



## MATERIAL SAFETY DATA SHEET

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Issue Date:

### 1- Chemical Product Information and Company Identification.

**Product Name:** : Tert-butyl acetate GC reference standard, AnStan<sup>®</sup>.  
**Synonym:** : Acetic Acid tert-Butyl Ester.  
**Product code:** : BS14389.  
**CAS Number:** : 540-88-5.  
**Company Name:** : Briti Scientific.  
**Company Address:** : Plot No:78/B/13, SY-79,Phase-VI, Jeedimetla,Hyderabad-500 055.  
Telangana, India.

### Section 2- Composition / Information on Ingredients.

CAS No.	Chemical Name	Mol. Formula
540-88-5.	Acetic Acid tert-Butyl Ester.	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub> .

### Section 3- Hazards Identification.

#### Classification

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids: Category 2.

Acute Inhalation Toxicity –Vapors: Category 4.

Specific target organ toxicity (single exposure): Category 3.

Target Organs - Respiratory system, Central nervous system (CNS).

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Highly flammable liquid and vapor.

Harmful if inhaled.

May cause respiratory irritation.

May cause drowsiness or dizziness.





## **Precautionary Statements**

### **Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Keep cool.

### **Inhalation**

**IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a POISON CENTER or doctor/physician if you feel unwell.

### **Skin**

**IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water/shower.

### **Fire**

**In case of fire:** Use CO<sub>2</sub>, dry chemical, or foam for extinction.

### **Storage**

Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.

### **Disposal**

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

### **Hazards not otherwise classified (HNOC)**

Repeated exposure may cause skin dryness or cracking.

## **Section 4- First Aid Measures.**

**General Advice:** If symptoms persist, call a physician.

**Eye Contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Get medical attention if symptoms occur.

**Skin Contact:** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

**Ingestion:** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects:** None reasonably foreseeable. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Notes to Physician:** Treat symptomatically.





## Section 5- Fire Fighting Measures.

**Suitable Extinguishing Media:** Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam

**Unsuitable Extinguishing Media:** No information available.

**Flash Point:** 15°C / 59°F.

**Method -** No information available.

**Autoignition Temperature:** No information available.

**Explosion Limits:**

Upper 9.80 vol %

Lower 1.70 vol %

**Sensitivity to Mechanical Impact:** No information available.

**Sensitivity to Static Discharge:** No information available.

**Specific Hazards Arising from the Chemical**

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flashback. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Vapors may form explosive mixtures with air.

**Hazardous Combustion Products:** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

Health	Flammability	Instability	Physical hazards
2	3	0	N/A

## Section 6- Accidental Release Measures.

**Personal Precautions:** Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

**Environmental Precautions:** Should not be released into the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up:**

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

## Section 7- Handling and Storage.

**Handling:** Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.

**Storage:** Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents.





## Section 8- Exposure Control/Personal Protection.

### **Exposure Guidelines:**

**Component:** tert-Butyl acetate.

**ACGIH TLV:** TWA: 50 ppm.

STEL: 150 ppm.

**OSHA PEL:** (Vacated) TWA: 200 ppm

(Vacated) TWA: 950 mg/m<sup>3</sup>.

TWA: 200 ppm.

TWA: 950 mg/m<sup>3</sup>.

**NIOSH IDLH:** IDLH: 1500 ppm.

TWA: 200 ppm.

TWA: 950 mg/m<sup>3</sup>.

**Mexico OEL (TWA):** TWA: 200 ppm.

**Engineering Measures:** Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

### **Personal Protective Equipment**

**Eye/face Protection:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection:** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### **Hygiene Measures:**

Handle in accordance with good industrial hygiene and safety practice

## Section 9- Physical and Chemical Properties.

<b>Appearance:</b>	Colorless clear liquid.
<b>Odour:</b>	Sweet.
<b>Odor Threshold:</b>	No information available.
<b>pH:</b>	No information available.
<b>Melting Point/Range:</b>	-62 °C.
<b>Boiling Point/Range:</b>	96 °C.
<b>Flash Point:</b>	No information available.
<b>Evaporation Rate:</b>	No information available.
<b>Flammability (solid,gas):</b>	Not applicable.
<b>Flammability or explosive limits:</b>	
Upper	9.80 vol %
Lower	1.70 vol %







**Vapor Pressure:** No information available.  
**Density:** 0.866 g/cm<sup>3</sup>.  
**Solubility:** Soluble in water.  
**Partition coefficient; n-octanol/water:** No data available.  
**Autoignition Temperature:** No data available.  
**Decomposition Temperature:** No data available.  
**Viscosity:** No data available.  
**Molecular formula:** C<sub>6</sub>H<sub>12</sub>O<sub>2</sub>.  
**Molecular Weight:** 116.16 g/mol.

### Section 10- Stability and Reactivity.

**Reactive Hazard:** None known, based on information available

**Stability:** Stable under normal conditions.

**Conditions to Avoid:** Incompatible products. Keep away from open flames, hot surfaces and sources of ignition

**Incompatible Materials:** Strong oxidizing agents

**Hazardous Decomposition Products:** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

**Hazardous Polymerization:** Hazardous polymerization does not occur.

**Hazardous Reactions:** None under normal processing.

### Section 11- Toxicological Information.

#### Acute Toxicity

#### Product Information

#### Component Information

**Component:** tert-Butyl acetate.

**LD50 Oral:** LD50 = 4100 mg/kg (Rat)

**LD50 Dermal:** LD50 > 2000 mg/kg (Rabbit).

**LC50 Inhalation:** LC50 > 9482 mg/m<sup>3</sup> (Rat) 4h.

**Toxicologically Synergistic Products:** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation:** No information available.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available.

**Reproductive Effects:** No information available.

**Developmental Effects:** No information available.

**Teratogenicity:** No information available.

STOT - single exposure - Respiratory system Central nervous system (CNS).

STOT - repeated exposure None known





**Aspiration hazard:** No information available.

**Symptoms / effects, both acute and delayed:** Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Endocrine Disruptor Information:** No information available.

**Other Adverse Effects:** The toxicological properties have not been fully investigated.

## Section 12- Ecological Information.

**Ecotoxicity:** No information available

**Persistence and Degradability:** Insoluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation:** No information available.

**Mobility:** Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility.

## Section 13- Disposal Considerations.

**Waste Disposal Methods:** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## Section 14- Transport Information.

### **DOT**

UN-No: UN1123  
Proper Shipping Name: BUTYLACETATES  
Hazard Class: 3  
Packing Group: II

### **TDG**

UN-No: UN1123  
Proper Shipping Name: BUTYLACETATES  
Hazard Class: 3  
Packing Group: II

### **IATA**

UN-No: UN1123  
Proper Shipping Name: BUTYLACETATES  
Hazard Class: 3  
Packing Group: II

### **IMDG/IMO**

UN-No: UN1123  
Proper Shipping Name: BUTYLACETATES  
Hazard Class: 3  
Packing Group: II





## Section 15- Regulatory Information.

### **Legend:**

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable.

### **U.S. Federal Regulations**

SARA 313: Not applicable.

SARA 311/312 Hazard Categories See section 2 for more information.

CWA (Clean Water Act): Not applicable.

**Clean Air Act:** Not applicable.

**OSHA** - Occupational Safety and Health Administration: Not applicable.

**CERCLA:** Not applicable.

**California Proposition 65:** This product does not contain any Proposition 65 chemicals.

## Section 16- Other Information.

Briti Scientific provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

