid contact with incompatible materials. Ground/Bond container and receiving equipment. Use explosion-proof electrical and ventilating equipment. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not use pressure to empty drums. Do not cut, weld, drill or grind on or near this container. Take precautionary measures against static discharges. Follow labeled warnings even after container is emptied.
- Conditions for safe storage** : Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.
- Incompatible materials** : Plastic ;Acids;Oxidizing agents;Alkalies; Nitrates

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| <u>Exposure Limits:</u> | | | |
|--------------------------------|-------------------------|--------------------|--------------------------------------|
| <u>Chemical Name</u> | <u>ACGIH TLV</u> | | <u>OSHA PEL</u> |
| | <u>TWA</u> | <u>STEL</u> | <u>PEL</u> <u>STEL</u> |
| tert-Butyl acetate | 200 ppm | N/Av | 200 ppm ; 950 mg/m ³ N/Av |

Exposure controls

Ventilation and engineering measures

- : Ensure adequate ventilation, especially in confined areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Use explosion-proof electrical and ventilating equipment.

Respiratory protection

- : Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. Advice should be sought from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection

- : Wear protective gloves. Advice should be sought from glove suppliers.

Eye / face protection

- : Wear eye/face protection. Chemical splash goggles are recommended. A full face shield may also be necessary.

Other protective equipment

- : An eyewash station and safety shower should be made available in the immediate working area. Depending on conditions of use, an impervious apron should be worn. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Do not ingest. Do not eat, drink or smoke when using this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical State** : Liquid
Colour : Clear, colorless.
Odour : camphor-like odour.
Odour threshold : 71 ppb
pH : 6-7

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Melting Point/Freezing point : -58.15 °C (-72.67)

Initial boiling point and boiling range

: 97.85°C (208.13°F)

Flash point : 4.4°C (39.92°F)

Flashpoint (Method) : Closed cup

Evaporation rate (BuAe = 1) : 2.8

Flammability : Not applicable.

Lower explosion or flammability limit (% by vol.)

: 1.26%

Upper explosion or flammability limit (% by vol.)

: 6.88%

Oxidizing properties : None.

Explosive properties : Not explosive

Vapour pressure : 41.5 mm Hg

Relative vapour density : Not available.

Relative density / Specific gravity

: 0.862

Solubility in water : 0.9% @ 25°C

Other solubility(ies) : Soluble in most organic solvents (e.g. ethanol, acetone, diethyl ether, chloroform).

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: 1.38

Auto-ignition temperature : 517.8°C (964.4°F)

Decomposition temperature : Not applicable.

Viscosity : <1 mPa.s

Particle characteristics : Not applicable.

Volatiles (% by weight) : Not available.

Volatile organic Compounds (VOC's)

: N/Av

Absolute pressure of container

: N/Av

Flame projection length : N/Av

Other physical/chemical comments

: Molecular Weight: 58 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.

Chemical stability : Stable under the recommended storage and handling conditions prescribed.

Possibility of hazardous reactions

: Hazardous polymerization will not occur.

Conditions to avoid : Keep away from excessive heat, open flames, sparks and other possible sources of ignition. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation. Avoid heat, open flames, sparks, static electricity and electrical equipment.

Incompatible materials : Plastic; Oxidizing agents ;Acids ;Alkalies;Nitrates.

Hazardous decomposition products

: The decomposition products are isobutylene and acetic acid.

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SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption
: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

- : May cause irritation of the nose, throat, mucous membranes, and respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Sign and symptoms ingestion

- : May cause irritation of mouth, throat, and stomach. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Sign and symptoms skin : May cause mild skin irritation.

Sign and symptoms eyes : Direct eye contact may cause slight or mild, transient irritation.

Potential Chronic Health Effects

- : Prolonged or repeated skin contact may cause drying and irritation. Prolonged overexposure may cause liver and kidney effects.

Mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

- : Not expected to have other reproductive effects.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects : Eyes, skin, respiratory system, digestive system, central nervous system.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:

Specific target organ toxicity, single exposure - Category 3 (respiratory)

Specific target organ toxicity, single exposure - Category 3 (narcotic effects)

May cause respiratory irritation. May cause drowsiness or dizziness.

Not classified as specific target organ toxicity-repeated exposure.

Medical conditions aggravated by overexposure

- : Pre-existing skin, eye and respiratory disorders.

Synergistic materials : None known or reported by the manufacturer.

Toxicological data : See below for toxicological data on the substance.

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| <u>Chemical name</u> | <u>LC₅₀(4hr)</u> | <u>LD₅₀</u> | |
|----------------------|-----------------------------|------------------------|-------------------------|
| | <u>inh. rat</u> | <u>(Oral, rat)</u> | <u>(Rabbit, dermal)</u> |
| tert-Butyl acetate | >2230 mg/m ³ | 4100 mg/kg | >2000 mg/kg |

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Do not allow this material to drain into sewers/water supplies. See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

| <u>Ingredients</u> | <u>CAS #</u> | <u>Toxicity to Fish</u> | | |
|--------------------|--------------|-------------------------|----------------------|-----------------|
| | | <u>LC50 / 96h</u> | <u>NOEC / 21 day</u> | <u>M Factor</u> |
| tert-Butyl acetate | 540-88-5 | 240mg/L (Rainbow trout) | N/Av | None. |

| <u>Ingredients</u> | <u>CAS #</u> | <u>Toxicity to Daphnia</u> | | |
|--------------------|--------------|----------------------------|----------------------|-----------------|
| | | <u>EC50 / 48h</u> | <u>NOEC / 21 day</u> | <u>M Factor</u> |
| tert-Butyl acetate | 540-88-5 | 350mg/L (Daphnia magna) | N/Av | None. |

| <u>Ingredients</u> | <u>CAS #</u> | <u>Toxicity to Algae</u> | | |
|--------------------|--------------|--------------------------|--------------------------|-----------------|
| | | <u>EC50 / 96h or 72h</u> | <u>NOEC / 96h or 72h</u> | <u>M Factor</u> |
| tert-Butyl acetate | 540-88-5 | 16 mg/L | 2.3 mg/L | None. |

Persistence and degradability

: Readily biodegradable.

Bioaccumulation potential

: Does not significantly accumulate in organisms.

| <u>Components</u> | <u>Partition coefficient n-octanol/water (log Kow)</u> | <u>Bioconcentration factor (BCF)</u> |
|-----------------------------------|--|--------------------------------------|
| tert-Butyl acetate (CAS 540-88-5) | 1.38 | 7 |

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: See Section 7 (Handling and Storage) for further details. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not cut, weld, drill or grind on or near this container.

Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

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RCRA

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method.

SECTION 14. TRANSPORT INFORMATION

| Regulatory Information | UN Number | UN proper shipping name | Transport hazard class(es) | Packing Group | Label |
|---|---|-------------------------|----------------------------|---------------|---|
| TDG | UN1123 | BUTYL ACETATES | 3 | II |  |
| TDG Additional information | May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption. | | | | |
| 49CFR/DOT | UN1123 | BUTYL ACETATES | 3 | II |  |
| 49CFR/DOT Additional information | May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. | | | | |
| ICAO/IATA | UN1123 | Butyl acetates | 3 | II |  |
| ICAO/IATA Additional information | Refer to ICAO/IATA Packing Instruction | | | | |
| IMDG | UN1123 | BUTYL ACETATES | 3 | II |  |
| IMDG Additional information | May be shipped as a Limited Quantity. Consult the IMDG regulations for details. | | | | |

Special precautions for user : Keep away from heat, sparks and open flame - No smoking.

Environmental hazards : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

| <u>Ingredients</u> | CAS # | TSCA Inventory | CERCLA Reportable Quantity(RQ) (40 CFR 117.302): | SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355: | SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical | |
|--------------------|----------|----------------|---|--|---|--------------------------|
| | | | | | Toxic Chemical | de Minimis Concentration |
| tert-Butyl acetate | 540-88-5 | Yes | 5000 lb final RQ (listed under Butyl acetate); 2270 kg final RQ (listed under Butyl acetate) | N/Av | No | No |



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SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Flammable; Specific target organ toxicity, single exposure

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

| <u>Ingredients</u> | CAS # | California Proposition 65 | | State "Right to Know" Lists | | | | | |
|--------------------|----------|---------------------------|------------------|-----------------------------|-----|-----|-----|-----|-----|
| | | Listed | Type of Toxicity | CA | MA | MN | NJ | PA | RI |
| tert-Butyl acetate | 540-88-5 | No | N/Ap | Yes | Yes | Yes | Yes | Yes | Yes |

Canadian Information:

All ingredients are present on the DSL.

International Information:

Components listed below are present on the following International Inventory list:

| <u>Ingredients</u> | CAS # | European EINECs | Australia AICS | Philippines PICCS | Japan ENCS | Korea KECI/KECL | China IECSC | New Zealand IOC |
|--------------------|----------|-----------------|----------------|-------------------|------------------|-----------------|-------------|-----------------|
| tert-Butyl acetate | 540-88-5 | 208-760-7 | Present | Present | (2)-735; (2)-731 | KE-04180 | Present | HSR001094 |

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CNS: Central Nervous System
CSA: Canadian Standards Association
DOT: Department of Transportation
EPA: Environmental Protection Agency
IARC: International Agency for Research on Cancer
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average

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References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices
2. ECHA - European Chemical Agency
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases
4. Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists
6. California Proposition 65 List
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

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: 13/03/2024

Revision No.

: 2

Revision Information

: 1. IDENTIFICATION 9. PHYSICAL AND CHEMICAL PROPERTIES

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

| | |
|--|--|
| <u>Prepared for:</u> Comet Chemical Company Ltd. 3463 Thomas Street Innisfill, ON L9S 3W4 Information (M-F 8:00-5:00): 705-436-5580 www.cometchemical.com |  COMET CHEMICAL COMPANY LTD. |
| <u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com |  ComplianceCenter |

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