

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** tert-Butyl alcohol

**Other means of identification**

**Product No.:** 9057, 9056, 2998, 10905

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Physical hazards**

Flammable liquids Category 2

**Health hazards**

Toxic to reproduction Category 2

**Label elements**

**Hazard symbol:**



**Signal word:** Danger

**Hazard statement:** Highly flammable liquid and vapor.  
Suspected of damaging fertility or the unborn child.

**Precautionary statement**

**Prevention:** 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-

sparkling tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

- Response:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If exposed or concerned: Get medical advice/attention. In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction.
- Storage:** Store in well-ventilated place. Keep cool. Store locked up.
- Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in GHS classification:** Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

### 3. Composition/information on ingredients

#### Substances

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
TERT-BUTYL ALCOHOL		75-65-0	99 - 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

- General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- Ingestion:** Rinse mouth. Call a physician or poison control center immediately. Never give liquid to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
- Inhalation:** Move to fresh air.
- Skin contact:** Remove/Take off immediately all contaminated clothing. Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.
- Eye contact:** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

#### Most important symptoms/effects, acute and delayed

**Symptoms:** Irritating to eyes, respiratory system and skin.

#### Indication of immediate medical attention and special treatment needed

**Treatment:** Symptoms may be delayed.

### 5. Fire-fighting measures

**General fire hazards:** No data available.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Foam, carbon dioxide or dry powder.

**Unsuitable extinguishing media:** Avoid water in straight hose stream; will scatter and spread fire.

**Specific hazards arising from the chemical:** Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

**Special 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.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind.

**Methods and material for containment and cleaning up:** Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal. Eliminate all ignition sources if safe to do so.

**Notification Procedures:** Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

**Environmental precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

**7. Handling and storage**

**Precautions for safe handling:** Wash hands thoroughly after handling. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Ground/bond container and receiving equipment. Take precautionary measures against static discharges. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Store in cool, dry place. Store in a well-ventilated place.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
TERT-BUTYL ALCOHOL	TWA	100 ppm	US. ACGIH Threshold Limit Values (2011)
	REL	100 ppm 300 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm 450 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	100 ppm 300 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	100 ppm 300 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	150 ppm 450 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	100 ppm 300 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	150 ppm 450 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	AN ESL	62 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	ST ESL	620 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	ST ESL	200 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	AN ESL	20 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	STEL	150 ppm 450 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	TWA PEL	100 ppm 300 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)

#### Appropriate engineering controls

No data available.

#### Individual protection measures, such as personal protective equipment

**General information:** Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Eye/face protection:** Wear safety glasses with side shields (or goggles). Use face shield in case of splash risk.

#### Skin protection

**Hand protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing and gloves.

**Respiratory protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapor cartridge.

**Hygiene measures:** When using do not smoke. Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

## 9. Physical and chemical properties

### Appearance

<b>Physical state:</b>	Liquid
<b>Form:</b>	Liquid or solid (above 78 °F)
<b>Color:</b>	Colorless
<b>Odor:</b>	Camphor-like odor
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	No data available.
<b>Melting point/freezing point:</b>	25.7 °C
<b>Initial boiling point and boiling range:</b>	82 °C
<b>Flash Point:</b>	11 °C (Closed Cup)
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	8.0 %(V)
<b>Flammability limit - lower (%):</b>	2.35 %(V)
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	5.87 kPa (26 °C)
<b>Vapor density:</b>	2.55 AIR=1
<b>Relative density:</b>	0.78 (20 °C) 4 °C
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Miscible with water.
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	0.35
<b>Auto-ignition temperature:</b>	892 °F
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.
<b>Other information</b>	
<b>Molecular weight:</b>	74.12 g/mol (C4H10O)

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Heat, sparks, flames. Contact with incompatible materials.
<b>Incompatible materials:</b>	Strong oxidizing agents. May attack some plastics, rubber and coatings.
<b>Hazardous decomposition products:</b>	Thermal decomposition may release oxides of carbon.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion:</b>	May be harmful if swallowed.
<b>Inhalation:</b>	No data available.
<b>Skin contact:</b>	Causes mild skin irritation.
<b>Eye contact:</b>	No data available.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

<b>Oral</b>	
<b>Product:</b>	LD 50 (Rat): 3.5 g/kg
<b>Dermal</b>	
<b>Product:</b>	No data available.
<b>Inhalation</b>	
<b>Product:</b>	No data available.
<b>Repeated dose toxicity</b>	
<b>Product:</b>	No data available.

#### Skin corrosion/irritation

**Product:** No data available.

#### Serious eye damage/eye irritation

**Product:** No data available.

#### Respiratory or skin sensitization

**Product:** No data available.

#### Carcinogenicity

**Product:** No data available.

#### IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

#### US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

#### Germ cell mutagenicity

##### In vitro

**Product:** No data available.

##### In vivo

**Product:** No data available.

#### Reproductive toxicity

**Product:** Suspected of damaging fertility or the unborn child.

#### Specific target organ toxicity - single exposure

**Product:** No data available.

**Specific target organ toxicity - repeated exposure**

**Product:** No data available.

**Aspiration hazard**

**Product:** May be fatal if swallowed and enters airways.

**Other effects:** No data available.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

TERT-BUTYL ALCOHOL LC 50 (Goldfish (*Carassius auratus*), 24 h): > 5,000 mg/l Mortality  
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 6,130 - 6,700 mg/l Mortality

**Aquatic invertebrates**

**Product:** No data available.

**Specified substance(s):**

TERT-BUTYL ALCOHOL EC 50 (Water flea (*Daphnia magna*), 48 h): 4,607 - 6,577 mg/l Intoxication

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and degradability**

**Biodegradation**

**Product:** There are no data on the degradability of this product.

**BOD/COD ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition coefficient n-octanol / water (log Kow)**

**Product:** Log Kow: 0.35

**Mobility in soil:** The product is water soluble and may spread in water systems.

**Other adverse effects:** No data available.

### 13. Disposal considerations

- Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws.
- Contaminated packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

#### DOT

UN number:	UN 1120
UN proper shipping name:	Butanols
Transport hazard class(es)	
Class(es):	3
Label(s):	3
Packing group:	II
Marine Pollutant:	No

#### IMDG

UN number:	UN 1120
UN proper shipping name:	BUTANOLS
Transport hazard class(es)	
Class(es):	3
Label(s):	3
EmS No.:	F-E, S-D
Packing group:	II
Marine Pollutant:	No

#### IATA

UN number:	UN 1120
Proper Shipping Name:	Butanols
Transport hazard class(es):	
Class(es):	3
Label(s):	3
Marine Pollutant:	No
Packing group:	II

### 15. Regulatory information

#### US federal regulations

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

#### CERCLA Hazardous Substance List (40 CFR 302.4):

TERT-BUTYL ALCOHOL      Reportable quantity: 100 lbs.

#### Superfund amendments and reauthorization act of 1986 (SARA)

#### Hazard categories

Acute (Immediate)    Chronic (Delayed)    Fire    Reactive    Pressure Generating

#### SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.



**SARA 304 Emergency release notification**

Chemical identity	RQ
TERT-BUTYL ALCOHOL	100 lbs.

**SARA 311/312 Hazardous chemical**

Chemical identity	Threshold Planning Quantity
TERT-BUTYL ALCOHOL	500 lbs

**SARA 313 (TRI reporting)**

Chemical identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
TERT-BUTYL ALCOHOL	10000 lbs	25000 lbs.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

None present or none present in regulated quantities.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

TERT-BUTYL ALCOHOL Listed

**US. Massachusetts RTK - Substance List**

TERT-BUTYL ALCOHOL Listed

**US. Pennsylvania RTK - Hazardous Substances**

TERT-BUTYL ALCOHOL Listed

**US. Rhode Island RTK**

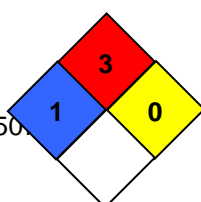
TERT-BUTYL ALCOHOL Listed

**Inventory Status:**

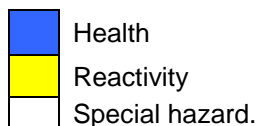
Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
EU ELINCS List:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
EU No Longer Polymers List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



 Flammability



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

**Issue date:** 04-10-2014

**Revision date:** No data available.

**Version #:** 1.0

**Further information:** No data available.

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